The Eighth Off-Campus Library Services Conference Proceedings

Providence, Rhode Island
April 22 to 24, 1998

The Eighth Off-Campus Library Services Conference

Sponsored by Central Michigan University Libraries and CMU College of Extended Learning
THE EIGHTH OFF-CAMPUS LIBRARY SERVICES CONFERENCE PROCEEDINGS

PROVIDENCE, RHODE ISLAND
APRIL 22 - 24, 1998

COMPILED BY
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Maryhelen Jones

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PREFACE

The Eighth Off-Campus Library Services Conference held in Providence, Rhode Island, April 22-24, 1998, was sponsored by the Central Michigan University Libraries and the CMU College of Extended Learning.

In keeping with the tradition of previous Off-Campus Library Services Conferences, the busy conference schedule provided a lively forum where practitioners involved with library services for off-campus constituents gathered to exchange relevant ideas and concerns, and share their research. Once again, the scope of presented papers reflected the diversity of geographic, philosophic, and programmatic services offered to off-campus clientele. New to this edition of the Proceedings is a supplement providing reproductions of the tables of contents from the previous seven Proceedings volumes.

All papers included in the Conference Proceedings were selected through a juried abstracts process by a twenty-two member Program Advisory Board. The papers appear as they were received from their authors, with no editing done for content or writing style. Minor textual reformatting was done, however, for the sake of visual consistency.

P. Steven Thomas and Maryhelen Jones
Compilers

April 22, 1998
INTRODUCTION

Reproducing the tables of contents from previous Off-Campus Library Service Conferences affords us wonderful opportunity to examine the shifting issues and priorities surrounding library services for off-campus clientele since the first Conference held in 1982 (St. Louis, Missouri). Papers delivered sixteen years ago at that first conference focused on the following broad areas of interest to practitioners: administration and planning, uses of technology, model programs, document delivery, bibliographic instruction, and program evaluation. While papers covering these broad topics have remained fairly constant throughout successive Conferences, other issues and interests have emerged, including: marketing off-campus library programs, international off-campus library programs, reaching rural learners, reference services, faculty perspectives of off-campus library programs, off-campus user profiles, automated library services, faculty development activities, and institutional cooperation.

The focus of papers delivered at the Fifth Off-Campus Library Services Conference (1991) in Albuquerque, New Mexico seemed to shift noticeably. The number of papers addressing accreditation and assessment issues increased, and papers addressing the impact of emerging technologies, such as the use of compressed video and CD-ROM databases, began to appear. These subjects remained "hot topics" at the Sixth Conference (1993) in Kansas City, Missouri, with the number of papers addressing technology-related topics increasing dramatically. We also see the first appearance of the term "virtual library" in the titles of two papers delivered in Kansas City.

Interestingly, papers delivered at the Seventh Conference (1995) returned to the same broad subjects discussed at the first Conference back in 1982. A new phrase that had attained buzzword status for the profession appeared in one paper title: "information literacy." This phrase promises to figure prominently into a variety of issues germane to off-campus library services.

Indeed, an entire paper delivered at the Eighth Off-Campus Library Services Conference was devoted to developing an information literacy course for off-campus students. Many papers provided new slants on many of the traditional topics dealt with at previous conferences: forming institutional partnerships, serving rural populations, outreach services to a satellite campus, program administration and planning, faculty-librarian collaboration, marketing off-campus programs, and program evaluation. One paper focused on the patterns of index usage at a large branch campus library while another paper examined the journal usage patterns of off-campus graduate students. As one might suspect, the number of papers that discussed the applications of virtual technology to off-campus library services increased dramatically over the number of related papers presented at the 1995 Conference. Technology-related topics included the use of e-mail, microcomputers, compressed video, interactive television, online catalogs, and of course, the World Wide Web. Another paper urged academic libraries to recognize the changing nature of lifelong learning and to adopt an action plan that will serve the needs of lifelong learners well into the next century.

We hope that readers of these proceedings will come away with the sense that while off-campus library services may be rooted in decades of research and practice, libraries and off-campus librarians are responding and adapting to new service philosophies and delivery demands at an unprecedented pace.
ACKNOWLEDGMENTS

The Eighth Off-Campus Library Services Conference Proceedings represents contributions by many people attending the conference as well as those remaining behind at Central Michigan University and at other institutions. All deserve recognition for the care and diligence that they have brought to making the formal content of the conference a part of the growing body of literature on off-campus library services.

First of all, there would be no volume without the support and commitment of all of the authors/presenters, some of whom could not attend the conference. Their papers embody the tireless spirit of service and innovation that is characteristic of individuals working in this field. All of us owe them a debt of gratitude for their willingness to put their thoughts, experiences, and research on paper and to allow Central Michigan University to publish their work for both national and international audiences.

Special thanks go to Connie Hildebrand, Conference Coordinator and Anne Casey, Conference Local Arrangements Coordinator for the work they have done over the last two years to plan, market, and successfully realize the event/proceedings volume. Germaine to the planning and especially the program building that provides the foundation for the proceedings’ volume was the work done by members of the Program Advisory Board and the Executive Planning Committee. These individuals individually recognized on the following pages, provided time and expertise in reviewing proposals for the papers that this volume contains.

Recognition also goes to the Deans of the two Central Michigan University units most closely tied to the Conference. Thomas J. Moore, Dean of Libraries and Delbert J. Ringquist, Dean of the College of Extended Learning have provided unwavering support and encouragement for the publication and dissemination of the proceedings.

Special thanks also to Jane Tilmann, in the CMU Libraries’ Dean’s Office for her administrative support and word-processing wizardry which united twenty-seven separate papers into an integrated, professional publication. Mrs. Tilmann’s colleague, Linda Jensen also deserves recognition for effectively responding to individuals and institutions that have inquired about acquiring this volume and preceding ones.

As volume compilers, P. Steven Thomas and I want to give special recognition and heartfelt thanks to our colleagues in CMU Off-Campus Library Services whom we have not acknowledged previously. All have contributed in their own personal way to the conference. These include: Paula Arnold, Marissa Cachero, Monica Craig, Joanne Dana, Stephen Frye, Sue Hanlon, Sherry Hart, Linda Neely, and Jeanne Philibosian.
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A Web Handbook for Library Research

Chris Adams
University of Saskatchewan Libraries

Abstract: This paper describes a multimedia project for providing library research skills to students on and off-campus via the Internet. In addition to a "tour" of the web site, critical and constructive comments are offered with respect to the future of the project.

In May 1995 the Saskatchewan government announced its intention to encourage accessibility to education within the province via Internet. At the same time as the Canadian federal government’s Internet infrastructure grants to business, universities and schools to expand Internet hardware, the Saskatchewan Education, Training and Employment Department (now the Department of Post-Secondary Education & Skills Training) announced a Multimedia Project Development and Support Fund as part of its Multimedia Learning Strategy. The fund ear-marked $500,000 each to the public school K-12 and the Post-Secondary university/college sectors. The fund’s specific intention was to foster development and delivery of practical learning projects to be delivered over the Internet hand-in-hand with ongoing development of high-speed Internet communications and network lines.

Upon establishment of the funds in Sept. 1995 the Department issued a call directly to the university and college sector for project proposals to be submitted by Oct. 31, 1995.

According to the Call for Proposals The Multimedia Project Development and Support Fund would cover the "development costs" - namely staffing, materials, services, etc. associated to a project but specifically would not fund hardware/software costs. Proposals would only be considered from agencies with well-established and operational programs. Evaluation would be made on the basis of the Internet’s capability to creatively deliver "educational" multimedia or multi-mode programs which would enhance the educational experience. Other factors to be considered included the practicality and usefulness of the proposal, budgetary costs, evidence of matching support and commitment from the applicant, and evidence of cooperation with other affiliated agencies within the community. Any proposal submitted was to be achievable within 1 year but this would not preclude eligibility for a further expansion application in Future "to be announced" grants. In all cases successful projects would be required to submit an interim report by Sept. 30, 1996 and final report by June 30, 1997 - at which time funds would be apportioned to cover expenses.

A proposal was submitted by the University of Saskatchewan Libraries to build upon its existing web-based front-end for its catalogue and indexing services - U-SEARCH - to include details of its U-STUDY program which provides support to off-campus students.

Background on U-STUDY and U-SEARCH

Since the late 1970's the University of Saskatchewan Libraries U-STUDY provided Library support to students taking courses outside the University’s Saskatoon campus AND through the University of Saskatchewan’s Extension Division. Since the middle 1980's when the University began to offer courses in

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1 Prior to 1993 this program was known as Off Campus Course Materials or OCCM.
cooperation with other educational institutions via satellite, funds have been made available to the University Library via direct government grant funding to assure research support for off-campus students. As a result of this funding the University Library was able to expand its U-STUDY program to ensure retrieval, photocopying and delivery of research materials to requesting students in a timely and cost-effective manner.

It has been the philosophy of the University of Saskatchewan’s Libraries U-STUDY to assure equitable access and service to off-campus students comparable to that being provided to on-campus students. To that end the grant made it possible, even in the late 1980’s, for the purchase of microcomputers with modem dial-up access to the Libraries Online Public Access Catalogue (OPAC). The microcomputers were placed in hosting regional colleges or public libraries at remote sites where University of Saskatchewan classes are taught - all at no charge to students or to the hosting institutions. At the same time the grant made it possible for U-STUDY Librarians to travel to these distant sites to provide on-site instruction to students, college and library staff on using the equipment to conduct library research. The grant is now in its 10th year.

With the growth of the communications and Internet throughout the late 1980’s plus evolution of the World-Wide-Web (WWW) in the 1990’s, the University of Saskatchewan Libraries OPAC has kept pace. In 1987 the Libraries provided direct Saskatoon dial-up and toll-free long-distance dial-up to its GEAC catalogue from within Saskatchewan via DATAPAC, Canada’s telecom network. In 1989 dial-up access was extended to include 9 commercial indexing services and numerous local database collections known collectively as INFOACCESS. By 1993 dial-up was to a text or web-based front-end browsing program which made connections to the Libraries new INNOPAC Catalogue and 4 “multidisciplinary” journal indexing services, an expanded range of INFOACCESS database services, 6 networked cd-rom databases, plus access to other library catalogues in Saskatoon, Saskatchewan and around the world². By 1995 the Library was using its “web-based front-end browser known as U-SEARCH (actually a “revision” of the original) to connect to its INNOPAC catalogue of book and journal titles, 5 Wilson indexing services searchable with holdings information provided the INNOPAC catalogue, 14 INFOACCESS databases, 32 cd-rom titles, 3 web-designed indexes plus 3 databases accessible via pre-configured “telnet sessions” plus the HYTELNET-LIBDEX collection of catalogues in Saskatchewan and around the world. At the same time toll-free dial-up access via DATAPAC was being phased out and replaced by Internet access using microcomputers with a web- browser or software capable of establishing a “telnet” session to its Lynx-based front-end. Clearly the entire process for conducting Library research at the University of Saskatchewan and for that manner at any other academic library has become much more complicated.

Given the Libraries emphasis upon “access” and the advantages of automated “tools” such as U-SEARCH, cd-rom indexes, electronic journals, etc., U-STUDY has concentrated its efforts in working with off-campus users in “teaching” how to make the best use of these “tools” when conducting their own research. The premise behind this concentration is that if students have conducted the search themselves and have selected the materials then they will know what resources are or ARE NOT available plus the problems associated in selecting appropriate materials for their needs. Also of course they will have learned the skills needed for when they transfer to an on-campus situation. In U-SEARCH ’s case it will be the same system. At another academic institution it will be the same technique.

² HYTELNET is a Lynx-based web browser for establishing “telnet” connections to various library catalogues/services around the world. HYTELNET was developed in 1990 as a personal and private project by Peter Scott, the Libraries Manager of Small Systems within the Library Systems Office. A Web-based version tentatively named LIBDEX has been developed by Peter Scott and Doug Macdonald as a replacement to HYTELNET which in turn is slated to be withdrawn and discontinued.
However being realistic and knowing that not everyone feels comfortable using computers and knowing that not everyone has the same ready access to such equipment, the U-STUDY services does support "subject" requests as well as "specific known item" or "author-title" requests. All of this is done at no direct cost to the user.

However since 1990 with the increased speed and performance of computers, the advent of "Windows" and the Internet/WWW, it is clear that while library research methods are relatively unchanged there has been a marked increase in the potential for delivering "service" including the “teaching” of research/library skills.

The Proposal to Expand U-STUDY

A significant difference between the experience of distant off-campus students with those of on-site on-campus students involves library support services - namely bibliographic instruction; one-on-one reference contact; and "advise" appropriate to their concerns when conducting research. While the existing U-STUDY program ensures equitable access to library materials, for most distant off-campus students bibliographic instruction and "reference" is not timely to their needs. In other words when conducting their research from their own microcomputer at 12:30 at night, who do they "call" to ask a questions about how to search the PsycLit database?

Therefore the University of Saskatchewan Libraries U-STUDY proposed making use of the Internet's ability to deliver textual, graphic and media displays to both "teach" and offer timely direction to students. In addition to the existing U-SEARCH program which provided direct access to its catalogue, journal indexing databases, and other automated resources, a self-directed, self-paced bibliographic instruction/orientation program similar to that provided to on-campus students and as described in the printed U-STUDY Off Campus Library Services Handbook would be useful. To be more specific such a program would include . .

- steps for conducting research
- researching by discipline area
- types of materials used in research
- elements of a research paper
- scholarly versus non-scholarly materials
- bibliographic citation style (APA, MLA, Chicago, etc.)
- research outline to research strategy
- preparing the research thesis statement
- going from intent to actual subject searching
- descriptions of research services or databases available
- demonstrations of the various search engines employed (eg. INNOPAC, INFOACCESS, telnet session to the ERL servers, WebSPIRIS)
- reading critically
- outlining the research paper from its thesis to its conclusion
- fitting research elements into the outline
- revisions, etc.
- preparing the bibliography and footnotes in the approved citation style

The actual steps would be presented in a manner best suited to the content. Included would be a variety of presentation styles - all of which are already employed in traditional on-campus bibliographic instruction sessions - including graphic displays of various resources and database searching engines; images covering strategy or techniques; short 1-2 minute clips employing audio, video or even animated elements.

Direct support would naturally be extended to include requesting material - "electronic forms" for submitting requests of known items as well as e-mail programs for more general enquires. Also with the
advent of computer-mediated-conferencing software there is the possibility of offering direct support to any individual as well as "posting" that query-response to "bulletin-boards" for the use of others. In this way both the direct support of "I need this ..." plus the extension or sharing of that "query-response" for the consideration of others was perceived as being an important aspect of Reference support.

The initial proposed project required preparation of approximately 50 web-"pages" of material, use of existing University of Saskatchewan Library microcomputer hardware for Web-development, upgrading 4 existing U-STUDY microcomputers for Internet access, creating 5 audio-visual video clips, and employing computer-mediated-conferencing software.

The initial proposal attracted interest but revisions were requested to broaden the coverage so as to be as generic as possible regarding research AND include a number of agencies with parallel activities in provision distance education programs within Saskatchewan. As requested a revised proposal was submitted in March 1996 for a "prototype" of a province-wide program which was generic as possible even though the "examples" would be using the U-SEARCH service. Topics included would cover a range of institutions and services so that the final product could be used anywhere by anyone within the province. Contact was made with representatives of the University of Regina Library, 2 campuses of the Saskatchewan Institute of Applied Science and Technology (SIAST), 3 regional colleges located in 3 different communities, 2 public libraries, 1 regional public library system, and 2 colleges with formal affiliation to the University of Saskatchewan. Development would be done with expertise provided by a 4-month contract Librarian with experience in reference, HTML (hypertext mark-up language), and Web-"page" design. Development hardware and software complete with scanner would be provided by the University of Saskatchewan Libraries U-STUDY program with offices and support services by the Libraries administrative and systems unit. Further assistance would be contracted with the University's Extension Division for access to its computer-mediated-conferencing software and hardware and to the University's Audio Visual Services Division for developing and producing the media components. A budget was submitted for project costs totalling $24,300.00 (Appendix 1).

On April 4, 1996 the University of Saskatchewan Libraries were informed that the "Electronic Library Off Campus Services Program" had been approved by Saskatchewan Department of Post Secondary Education and Training with a grant of $24,300 from its Multi Media Learning Strategy.

**Project Implementation**

Actual implementation proceeded on the following basis. As the U-STUDY Coordinator I served as the overall project manager and planner. Ms Colleen Martin-Brownell, a Librarian previously contracted by the University of Saskatchewan Libraries was recruited for her experience in reference, bibliographic instruction, Internet searching, HTML coding and web-page design. Commitments were received from University of Saskatchewan Extension Division for support and systems administration of the computer-mediated-conferencing software FirstClass. In addition the services of two Extension instructional designers Earl Misanchuk and Ruth Epstein was secured on an "as needed" basis. Support commitments were arranged with Daryl Friesen, a Computing Services programmer contracted to the University Libraries Systems Department. This enabled the preparation of the "electronic forms" plus assured advise on the technical aspect of server file organization which would be "in tune" with the file structure for the existing U-SEARCH service. Finally arrangements were made to contract with the University's Audio Visual Division for the multimedia clips.

In April-May 1996- it was discovered that the existing U-STUDY microcomputer (486-micro with 24MB of RAM and Windows for Workgroups 3.11) while being capable of Web-page design, was not practical for such work - namely because working with any image and audio-visual files would require more hard-drive memory than was currently available or could be installed. Therefore as part of the Libraries commitment to the project's needs a Pentium "multimedia workstation" (IBM PC3524-P100 Pentium microcomputer
with 40MB of RAM, 1.6GB hard-drive, scanner, cd-rom, speakers and with Windows-95) was purchased from the U-STUDY budget. In addition software needed for Web development was installed for ... Image Management: VView Pro, Paintshop Pro; HTML Editors: HTML Assistant Pro, Dida html editor; Video-Audio Players: MoviePlayer, Quick Time, RealAudio; Word Processing-Presentation: Microsoft Office, WordPerfect for Windows 6.1; Internet Browsing Software: Netscape 3.01, Microsoft Explorer, QVT-Net, QVT-Term. While not all this software was actually required (eg. the Librarian-developer Ms. Martin-Brownell chose to write HTML code directly rather than using the HTML editors provided), it was useful to have it available.

While the original project plan had been to start in May 1996 with an anticipated completion date of August 1996, due to the Libraries conflicting needs for Ms. Martin-Brownell assistance with other digitizing projects on-campus and within the Library, it was not possible to formally begin the U-STUDY Multimedia project until July 1996. Therefore it was essential to alter the project’s implementation time line so that a draft version on the Web design was completed by the end of August 1996 at which time it could be shown for comment and alteration to participants and instructional designers. Completion of all Web-pages would be required by the mid-September 1996 with installation of Web-pages being done towards the end of September. At the same time trips would be made to various participating sites to install and configure software - with completion by the end of September. This would leave October and November to start and complete the audio-visual elements with the project. This timetable would also fit in with the off-campus student’s need for “real” product at a suitable time of the academic year since the first library assignments are usually due in November and started in mid-October. The audio-visual elements were considered “add-ons” and as such could be deferred without impinging on the overall usefulness of the U-STUDY Web-pages. The entire project would be completed by mid-Nov. 1996 - 4 months after its initial start date.

As can been seen by the following timetable that while the essential parts of the project - namely the Web pages for the U-STUDY Virtual Library Handbook, its images, graphics, content, and forms -were completed and in use within weeks of the projected time (completion dates in italics), the final aspects of the project - namely the audio-visual components - encountered considerable delays. Since these elements was contracted totally outside the Library and U-STUDY project staff had to adjust itself to the University’s Audio Visual Division’s own schedule of ongoing projects.

Projected for ... [actual completion dates in italics]

June 1996
- June 6 meeting between U-Study Coordinator, the contract Librarian-developer and all the project participants to review the implementation
- complete site visits to assess equipment and set-up (June 18, 21)

July 1996
- contracted with Library Systems for U-STUDY request forms (book, journal article, subject) with final version competed June 7-Aug. 13
- story-boarding for U-Study Online Handbook (July 4-12)
- with advise from Library Systems, contracted with Ms. Alison Muri, a media designer with a commercial firm Northern Lights, Inc., to develop graphics for ... 2 “button bars” for Table-of-Contents and Main Page plus 2 animated and 1 still “husky” figures (July 18-Aug. 21)

August 1996
- web pages or addresses from participating agencies received and installed (Sept. 21)
- HTML draft version of U-STUDY Virtual Library Handbook completed (Sept. 6)
- meeting with participating agencies for follow-up, commentary and further suggestions or developments (Aug. 27)
September 1996
- consult with Extension Division instructional designer for suggestions, change and advise (Sept. 11-20)
- **FirstClass** computer-mediated-conferencing prototype completed and testing begun (*initial meetings on June 12 & July 9 with final completion in March 1997*)
- installation of software, basic operational start for U-STUDY Online Handbook, and training for remote sites (Sept 24-Oct 15)
- start story boarding for Audio-Visual elements (Oct 4)
- interim report to funding agency (Sept 16)

October 1996
- Audio Visual elements completed and installed
- script development - 3 versions (Oct. 18, 29 - Dec. 4)
- final script with audio and shooting sequences (Dec. 13)
- taping of audio narration (Dec. 17)
- 24 hours with 3 student assistant stand-ins for video shooting - Dec. 21)
- 10 hours of follow-up stand-ins with 2 student assistants for video shooting (Feb. 21, 24, 1997)
- 1 hour of follow-up stand-in with 1 student assistant for video shooting (March 6, 1997)
- post-production (March 21, 1997)
- draft version of audio-visual clips screened (April 7, 1997)
- final versions audio-visual clips loaded to U-STUDY Online Handbook (mid-April 1997)
- draft cd-rom version of audio-visual clips (late April 1997)
- final cd-rom version of audio-visual clips (early May 1997)

November 1996
- start training of U-Study staff and provide supporting documentation (Nov. 15)
- project completed and final report submitted (July 7, 1997 see above)

**U-STUDY Project Design Parameters**

From prior experience . . . as a Reference Librarian in both on-campus and off-campus/distance education settings; as an online searcher of bibliographic databases; having worked with students, faculty and staff in cooperative off campus environments; having been involved in the evolution of in-house database projects; and as project planner I had some strong views regarding the expectations and design guidelines for Webpage design plus a “vision” for this particular project. These are spelled out below since they are virtually self-explanatory . . .

- users of electronic services do not spend a lot of time “reading”, therefore keep written verbiage to a minimum and rely upon an obvious highly readable graphic layout to make points [comment: am still not completely “happy” with the resulting project but lots of time for revision]

- keep the content “simple” and abbreviated. The intent is an “on-the-spot quick-reference” instructional guide. No attempt was made to be comprehensive about the detail associated to any single topic but rather cover the basics and rely upon the options for further Reference assistance, e-mail, or even direct telephone contact for fuller explanations.

- overall design should be as “flat” as possible. Users should be at the desired content within 2 clicks.

- employ a “book” style format. The Main page would or could be controlled by a Table-of-Contents or by a “subject” index so that users could go directly to the appropriate “pages”. All three aspects for controlling content - main page with its Major component, the Table of Contents for major process,
and the index for specific item look-up provided the users with the same flexibility that they might find in a printed Handbook. Web "frames" made this approach possible.

- provide lots of lateral connections to/from U-SEARCH and U-STUDY. Users would typically be starting with U-SEARCH, seek some clarification within U-STUDY, and then return directly and easily to U-SEARCH.

- even though the funding source emphasized the desire for "multi mode" and "multi media", it was felt that this should not be an integral requirement since users would be affected in different manners. For example users with direct PPP access would experience relatively little delay in downloading such images. However users with modem dial-up over common telephone lines would experience "inordinate delays" while waiting to download and load graphic pages, images, animation, and especially audio visual files - especially on older but common 486 equipment. Wherever possible these elements should be adjuncts to the primary purpose - delivery of information. With time and the increasing speed of the Internet, faster and more powerful microcomputers, and more efficient telephone-modem line transmission-receival rates, the issue of "downloading" will be less of a concern and "multimedia" features can assume to be a more primary and integral component.

- attempt, wherever possible, to be humorous "light" or "playful" - especially as library content is dry and "less-than-exciting". Use every opportunity with images or audio-visual to inject humour or "perks" into the otherwise dry and pedantic content, eg. the "dancing huskie" the University's mascot.

- as the intended audience for off campus library services within Saskatchewan, and specifically for the U-STUDY program, is primarily first- to third-year undergraduate students, the level of information and instruction would be directed towards them and at the appropriate level.

- wherever possible provide links to other resources, eg. other catalogues, Internet sites, "pages" for other institutions, etc. anything may be of use wherever those resources or services are physically located - even if they have to be created on an "interim basis". In other words make use of "existing" resources and adapt rather than create new.

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3 The government's Call for Proposal used these terms loosely without every defining precisely their meaning. In putting the proposal together U-Study interpreted "multi media" as employing more than one aspect of communications, eg. textual material, graphical materials in the form of "still images" or a sequential series of "still images" - like a slide show, animation, audio, video or moving image, as well as "full-motion real-time audio-visual" files. As many of these "types" were employed to best get the points across but without consciously "slowing" the activity down. "Multi mode" is considered as "instruction using a variety of methods", eg. Print-based, video, teleconference, face-to-face, and was not considered appropriate for the project.

4 At the suggestion of Earl Misanchuk, a trial was done using first a 486 microcomputer and then subsequently a Pentium laptop with a dial-up modem to a SLIP account. One 30-second audio-visual file was downloaded from an Pentium microcomputer using a direct PPP connection. This download required 24-seconds. Using a 486 microcomputer with the same kind of direct PPP connection this download required 2 minutes 4 seconds. Using a Pentium laptop with a faster "clock" speed with the same kind of direct PPP connection this same file required 17-seconds to download. Using the same Pentium laptop but with its 32,200 baud internal modem connected to an adjacent phone-line with a dial-up SLIP connection this download required 17 minutes.
— never duplicate information in more than once "page" but rather have the “frames” browser re-directed to the same page and preferably to the appropriately indexed sub-portions within that page.

— consider that this project is only the “first phase” and so ensure that it can be readily adjusted, expanded or even deepened to accommodate future developments - especially for higher-level or discipline oriented projects (see Future and Further Developments section). This will become increasingly important as research needs change and expand to incorporate the Internet.

— even though the U-STUDY Virtual Library Handbook was designed as a WWW “web” frames project, consideration had to be given to users with browsers incapable of displaying “frames”, and users having only a Lynx text-only browser. Whatever design is implemented it should be able to accommodate a “non-frames” and even a “text-only” format. While this may seem over-kill in late 1997 when this paper is being written, in mid-1996 this was a very serious concern.

It is expected that most of these points are self-explanatory. At all times these elements were matters considered during the development, drafting, revision and finalization. While consideration was given to the “look” of the project on both DOS and MAC platforms, because the Library has no MAC platforms there was little that could be done other than “checking”.

**The U-Study WWW Virtual Library Handbook**

Having moved from the U-SEARCH home page and past the Introductory Page (Figure 1) ...

Users will find themselves at a “frames” with 3 major elements (Figure 2) ...

— a central Main "Contents" or "informational" page

— edged on the left hand side with frames containing the ...

"Table of Contents" and "Index"

Any of the 3 frames can be re-sized for fuller information. Also with the exception of the Main "Contents" or "informational" page which is virtually full page, the 2 smaller frames each have "scrolling side bars".

By clicking on any of the “buttons” on that Main "Contents" or "informational page, the content will change so as to be re-directed towards specific information such as the “Planning Course Work” (Figure 3) or "Planning/Writing a Research Paper" (Figure 8) OR to a panel of clickable sub-topics, eg. “Searching for Material”, “Critical Thinking”, “Requesting Material”, or “Need Help” (Figures 4,5,6,7,9)

Each and every panel through the Main "Contents" or "informational" pages have at the bottom of each frame have the same series of options ... “Back to the top of this page”; "Back to the table of contents" - i.e. the main "contents page" six button panel; or "Return to U-Search".

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Using the URL feature of your browser, use the following address to locate the University of Saskatchewan’s U-SEARCH “home page” ... http://library.usask.ca

Upon loading, from the “green” bar at the top click on ... U-Study

Or alternatively under the “Information and Services” click on the downward arrow to display the full list of entries and select the “U-Study: Off Campus Library Services” and then click on the “GO” button.
Main Contents or Informational Page

It is preferred that users, even those who wish to browse the contents actually go the site and just work their way through each of the main activities on the Main "Contents page. However for those who wish to examine specific features, each of the "buttons" on the main "contents" page will enumerate the noteworthy features...

Planning Course Work or Research...

- advise on "being organized" and "systematic" in arranging you course complete with assignments, essays, exams
- laterals links to "planning a research paper"; "evaluating materials" i.e. critical thinking, searching for materials, requesting materials, getting advise from a librarian, and the basic components of a research paper, ending with a comment-link to scholarly materials
- 2 video clips each with approximately 40 seconds playing time

Searching for...

- separate sections on books, journals articles with descriptive information on their usefulness, how to evaluate the material, with lateral links to "scholarly vs. non-scholarly materials". Information is provided on how to locate either books or journal articles, through automated catalogues/indexes complete with frame-by-frame slide shows using U-SEARCH
- a separate section discussing Internet and what resources might be available plus different types of searching engines and lateral links to those engines
- in each of the above case there are relevant sections for critical thinking/evaluation, tutorials, scholarly vs non-scholarly materials and options to actually request material from U-STUDY
- subsections within this area look at where research materials can be located...within the home or local community, at libraries, and at academic libraries
- subsections provide lateral linkages to Web pages for where computers are/have been located, for tutorials or different kinds of assistance
- there are descriptive and moving image diagrams for searching different types of materials books, journal articles using "boolean" or "logical" operators
- there are also 2 video clips one each for "books" and "journal articles"

Critical Thinking...

- using information gathered from the literature plus from instructional designers specializing in this are, there are 2 main sections: one looking at the theory of critical thinking - its attitude, skills, and knowledge "of generalities" or "of specifics"; and then practical strategies for applying critical thinking techniques.
- a bibliography of materials held and owned by the University of Saskatchewan Libraries provides source for further reading
- accompanied by a video clip of approximately 40 seconds playing time

Requesting Material...

- sections describe the "how" of requesting materials from libraries and specifically from the University of Saskatchewan Libraries U-STUDY program. There is basic information on Windows "clip and paste" so that users can make full use of automated Windows features
- there is also descriptive information about the U-STUDY service and the University of Saskatchewan Libraries polices for requesting service, borrowing regulations plus advise on local resources for consultation
- perhaps the most useful feature here is the "electronic forms" for submitting requests. These forms include all the elements which identify the user plus which are "required" before requests can be
forwarded on. The forms available are for book, article and subject requests and each are “scrollable” allowing for “cut ‘n paste” clipping.

Planning and Writing . . .
- assuming the practical example of a typical English Literature first-year undergraduate paper on Shakespeare’s *Antony and Cleopatra* practical planning advice is provided along with the 2 major portions . . .

- “topic development” is accompanied by a 50-second video clip and covers the major elements of .
  - understanding what is being asked and expected
  - background reading and research for familiarization
  - organizing approach and progression of thought
  - narrowing the topic to specifics things using the background reading, and the play’s text, and the materials already located so as to develop . . .
  - the paper’s thesis statement
  - suggestions are provided which can be through to the “writing”
- “writing” section is also accompanied by a 25 second video clip and covers the more mechanical aspects of preparing the paper . . .
  - outline
  - footnoting and bibliography
  - first draft and revisions
  - final draft

Need Help . . . ?
- broken into the major aspects of “Conducting research?”, “Where to start?”, “Getting in touch . . .”, and then “U-STUDY procedures . . . “, this section serves as a review of everything already covered
- included are the “aids” to using the U-SEARCH Catalogue, and its indexing services, plus information on how to prepare bibliographies, options for asking a reference questions (“electronic mail messaging”), plus “electronic discussion groups through FirstClass conferencing software plus a section for “frequently asked questions”
- this also includes a 22-second video clip which serves to both provide help and close off the site

**Inserted Table of Contents frame**

On the other hand users can, either at the start, or at any time while working through the *Handbook*, use the inserted “Table of Contents” frame to re-direct themselves to any of the typical major topics or sub-topics contained within the Main"Contents" or "informational" pages.

Users should note that every element within this sub-frame is “clickable” and the sequences or arrangements of the topics parallels the standard sequence by which students would be approaching their course or paper.

For examples, clicking on ...

**Table of Contents**
- redirects or returns the Main “contents” panel to the first 6 “buttons”

**Getting Started/Introduction**
- directs the “contents” panel to descriptive information about the U-STUDY service
Planning
- directs to the "Planning Course Work" page

Searching
- if selected then the direction is to the "Searching for Materials" subtopics page
- if the sub-categories of "Books", "Articles", "Local Resources" are selected then the direction is to appropriate sub-topic page

Critical Thinking
- directed to the "Critical Thinking" sub-topics page

Requesting
- is handled in the same style as "Searching" above

Planning A Paper
- if selected then the directions si to the "Planning/Writing Your Research Paper"
- if the sub-categories of "Topic Development", "Writing", or "Citation Guide" are selected then the direction is to those appropriate sub-categories

Help
- directs to the "Need Help?" sub-topics page

With the final element being "Go to U-Search"

Inserted Index frame

This subsidiary frame works exactly the same as a "subject index" at the back of any book. Clicking on any letter "opens" the index for that letter. Contained within the index is every databases or service name used within the U-Study Handbook or within U-Search plus any term or subject covered. Wherever possible variations on a term such as "periodical", "journal" or "magazine" are re-directed to the same "page" or index topics within the "page"

Future and Further Developments

As a prototype the U-STUDY Virtual Online Handbook served as a wonderful opportunity to provide pragmatic practical assistance to researchers. It was developed in an environment where it is an additional "quick-reference tool" for those who need it. It has been used a base for others at the University of Saskatchewan Libraries who are interested in using it as a "base line" upon which can be built more specific things. Proposal have been made and submitted to make the next series of steps which is to fold in sections for more specialized subject disciplines of Psychology; Sociology, etc.

However at the same time its limitation is that it is likely to always remain "too general" just because it is impossible to quickly direct users both to an overview of research and to the detail of "looking for this .. ?" Also there is no specific material for the Non-Arts/Humanities/Social Sciences subject disciplines because their research needs are radically different and considerably more complex - eg. Commerce, Science or even the Applied Sciences.

Finally there is an immediate problem with being "up-to date". At the time of this writing the project has been completed for barely 6 months and already major changes are required due to ... changes in specific details such as "access" or "dial-up" numbers, "Internet sites" being pointed to; but most specifically because the University of Saskatchewan Libraries Systems Department has radically changed its U-SEARCH front-end and how things are put together behind it which necessitates changes to image files and
These changes were introduced in early August with no time to make adjustments prior to the start of the academic year. Since the U-STUDY program consists of 2 individuals along with student assistants, it is a real chore during the Fall/Winter term just getting the job done without also having to try and "rebuild pages", "images", and trouble-shoot in order to up-date and correct. Even though HTML is an easy language to work in, the problem is just too many things to do and not enough time. Keeping a Web site "current" is not any easy simple matter.

However it has been an interesting experience . . . and something I will likely do again ...
### Appendix 1 - U-STUDY Multimedia Project Budget and Costs

<table>
<thead>
<tr>
<th>Development Expenses</th>
<th>Budget</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hardware</td>
<td>0.00</td>
<td>4,271.77*</td>
</tr>
<tr>
<td>Software</td>
<td>250.00</td>
<td>??</td>
</tr>
</tbody>
</table>

**Staff Expenses**

<table>
<thead>
<tr>
<th>Position</th>
<th>Budget</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Librarian I @ 2800/month</td>
<td>11,200.00</td>
<td>11,266.67 &amp; $1,151.14 benefits</td>
</tr>
<tr>
<td>Computer Programmer</td>
<td>1,050.00</td>
<td>1,050.00</td>
</tr>
<tr>
<td>Instructional Design consultation</td>
<td>800.00</td>
<td>350.00</td>
</tr>
<tr>
<td>FirstClass systems administrator</td>
<td>1,000.00</td>
<td>1,000.00</td>
</tr>
<tr>
<td>Student assistant stand-ins</td>
<td>-</td>
<td>288.89</td>
</tr>
</tbody>
</table>

**Non-Staff Expenses**

<table>
<thead>
<tr>
<th>Expense</th>
<th>Budget</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 Audio-Visual clips @ 1,000/min</td>
<td>8,000.00</td>
<td>7,678.41</td>
</tr>
<tr>
<td>Consultation/configuration travel</td>
<td>1,500.00</td>
<td>1,219.83</td>
</tr>
<tr>
<td>Documentation Preparation</td>
<td>500.00</td>
<td>0.00</td>
</tr>
</tbody>
</table>

**Total**  
24,300.00  28,276.71*

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* Paid from University of Saskatchewan Libraries’ U-STUDY grant

7 Covered by University of Saskatchewan Libraries’ Systems and Networked Software budget

8 Excluding the hardware costs of $4,271.77, the actual project costs was $24,004.94 with the difference between the *Multimedia Project Grant* and actual being charged to the annual U-STUDY grant. What was not planned for or anticipated was the cost for "staff benefits".
Figure 1 - Introductory screen

Figure 2 - Main Panel or "Contents-Informational" page flanked with Table-of-Contents and Index

Figure 3 - Planning Course Work or Research with

Figure 4 - Search for ... with matching "Table of Contents" and Index
Figure 5 - Critical Thinking with matching "Table of Contents" and Index

Figure 6 - Researching material with matching "Table of Contents" and Index

Figure 7 - Requesting material with matching "Table of Contents" and Index

Figure 8 - Planning and Writing ... with matching "Table of Contents" and Index
Figure 9 - Help with matching "Table of Contents" and Index
Walden University and Indiana University:
Unlikely Partners Providing Services to Off-Campus Students

Rita Barsun
Indiana University-Bloomington Libraries

Abstract: An agreement between Indiana University and Walden University provides library services for Walden students. The history of the relationship is described. Provisions of the written agreement are delineated. Services offered by the Walden University Library Liaison are enumerated. Cost and benefits to both institutions are explained.

Introduction

Since May 1993 Indiana University - Bloomington (IU-B) and Walden University have been linked by a formal contract, a Memorandum of Understanding (MOU) which enables Walden students to receive research-level library services through the Walden University Library Liaison (WULL) office. The 1997-1998 MOU supports a full-time assistant librarian, the Library Liaison, and a full-time staff appointee, the Library Services Coordinator, who also holds an MLS. In addition to maintaining a year-round virtual library, each summer the Library Liaison and her assistant create a veritable library to meet the research and information needs of the 350-400 students who attend a three-week intensive academic residency on the Bloomington campus.

To some, IU-B and Walden appear unlikely partners, an “odd coupling” (Walden & Indiana, 1996). IU-B is the flagship campus of a large state-supported university. Its library is one of the premier research facilities in the United States, with the main library and twenty campus (branch) libraries ready to address the research and information needs of the IU community. Founded in 1820, NCA-accredited IU-B is home to 35,500 graduate and undergraduate students in a wide range of academic programs.

Walden University, also NCA-accredited, is only 27 years old and boasts a student body of 1200. With the exception of approximately 100 students enrolled in a master’s level program, its students are pursuing doctoral degrees. Degrees are granted in only five disciplines. A “university without walls,” Walden has no campus, no classrooms, and no library building. Global in scope, it serves students throughout the world, from Iceland to Taiwan. Nontraditional in concept, it offers alternative educational opportunities to mature adults whose professional and family responsibilities preclude enrollment in campus-centered programs.

The principles which have brought together these two seemingly disparate institutions are delineated in an accord signed in 1996 by the president of both universities: A recognition of the growing importance of distance education, the need to assure a wide range of research materials for distant learners, and the imperative for pioneering in the development of innovative patterns of collaboration to serve pressing educational needs in an era of rapid change and diminishing public funds. Their shared concern is reflected in the details of the Memorandum of Understanding, the written document which binds them.

The Memorandum of Understanding (MOU)

Underlying the written contract is an understanding reached in early discussions that both parties must be accredited by the North Central Association of Colleges and Schools and that IU must not be represented
through misuse of its logo or other official insignia; e.g., in Walden publications describing library services (Weaver & Shaffer, 1995).

Negotiations are initiated each year in the early spring with Walden’s submission of a Request for Proposal (RFP), based on Walden’s identification, assessment, and evaluation of library service needs. Although the MOU does not go into effect until September 1, the agreement must be signed by June 30.

The MOU is subject to annual review and renewal. Either party may terminate the relationship with one year prior notification. Details of the contract are negotiated by Walden’s Vice President for Academic Affairs, Kent Morrison, and IU Libraries’ Head of Customer and Facilities Services, Harold Shaffer; it is reviewed by both universities’ legal counsels; and the final draft is signed by the president of Walden and the dean of the IU Libraries.

General institutional responsibilities include Walden’s commitment to reimburse IU Libraries (IUL) for unpaid charges and damaged or unreturned materials. In addition, Walden must promptly compensate IUL for any unforeseen expenses. Copyright law and agreements with database vendors are to be strictly observed; WULL staff may use IU electronic databases only for the purpose of answering reference questions.

Year-round budget allocations are submitted to IUL on a quarterly basis; summer session allotments accompany three of the quarterly payments. Besides the start-up expenses covered by the 1993 MOU, Walden has continually provided WULL with generous financial support for facilities (including office space), supplies, equipment, and telecommunications links (Fax machine, toll-free telephone line, electronic mail).

Walden is to supply the WULL office with monthly lists of in-coming and out-going Walden faculty, staff, and students. The information is necessary in order to facilitate the issuance of IU library cards and maintenance of the user database, both of which are essential for fee-based access to materials in the IUL-Bloomington collection.

Walden is also responsible for supplying all information necessary to enable WULL staff to develop support materials for revisions of the curriculum.

The Library Liaison is charged with developing, implementing, and evaluating operational goals and objectives in response to the annual RFP. The primary responsibility of the staff appointee, the Library Services Coordinator, is to provide library services directly to students. They are supported in their endeavors by members of the IUL Customer and Facilities Services unit.

**Background of the IU-Walden Relationship**

The first contact between Walden and IUL was not direct. Rather, in December 1991 the IU Conference Bureau informed IUL that it had contracted with a private distance education institution for a three-week residential session on the Bloomington campus for 300 doctoral students. Commitments had already been made for food and housing facilities, as well as for library services.

The influx of 300 students, new to the libraries and intent upon finding as much material as possible in a three-week period, would severely tax library staff and put a drain on library resources. Pat Steele, the Associate Dean of Libraries responded to the challenge by taking a crisis-management approach and quickly assembling a special project team to plan a program of services and outline a budget to support those services (Weaver). Mary Popp, IUL’s Head of Instruction Services was instrumental in arranging orientation and instruction sessions.
During debriefings at the end of that first summer session it became evident that more needed to be done to cushion the impact on IUL facilities and services and staff, and to provide Walden students with the level and nature of library services their university requires. The environment on both sides was favorable for consideration of expanding to a year-round program. The Dean and Associate Dean of the IU Libraries had identified distant learning as a major objective for IUL. John Cantelon, Walden's Provost and Vice-President for Academic Affairs, saw the provision of library services to the distant learner as "the key to continuing the essential student-faculty-library triad that is at the heart of higher learning" (Cantelon, 1997). Before embarking upon a relationship which the University might not support, IUL administrators consulted with the Chancellor's office. Once approval had been given, IUL administrators, not the IU Conference Bureau, were empowered to negotiate the contract for library services.

Included in the recommendations which had resulted from the debriefings were a permanent project coordinator and customized services tailored to the needs of Walden students. Walden's offer at that time to fund a half-time assistant librarian on an annual basis carried an expectation that the position would eventually become full time (Weaver & Shaffer, 1995). Two separate budgets were set, one for year-round services and one for services to be provided during the summer session. Expanded 1993 summer session services were offered through a temporary office in the lobby of the IU-Bloomington main library.

Summer session 1994 saw the fulcrum of library services to Walden students shift from the main library to the dormitory in which most of the faculty, staff, and students were housed. There, they received customized, point-of-need services (including instruction) and they were provided exclusive access to a temporary CD-ROM LAN which offered the same resources found at work stations in the main library. The move also spoke to the need to reduce the strain on the staff and facilities of the IU main library and the branch libraries which own collections in Walden students' areas of concentration. Year-round services were enhanced in 1994 by additional funding of 25 hours per week of reference assistance.

Details of year-round and summer session services and staffing for 1995 have been described elsewhere (Barsun & Weaver, 1995). In 1996 summer session residential and library facilities were moved to a larger dormitory. The reference assistant position was upgraded from hourly to appointed full-time support staff. Summer session 1996 also witnessed the departure of Sherrill Weaver, the first Library Liaison. With the backing and support of the IUL administration, Ms. Weaver had been instrumental in raising the WULL program to a level at which it received high accolades from NCA accreditors.

Operating out of an office on the ninth floor of the IU-B main library, WULL attempts to uphold the standard set by Ms. Weaver and to deliver service comparable with what is offered on campus to users of the IU-B libraries. At the same time, WULL tailors services to the unique needs of adult learners enrolled in a unique academic program.

The Walden Academic Program

Walden students are mid-career professionals wishing to advance in their careers or to acquire scholarly credentials in their field. They represent the gamut of adult learners, with different learning styles and a wide range of computer literacy. Doctoral candidates may earn degrees in Applied Management and Decision Sciences, Education, Health Services, Human Services, and Psychology. Students in the Educational Change and Technological Innovation program work toward an M.S. in Education. The Walden curriculum focuses on the concepts of critical thinking and social change and endeavors to inspire students to become scholar-practitioners. While critical thinking can be exhibited in research papers, implementing change for the betterment of society must be demonstrated in actual practice.

Teaching and learning in the virtual university environment are effected by online workshops and seminars, as well as individual communication and consultation with faculty mentors via electronic mail
and telephone. Compressed interactive video is being introduced in Walden’s course-based curricula during the current year.

Students must complete one two- or three-week summer “core” residency early in their Walden career. The summer residency is an exhausting but stimulating experience which serves to immerse students into the community of scholar-practitioners. It offers a variety of learning experiences, including one-on-one sessions, small-group seminars, plenary sessions, workshops, and formal courses.

Additional residency requirements can be met from among a variety of options which provide flexibility in time, place, and duration. The option most commonly taken by students are four-day residencies, known as C-4s, which convene monthly in different cities across the country. Like the summer session, they feature a variety of learning venues. Included are small-group seminars, large-group plenaries, instruction in use of the World Wide Web and features of the Walden Information Network (including proprietary bibliographic databases), and one-on-one meetings with faculty members.

Students in the Professional Psychology Program follow a curriculum based on academic courses, delivered electronically.

All other doctoral students are enrolled in competency-based programs which require them to complete seven “Knowledge Area Modules,” or KAMs, individualized demonstrations of competency in different social and behavioral sciences. The KAMs are designed to help the students progress systematically toward the dissertation. Each KAM is comprised of three components: Breadth, Depth, and Application. The Breadth and Depth components demonstrate the student’s understanding of the theoretical basis of the field. The Application component is intended to demonstrate the student’s ability to apply the theoretical to specific issues or problems in his or her field.

The first four KAMs, the “core” KAMs, are the same for each field: Principles of Societal Development, Principles of Human Development, Principles of Organizational and Social Systems, and Principles of Social and Behavioral Science Research. The three “advanced” KAMs are program specific but share a focus on theory, methods, practice, and organizational principles. Certain advanced KAMs require a case study.

The Walden academic program is modeled upon that of Oxford University. There, a student meets with a tutor once a week and is assigned a paper. After visits to the library, the student, paper in hand, returns to the tutor. A discussion of the written work is followed by suggestions of additional readings. The modified paper is then discussed in ensuing meetings. As is the case with the Oxford students, seldom (if ever) is a Walden student’s KAM or psychology paper accepted upon its first submission. Rather, submission and acceptance of papers are part of an iterative process, one which requires a command of the library research process and access to scholarly literature. The Walden University Library Liaison (WULL) has developed a slate of services intended to facilitate students’ acquisition of the skills and the materials they need.

Year-Round Services

The ACRL Guidelines for Extended Campus Library Services were used as the baseline in establishing WULL (Task Force, 1990). Vicky York’s planning guide (1993) was especially helpful in implementing the Guidelines. Although assessment and evaluation of WULL’s services and of student satisfaction are ongoing, all aspects of the program are presently undergoing more intensive review in light of the proposed revision of the ACRL Guidelines and the upcoming visit of the NCA Accreditation Team. An adaptation of a form devised by Central Michigan University is helping quantify services (Witucke & Schumaker, 1991).

The draft of the revised Guidelines lists eleven specific services considered essential to meet the needs of off-campus users (HGover, 1997).
1. Reference assistance

The Walden University Library Liaison (WULL) may be thought of as a “virtual reference desk.” As with any reference desk, answering questions make take from five minutes to five hours. Fortunately, WULL has immediate access to the vast electronic, print, and human resources of the IU Libraries.

Some of the most frequently requested services are assisting with searches of electronic databases or online catalogs, verifying citations, locating sources for specific research instruments, explaining the vagaries of terminal emulation in a world of myriad platforms and service providers, and finding sources for obtaining books and other research materials. Whenever possible and within reason, an attempt is made to guide students in finding answers themselves rather than merely giving them the answers. In other words, every encounter is treated as a potential opportunity for instruction.

Another service which may be considered reference is that of helping students investigate local library resources. Here, care is taken not to lead the student to consider that local libraries should be expected to take the place of services Walden offers through WULL, nor that nearby libraries become “victim” libraries, providing the services for which they receive no compensation from Walden. (Dugan, 1997)

Rather, local library resources are to be used to complement WULL services or as sources for items not available through IU’s Document Delivery Services. Students are encouraged to discover what a particular local library’s policy is toward unaffiliated users and then to respect and abide by those policies.

2. Computer-based bibliographic and information services

Walden has its own electronic network, the Walden Information Network (WIN). The WIN Information Technology team works in close partnership with WULL to select resources to be included in WIN and to provide training in using and accessing the network.

Each member of the Walden community is given a WIN e-mail account, which offers its owner access to four online databases: ERIC, SocioFile, PsyclIT, and MEDLINE. ABI/Inform and HealthSTAR will soon be added to the network. The present Telnet interface is expected to be replaced by a Web-based interface within the next academic year.

A Gateway account to CARL/UnCover, accessible through WIN e-mail accounts, affords the Walden community a 35% discount on the base price for purchasing copies of journal articles. At present the connection to CARL/UnCover is via Telnet; a Web-based interface is in the negotiation stage.

The "Virtual Reference Collection" section of the WULL Web site features links to Web-based research and reference resources. A link is not added until the site has been evaluated, and each link is accompanied by a short annotation.

3. Reliable, secure access to institutional and other networks, including the Internet

User names and passwords are required to access WIN and sections of the Walden Web site which contain course syllabi and other proprietary information.

WIN enables students to communicate with one another, faculty mentors, personnel in the administration offices, and WULL. Numerous internal listservs provide an opportunity for open or guided discussion among students and faculty in a particular discipline or with like interests. Links to shareware, freeware, and proprietary software purchased by Walden facilitate access to and use of other Internet resources.
4. Consultation services

Although discussion of the content of written work is the purview of faculty, WULL works with students on strategies for finding citations to research resources and on ways of obtaining the desired items. A Web site with tips on evaluating resources has been developed but has not yet been mounted on the Walden server.

Until September 1996 a major portion of WULL's service consisted of conducting searches of databases for Walden students and faculty and administrators. Now, searches are conducted for students or faculty only if warranted by extenuating circumstances. WULL's present role is that of guiding and encouraging students and faculty as they undertake the searches themselves. The emphasis is on helping them select the print or electronic resources most appropriate for the research topic, developing an effective search strategy, and interpreting and evaluating the results.

Both electronic mail and the toll-free telephone line come into play during interaction with users. Some students need only to be shown how and where to start; consultations with others may continue over a period of weeks.

5. A program of library user instruction

As stated earlier, every encounter with students is regarded as an opportunity for one-on-one instruction. Instruction is neither static nor limited to one medium. The e-mail or telephone sessions are supplemented by forwarding generic or case-specific step-by-step instructions for developing a search strategy and conducting the search, by directing the student to pertinent pages of the WULL Web site, or by mailing detailed instructions on how to address their specific question or topic. The WULL Web site offers a detailed guide to using the WIN databases, with links to step-by-step instructions for replicating sample searches.

Each quarter the Library Liaison participates in an online workshop for a cohort of students entering the online Professional Psychology Program. Problems or questions which arise during the exercise provide an opportunity for further instruction. Once the assignment has been completed, students are asked to use the principles they learned to look for resources on a specific topic—with additional assistance from WULL if needed or desired.

A stable of workshops is being developed for the monthly four-day residencies (C-4s). Because other demands keep WULL staff from attending many of the C-4s, the workshops are being developed with complete enough instructions that they can be taught by a member of the Information Technology team or by a faculty member who is comfortable in using the WIN databases or the World Wide Web.

6. Assistance with non-print media and equipment

Students have been advised to contact the Help Desk in the Minneapolis office if they experience technical problems, such as how to obtain and use a WIN e-mail account, how to use Telnet to enter WIN, or how to navigate the World Wide Web. However, the Library Services Coordinator sometimes deals with such problems if they fall within his range of expertise and it appears that the caller needs immediate technical and moral support or if the problem is related to the research process.

7. Reciprocal or contract borrowing

Every member of the Walden community is issued an IU library card at the beginning of his or her Walden experience. The cards permit them to receive books, photocopies of journal articles, and photocopies of ERIC documents, if the items are housed in a library on the IU-Bloomington campus and are currently
available. There is a fee for each book and photocopy, comparable to that charged to libraries participating in interlibrary loan agreements with the IU Libraries.

An informational brochure and the WULL Web site stress the importance of checking IUCAT, IU’s online catalog, for the availability of the desired item before the request is submitted. WULL is not the lending agency; IU’s Document Delivery Services (DDS) perform that task. WULL becomes involved only if DDS cannot fill the request, at which point WULL guides students in exploring alternate suppliers.

8. Prompt document delivery service

DDS sends materials directly to the requester’s home address. DDS’s goal is a turnaround time of 24 hours from receipt of a request to mailing or Faxing the item. Photocopies are sent by First Class U.S. Mail; there is an extra charge for Faxing them. DDS normally sends books by library rate; Walden borrowers are encouraged to request and pay for First Class postage. At the present time there are no plans for courier or electronic delivery.

9. Access to reserve materials

Plans for developing and maintaining a special Walden reserve collection in one of the IU dormitory libraries did not come to fruition. Although there are no reserve materials for year-round students at the present time, long-range plans include mounting readings on a secure Web site. Occasionally instructors of online seminars mount bibliographies on the Walden Web site or send them to students by electronic mail, but the WULL office is not always privy to the process.

10. Adequate service hours

The WULL office is staffed 7:30 a.m. to 5:30 p.m. EST (year round) Monday - Friday. The Library Liaison checks the e-mail account several times during the weekend but usually not on weekday evenings unless a student’s question or need is still pending at the close of day. Twenty-four hour voice mail on both telephone lines, one of which is toll free, also facilitates communication.

11. Promotion of library services

A teleconference or in-person presentation to new students attending their first four-day residency introduces them to WULL. During the presentation they are invited to visit the WULL Web site to learn more about services and procedures. They are also encouraged to use the toll-free telephone line to contact the WULL office. The Library Services Coordinator has subscribed to the student listservs for each academic program. He uses it as an opportunity to further promote WULL to new students and to provide relevant input when a question or point of concern is raised.

Introductions to new faculty members have depended on the individual’s contacting WULL. A more systematic orientation is being planned. Access to an “acadfac” listserv enables the Library Liaison to keep administrators and faculty aware of policies, misunderstandings, changes, etc. In addition, the Library Liaison’s participation in faculty listservs for each program offers a further opportunity to provide input to faculty.

The Web-mounted Walden Bulletin Board is a convenient venue for keeping the entire Walden community informed about library policies, services, and updates of the WULL Web site.
Summer Session Services

Each summer a dormitory library usually geared to the reading tastes of undergraduates is transformed into a miniature graduate research and study center, with a collection of reserve materials and a CD-ROM LAN which emulates the LAN in the IU main library. Innovations in 1997 included a small group of networked Web browsers and printing facilities. The library is located in Teter Quadrangle, the dormitory complex where most Walden students, faculty, and staff are housed during the three weeks.

As students register, they are invited to attend library orientation sessions which advise them of IUL and WULL policies and introduce them to the vast IU-B library facilities.

Workshops during the first two days focus on using IUCAT, IU's online catalog. Other workshops are offered only during the first two weeks, as the third week sees students implementing the skills gained in the workshops and intent on gathering research materials. With the exception of a series of hands-on sessions for the Psychology students, the workshops use a demonstration and discussion format. Topics range from how to find resources for the first KAM to how to gather information and resources for the dissertation proposal. Specific search techniques and individual databases are also workshop topics.

Pathfinders, customized guides, and tips on search techniques are displayed for distribution in the Teter library.

Ph.D. students and recent MLS graduates from the IU School of Library and Information Science (SLIS) are hired to be on duty in the LAN 15 hours a day every day of the three weeks. Their role is to provide one-on-one assistance to both students and faculty. In addition, there are opportunities for individual consultation with either the Library Liaison or the Library Services Coordinator at various times during the day and evening.

The Teter library serves as a distribution center for materials requested through IU's Bloomington Delivery Services (BDS). During the three weeks of summer session students and faculty may request books and photocopies from all eight regional campuses as well as from libraries on the Bloomington campus. (During the year they are limited to items held in libraries on the Bloomington campus.) The fee for delivery during summer session is considerably lower than for document delivery at other times, so students attempt to accumulate as many items as possible. During the 1997 summer session (three weeks) BDS processed 913 requests!

The Library Liaison arranges for two or three excursions to the libraries on the IU-Purdue University campus in Indianapolis, where students may browse collections unique to those locations. As with all other materials checked out during summer session, the books must be returned when the students depart at the end of the session. Strict adherence to the policy has considerably decreased the incidence of lost and damaged books.

Sofas and soft chairs in the Teter library invite students, faculty, and staff to spend time there and provide opportunities for social and scholarly interaction, a vital component of integration into the Walden community of scholar-practitioners.

The Importance of Support from IUL Staff

WULL and the Walden community draw upon the IUL-Bloomington collections, its electronic resources, and the expertise and high service standards of its staff.
Individuals at IU have wondered aloud why WULL is under the umbrella of the Customer & Facilities Services (CF&S) department rather than with a continuing or distance education unit. The answer is simple. Little if anything of what WULL does either year-round or during summer session could be effected without the full support of C&FS. Each facet of service is directly tied to one member or another of the unit.

- The circulation staff generate library cards and maintain the database of Walden card holders, which entails issuing special summer session cards to all attendees and an annual turnover of the entire database.

- Requests for books and photocopies go directly to Document Delivery Services, an arm of C&FS, where they are given prompt attention. During summer session Bloomington Delivery Services, also part of C&FS, take on the herculean task of filling a flood of requests in the shortest possible time.

- Bills and fines, damaged and unreturned materials are a perennial bane of circulation and document delivery. Again and again, the C&FS Assistant Head for Circulation & Security steps in to resolve such situations with courtesy and speed.

- C&FS's Assistant Head for Administrative Services maintains the WULL budget and prepares monthly and annual reports. Her task is especially daunting during summer session, when she must keep track of two concurrent budgets.

- C&FS's Computer Support Technician quickly responds to calls for help with WULL computers. If the problem is beyond his ken or control, he contacts Library Automation, which services the entire IUL-Bloomington infrastructure.

- The Collection & Space Management team are responsible for WULL office space support, from mounting shelves to assembling a computer desk. During summer session, extra student workers are employed to ensure speedy re-shelving of books in areas heavily used by Walden students.

- The Head of C&FS serves as contract administrator for the Memorandum of Understanding. Like the Assistant Head for Administrative Services and the Assistant Head for Circulation & Security, he also serves as advisor, counselor, and mentor for the Library Liaison.

Just as WULL could not operate the summer session library/LAN without the help of SLIS students, other summer session services could not be provided without the support of the entire IUL staff.

Despite WULL's efforts to provide a comfortable and inviting research and learning environment in the Teter library, Walden students scatter to the main library and to the campus libraries which house collections of interest to them. There they are welcomed and receive the same high level of service afforded library users from the IU community, even if it means extra work for the staff of that library.

The Halls of Residence Libraries (HRL) play a vital role in summer session. HRL staff take on the challenge of processing reserve materials in a short period of time. HRL must find student workers to staff the Teter library circulation desk 14 hours a day at a time when workers are in short supply. Although the Teter library is designated as the temporary Walden library, it is still open to IU students. Thus, HRL must ensure uninterrupted service to its primary users while at the same time meeting the needs of the Walden visitors.

Serials/Microforms is another IUL unit whose support is essential for the success of summer session. Serials/Microforms staff photocopied more than 15,000 pages of ERIC microfiche for Walden students
during the 1997 summer session, a fourfold increase over the 1996 summer session total. With the ERIC microfiches kept in the Education Library, traffic there was exceptionally heavy.

Each library unit impacted by Walden, whether for year-round services or summer session services, is given an allotted budget amount for staff time and equipment deterioration. Allotments are based on previous records of staff hours and equipment usage, as well as recommendations by unit heads.

Benefits of the Relationship

When the IU Libraries decided in 1992 to broaden their commitment to the Walden program, the two stated goals were: 1) To provide revenue for the Libraries, and 2) To permit the Libraries to directly observe and model an effective information support system for distance education. (P. Steele, memorandum to IUL personnel, February 28, 1995)

Each budgeted amount, whether to WULL or to other library units, carries with it a surcharge, an amount designated by IU’s Office of Sponsored Research Services. The objective of producing revenue for the Libraries is thus met, but Walden’s monetary commitment does not stop there.

In December 1996 Walden and IU celebrated the establishment of the Walden Endowed Librarian position, the first endowed chair in the 177-year history of the IU Libraries. The $500,000 which Walden donated guarantees permanent funding of the position. Although a boon to IUL, the endowed chair does not relate to or benefit WULL or the Walden community. It is truly a no-strings-attached gift to the IU Libraries.

In addition, Walden has donated $20,000 to the IU Foundation (IUF) as a “challenge grant” to raise funds for student scholarships in honor of two IU faculty members who also served as Walden adjunct faculty. The IUF drive for matching funds commenced in the fall of 1997, with a closing date in the spring of 1998.

However, monetary recompense or an endowed chair does not cover the time and effort required for recruiting, training, scheduling, and supervising staff or arranging for replacement or repair of equipment. For that, Walden is dependent on the good will of IUL staff. Nor can money repay IUL librarians and personnel for the support they freely give to the Library Liaison and the Library Services Coordinator—advising, mentoring, serving as role models, and assisting with difficult reference questions. How, then, can WULL or Walden repay them?

Here is where the intangible goal may enter the picture, that of observing and modeling an effective information support system for distance education. The decision in 1992 to continue to provide library services to Walden students was made with an eye to future information needs of the IU community. IU was under mandate from the state legislature to participate in establishing a cooperative of state institutions, the Indiana Partnership for Higher Education, to offer distance education courses to Indiana residents. WULL was to serve as the institutional and financial base for the pilot program (Weaver & Shaffer, 1995).

IU’s interest in distance education is evidenced by the appointment by its president of an ad hoc university-wide committee charged with addressing issues related to distributed education. Among the aspects to be considered is how IU can develop its institutional capacity and capability in the domain of distance learning. (Cronin, 1997) The WULL program may help show IU the way.

A collegial and working relationship between the Library Liaison and IU’s Coordinator for Library Support for Distance Education, Judy Dye, is a boon to both institutions. The two librarians consult with each other often and exchange informational and instructional materials. In May 1997 they shared supervisory duties for an intern from IU’s School of Library and Information Science. The relationship
between these two professionals will continue to grow as both encounter similar challenges and successes in their efforts to serve distance learners.

Both the Library Liaison and the Library Services Coordinator (LSC) welcome opportunities to participate in library service activities or to serve on committees. In particular, Jay Wilkerson, the LSC, was recently appointed to the OPAC/End User Committee for Horizon, the group working to move IU’s online catalog from a Telnet environment to a Web-based interface. His expertise in computer matters and experience with off-campus users will bring much to the group.

There is another means by which WULL can indirectly thank IUL for its support, by offering pre-service training in off-campus librarianship to students of SLIS, IU’s School of Library and Information Science. It has been noted that instruction or courses in library support for off-campus and distance education programs are not seen as a priority by library schools and their deans. The 39 library schools which responded to a 1994 survey indicated that 64% did not include the topic in their curriculum and that 67% saw no need for doing so (Kascus, 1994). Here is an opportunity to help SLIS and IU respond to the information needs of a changing society. Although hiring SLIS students for the summer session introduces them to the unique needs of adult learners in a face-to-face environment, it does not expose to the exigencies of the virtual library. WULL is committed to recruiting and training at least two SLIS students per semester to assist with the year-round program and the challenge of providing service at a distance. Already the benefits of this policy have made themselves known. A doctoral candidate who worked for WULL during the 1997 spring and summer semesters has declared her intent to engage in distant librarianship in Central America.

WULL will continue to seek out ways of expressing gratitude to IUL for its support. In particular, the Library Liaison and the Library Services Coordinator will welcome opportunities to demonstrate to skeptical IU and IUL colleagues that students can conduct quality doctoral research even though they do not attend regular classes and do not have in-person access to an academic library.

Conclusion

The IU-Walden relationship does not come without a high price tag. For Walden, the cost is monetary. For IUL, it is an added burden on an infrastructure and collection carefully constructed year by year to serve its primary users, the IU academic community. Is the relationship worth the price? IU and Walden seem to think so. IU’s Vice President for Research and Dean of the Graduate School predicts an expansion of the partnership. “As it continues to be something both universities see as fruitful, we’ll enter into a wider range of interaction” (Walden & Indiana, 1996).

One example of the wider range of interaction can be seen in a relationship established in the summer of 1997 between Walden’s Educational Change and Technological Innovation master’s program and IU’s Department of Instructional Systems Technology. At the time of this writing, still more such avenues are being considered. There is a definite possibility that the unlikely partnership between a small, nontraditional school and a large, state-supported research institution will indeed continue.

Walden’s president, Dave Palmer, considers the IU-Walden relationship as central to the success of Walden’s program. He also views it as a model not only for IU’s distributed education initiatives but also for other institutions around the country (Goldberg, 1997). Are other distance education providers indeed contracting for library services from other institutions? The answer to that question is beyond the scope of this paper but deserves attention. As stated elsewhere, contracting with outside agencies for library services is a variant not often discussed in the literature (Lebowitz, 1997).
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Lights...Camera...Instruction:
Library Instruction Via Interactive Television

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Abstract: This paper will examine library instruction via interactive television (ITV) by including a review of the literature (Library Science and Education); a discussion of traditional library instruction components and how they can be adapted to ITV such as the planning of a session with a focus on ensuring interaction between the librarian and the students; and a look at useful tips and suggestions when planning and presenting a library instruction session using ITV.

Distance education is here and is evolving at a very high rate of speed in the field of higher education. Distance education uses a variety of technology to reach learners in remote locations. These formats include traditional text-based correspondence courses; audioconferencing; the Internet; newsgroups and listservs; other computer-assisted instruction; and interactive television (ITV). This paper will examine how to adapt library instruction to the ITV context.

This paper will examine library instruction via ITV by including a review of the literature; a discussion of traditional library instruction components and how they can be adapted to ITV such as the planning of a session with a focus on ensuring interaction between the presenter (librarian) and the audience (students and faculty); and a look at useful tips and suggestions when planning and presenting a library instruction session using ITV.

Review of the Literature

An exhaustive review of both Library Science and Education literature finds references available which directly examine the relationship between library instruction and the use of ITV to be almost nonexistent. The Library Science reference which examines this relationship most directly is Rice’s (1987) paper on the use of interactive communications technologies and library instruction. The author offers many useful suggestions such as the presentation should meet the needs of the majority of the students; full use should be made of available visual aids to keep the presentation interesting and well-paced; and the librarian must remain alert to subtle clues from the remote classrooms indicating the presentation is not clear or that students have questions. Rice also states that the use of a fully interactive telecommunications system to provide library instruction would enable a library to become a more active participant in the education of each off-campus student rather than be just a facilitator of delivering requested materials.

Other references found in the Library Science literature include those which examine ITV and libraries, but with no mention of its possible relationship with library instruction. Westwood’s (1997) article discusses the use of ITV for reference services provided by the Minnesota State Law Library to inmates in correctional institutions throughout that state. Synder, Logue, and Preece (1996) conducted a survey of 119 Association of Research Libraries members and 42 of them replied they have ITV classrooms at their institution. But when asked to list the services they currently provide or are considering providing in the future using ITV technology, none mentioned library instruction. Also, the authors state that because of the range of responsibility and the increase in technology in libraries, these libraries should consider expanding their involvement in distance learning. This author wonders if this “expansion” should also include library instruction?
Major (1988) examined ITV and community college libraries with an emphasis on the benefits of having the ITV classroom located within the institution's Learning Resource Center (LRC). These advantages include the LRC being a more neutral "turf" than other departments or offices and assisting faculty and other college staff learn how to utilize the ITV equipment to make the best presentation they can. The author does not, however, explain how the library itself can benefit by using the ITV technology such as providing library instruction to remote sites.

When reviewing the literature in the field of Education, the focus is on the adaptation of traditional teaching methods to the ITV context. The issues or concerns that are examined include the training teachers/instructors will need when adapting their traditional classroom presentations to those which will be done using ITV technology (Gibson & Gibson, 1995; Horn, 1994). This would entail acquiring a workable knowledge of the ITV equipment being used and how to adapt to the equipment such as mobility factors (Where in the room can I be and still be in range of one of the cameras) and visual aids (Can I use the chalkboard or dryboard or should I use printed materials with the document camera?).

Another issue is the examination of tips and suggestions that are offered to those just entering into the realm of ITV. These range from "what to wear" tips to "what to say and how to say it" suggestions and everything in between (Laney, 1996; Rutherford & Grana, 1994). Finally, one of the, if not the most important issue when examining the relationship between library instruction and ITV is planning. The planning process of adapting traditional classroom presentations to those being done using ITV can be a very lengthy and time-consuming ordeal (Price & Repman, 1994-95).

Planning an ITV Presentation

The most critical aspect of the relationship between library instruction and ITV is the planning process. Unlike the faculty who use or will use the ITV technology one or two or more days per week per term per year and so on, the librarian who is asked to do an instruction session for an ITV class, gets a much smaller amount of time to plan their session. The faculty will have time before the term begins and throughout the term to adapt their teaching style and the presentation itself to the ITV context. The librarian, if they are lucky enough, may get a few hours here or there before their session's date arrives to work on the adaptation process for their instruction presentation. Rutherford and Grana (1994) proclaim that teaching under any circumstances is demanding, but with ITV systems, concerns are also using the technology; keeping students' attention; and covering the content you plan to cover.

The intent of distance learning is to provide instruction so that the learner can successfully learn the objectives that have been specified. Traditional classroom models should not serve as the model to be emulated in distance learning (Gibson & Gibson, 1995). This theory holds true for library instruction as well. The effectiveness of an ITV library instruction session depends on the planning process which includes choosing appropriate activities and materials to be used during the presentation (Price & Repman, 1994-95). Barker (1996, May) claims that there are five critical components of instruction which is to be delivered using ITV. They are organization (e.g. sequencing, pacing, using visual aids); teaching; interaction; visualization; and humanization (or bonding). He also states in his paper (n.d.) Faculty Training for Two-Way Distance Learning, teachers (including librarians) must adopt new methods and strategies that actively involve their remote students; learn how to best utilize the technology; and learn how to "force" interaction between themselves and their students.

Lastly, Abbott and Lowe (1991) said when planning an ITV library instruction session, there are three factors that must be taken into consideration. They are the delivery system itself; the physical distance involved; and what local library resources will be available for the remote students. These three factors present a challenge to the delivery of library instruction using ITV technology. The next section will discuss tips and suggestions on how to prepare and present a library instruction session using ITV.
Tips and Suggestions

When discussing how to prepare for an ITV library instruction session, you cannot avoid mentioning the technology or equipment involved. The presenter must develop a "comfort level" with the technology (Laney, 1996). In other words, the technology should not control the one using it. In fact, the key to success when doing an instruction session using ITV is to make the technology "transparent" to the audience (Barker, 1995). The only time the system should be noticeable is when it malfunctions (and hopefully, this will not be a concern!).

The presenter must realize and become aware of the kinds of home television viewing habits that the students may possess and how these may interfere with their learning experience in class (Baker, n.d.). Baker (n.d.) mentions that the presenter must assess how any visual will look using ITV and should have printed copies of materials as well, especially if the materials are crucial to that particular presentation and in case they do not convey their full meaning using the ITV technology. Bean, Dempsey, and Naylor (1996) took this idea a step further by defining current instructional approaches such as "standing at lectern," "writing on a chalkboard," and "using videos or slides" and presenting what a more viable option would be when using an ITV system.

The presentation of a library instruction session using ITV must lead to a high level of interactivity between the presenter (librarian) and the audience (students and hopefully, the instructor). Presenters (librarians) cannot fall into the trap of being just a "talking head" (Horn, 1994). The librarian delivering an instruction session using ITV must solicit questions from the students and facilitate discussions between sites so as to maximize the interactive capabilities of the system (Rice, 1987). Laney (1996) further emphasizes the point that the presenter (librarian) should avoid lengthy verbal exchanges with individual students. Effective instructors are those who are highly interactive with as many of their students as possible (Barker, n.d.). Furthermore, the presenter (librarian) should emphasize personal contact with all students, alternating between sites, to make up for the personal touch that is lost when using ITV systems (Bean, Dempsey, & Naylor, 1996).

Finally, what other considerations are there when presenting a library instruction session using ITV systems? Barker (1996, September) suggests that the librarian should limit their movements, avoid mannerism such as stroking their hair or touching their glasses, and use a large amount of eye contact which includes looking directly into the camera so the remote site students will notice. He also states that the appropriate use of humor is an effective tool (Barker, 1995).

Discussion

This paper has examined library instruction via interactive television (ITV) by reviewing the literature in the fields of Library Science and Education; discussing traditional library instruction components and how they can be adapted to ITV such as the planning of a session with a focus on ensuring interaction between the presenter (librarian) and the audience (students and faculty); and looking at useful tips and suggestions when planning and presenting a library instruction session using ITV.

As mentioned before, there is relatively little written about the relationship between library instruction and ITV. Since both components (library instruction and interactive television) have been around for a number of years, why hasn’t more been written on how they could be used in tandem? The possibilities of such literature is endless. For instance, an examination of how librarians have successfully and unsuccessfully adapted their traditional instruction sessions to ones done using ITV systems would be beneficial. Another example could be a research study of distance learning students currently taking ITV classes and how they themselves have adapted to ITV and how those results could then be integrated in creating ITV library instruction programs.
Distance education is here and is evolving at a very high rate of speed in the field of higher education. Academic libraries must continue to investigate ways of keeping up with and supporting this evolution. One method is to create and refine library instruction programs that use interactive television and other technological resources.
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Developing a Curriculum for an Information Literacy Course for Off-Campus Students:
A Case Study at the University of South Africa

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Abstract: In 2000 the Department of Information Science at the University of South Africa is introducing an information literacy course comprising two interdependent modules, one of which links with the user education programmes of the Library. The curriculum development process which includes an interdisciplinary course planning and design team is described.

This paper discusses an information literacy course for off-campus students at the University of South Africa (Unisa). The curriculum is being developed by an interdisciplinary course team. The course will be presented from the year 2000 by the Department of Information Science, and will provide links with user education programmes presented by the Unisa library.

In the context of this paper, the concept of information literacy is understood as "the ability of learners to access, use and evaluate information from different sources, to enhance learning, solve problems and generate new knowledge" (Sayed and de Jager 1997). User education is a narrower concept which refers to various types of library skills programmes, including bibliographic instruction.

SETTING THE SCENE

Unisa is the largest university in Africa, and is one of the ten largest in the world. It has been providing university-level distance teaching since 1946, although its history dates back to 1873 when it was purely an examining body for other institutions. In 1997, the University had more than 124 000 students — representing a third of all university students in South Africa. Most Unisa students are studying part-time; their average age is 30. Students are geographically dispersed over South Africa, and a small percentage (5.5%) live in other African countries or elsewhere in the world. Unisa has its main campus and main library in Pretoria and there are satellite campuses and branch libraries in Durban, Cape Town and Pietersburg. In addition there are several student learning centres (providing learner support programmes consisting of tutorials, study skills, educational counseling, library services and study areas) in regions with a high concentration of students. Seventy Internet Centres, providing free access to Unisa (and other) students, are presently being established throughout the country by a private concern Cyber Connections.

Unisa has six faculties, 60 teaching departments, 25 bureaux, centres and institutes, more than 1 300 teaching and research staff and more than 2 000 administrative staff (including about 250 library staff). Tuition is provided from undergraduate to doctoral level. Teaching is done mostly through the printed medium in the form of study guides and tutorial letters; these are supplemented by other media such as audio cassettes, videos, tele- and videoconferencing, multimedia packages and computer aided instruction (CAI). One of the principal means of communication between students and lecturers are students’ assignments, and the successful completion of these grants examination admissions. Unisa has 475 examination centres all over the world.
Electronic advances are fast changing the methods and modes of teaching — one example here is Students On Line (SOL), which links students via the WWW to the main campus. SOL enables students to *inter alia* access the Library’s catalogue, receive tuition and study material in certain subjects, establish their marks for assignments and examinations, and communicate with lecturers via e-mail.

As with any university, curriculum development is an ongoing process, and the majority of academic courses are revised or rewritten every three years. The development of a new course at a university like Unisa is a long-term project, since the research and writing process for a study guide alone takes at least 12 months, and the subsequent production process (including translating, editing and publishing) takes about a year.

In spite of the advanced electronic environment in which Unisa operates, it is important to note that South Africa is essentially a Third World country with social, educational and economic problems concomitant with developing societies. Such problems manifest in various obstacles to learning, and these are evident in the Unisa student body. The majority of first-year students are underprepared for study on the tertiary level, which becomes especially evident in deficiencies in language skills, reading, writing and study skills, and information handling skills in general. The average student registering for the first time is unfamiliar with the concept of a library — not surprisingly, as the majority of South African schools do not have school libraries (Naidoo 1997) and the public library system is inadequate. User education thus becomes crucial at university level.

Over the past decade especially, far more attention is being paid to user education for off-campus students. This is a worldwide phenomenon, as can be witnessed in literature on the subject (see for example the bibliographies by Latham 1991 and Slade and Kascus 1996). The issue is regarded as the major research priority in the field of off-campus library services (Slade 1995). In future, the emphasis is likely to be on electronic delivery (Kabel, Novil and Fritts 1995; West and Ruess 1995), integrating user education into academic course modules (Lance and Potter 1995) which will necessitate improved partnerships with faculty (Lowe 1995), and more attention being paid to the broader concept of information literacy as opposed to the narrower bibliographic instruction (Espinal and Geiger 1995).

**USER EDUCATION PROGRAMMES OF THE UNISA LIBRARY**

The Unisa library is the largest university library in the southern hemisphere. Its collection is accessible via an OPAC, and the Library is linked to other local and overseas information services (eg via the new regional GAEILIC consortium, the subregional bibliographic network Sabinet Online, and Internet). The Library provides information services to all staff members and the entire Unisa student population. (The services of the Library are described in detail by Behrens and Grobler 1997, and Grobler 1995.)

Unisa first introduced user education programmes for its students in 1986, and through the years these have developed from the initial classroom lectures which were available only on the main campus, through workbooks which were sent to all students, to the current combination of methods which includes CAI on the WWW. On-campus user education programmes reach a fair number of students, as there is a strong complement of students who use the main campus daily. An electronic classroom is to be installed in the Library 1998.

The Library offers different types of user education programmes, aimed at different levels. These programmes can basically be divided into contact training which takes place in the main Library, and electronic training which takes place both in and beyond the Library (Vorster 1997; Vorster and Behrens 1997).

In library-based contact training there are four main programmes. The *basic library skills programme* covers library orientation, OPAC training and bibliographic instruction. The *advanced library skills*
programme introduces students to various types of reference sources (both printed and CD-ROM versions), and also provides instruction in the use of LCSH. The third of the elementary programmes is the basic library research skills course which covers basic methods of recording information, reading text references and compiling a bibliography. These three programmes are aimed at undergraduate students, are presented throughout the year, and are supplemented with manuals. Training programmes for postgraduates concentrate on subject related databases; these sessions are provided by subject librarians.

The electronic training in and by the Library is aimed essentially at students who are off campus. A basic CAI user education programme became available on SOL during 1997, and at the time of writing this was still in the experimental stages. A special Web Information Services core team has recently been created in the Library. This team is involved exclusively in the development of Web-based information products — including library and information skills programmes. Other electronic user education programmes which are in the planning stage include a CAI program which is being developed by the Library, the Department of Chemistry, and the Department of Information Science. This program comprises a course in research information skills (including database structure, bibliographic referencing and search strategies) for postgraduate students. Future plans are for course related user education programmes, to be developed in cooperation with faculty.

The Unisa library’s user education programmes are therefore currently at a watershed, with future programmes targeted at a broader range and larger number of students and the emphasis being placed on electronic delivery. It will be possible for most Unisa students to have access to the WWW and SOL at the countrywide Internet Centres. These will be similar to the telecottages and telecentres found in the Scandinavian countries and in Australia (Van Dyk 1997). The link between the user education programmes and the information literacy course discussed here thus becomes more feasible through electronic delivery of programmes.

THE DEPARTMENT OF INFORMATION SCIENCE

As part of faculty, the Department of Information Science is quite separate from the Unisa library. The Department has been in existence for more than 40 years, has 16 full-time lecturers, and teaches from undergraduate level through to honours degrees, master’s degrees and doctorates.

The main undergraduate courses taught are Information Science (which is a three-year major) and Applied Information Science (a four-year major). The emphasis in Applied Information Science is librarianship, with archive and museum science covered briefly. The basic professional degree in librarianship — the BBibl — requires three majors, two of which are Applied Information Science and Information Science. Applied Information Science is presently taught only to BBibl students, whereas Information Science is open to all students. Thus the latter can be taken as a major for other Bachelor’s degrees at Unisa (eg BA). The course in information literacy discussed in this paper will become the first-year course in Information Science.

The Department introduced a course entitled "Information literacy" at second-year level in 1994, but with ongoing curriculum development it was decided to introduce the paper at an earlier level in future. Research undertaken into the library and information skills of Unisa students (Behrens 1992) established that Unisa lecturers in general found these abilities to be lacking in their students, but faculty did not regard it as their responsibility to teach the skills along with their subject content (Behrens 1993). Although the new school curriculum to be introduced in South Africa (Curriculum 2005) proposes that information literacy will be an essential outcome, for various reasons it is highly unlikely that the university-preparedness and information skills of new Unisa undergraduate students will improve in the foreseeable future. User education programmes provided by the Unisa library require formalizing to enable students to obtain credits for successful completion. This requirement becomes even more important with the introduction of the National Qualifications Framework (South Africa 1996), a feature of the new
dispensation which provides a general education as a platform for lifelong learning. Lifelong learning is enabled through mobility in a flexible system which has open access, allowing learners to accumulate credits from different learning contexts (Behrens 1995).

The abovementioned are the main factors which contributed to the Department's decision to introduce a first-year course in information literacy. The aim is that the course will be available to all undergraduate students, and the objective is to upgrade the students' information handling skills (including their library skills).

**COURSE TEAM APPROACH**

A course team is being used in designing the information literacy course for first-year level. In our case, this means that an interdisciplinary team develops the course — that is, the subject content is not generated from one department or discipline only, but evolves from a variety of disciplines or fields. There are several reasons why we decided to take this route, some to do with assuring locally appropriate subject content and others to do with ensuring overall high-quality study material (i.e. the products which students receive, such as study guides). The team approach is currently being encouraged at Unisa; it is applied successfully at other distance teaching institutions as well, for example at the Open University in the United Kingdom, the Open Polytechnic of New Zealand, and the Indira Ghandi National Open University in India (Satyanarayana 1997).

Most of the course team members are from the Department of Information Science, since the information literacy course is to be taught within the discipline of Information Science. Lecturers who are to be responsible for the actual teaching of the course are on the team, and also several other lecturers who can provide input in various specialization areas. Other (outside) members selected for the information literacy course team were chosen not only in relation to what information literacy entails (i.e. subject- and skill-wise), but also according to what Unisa study packages require in the production process. For the subject content of the course, we decided on people from disciplines and departments with common ground and concerns. There are two members from the Communications Department for two reasons. First, there is much common ground between Communication Science and Information Science. Second, Communication Science is the most common choice of major subject that students take with Information Science (i.e. as major subjects for their degrees).

Since library skills make up an important component of the information skills model, it is obvious that the team would include practicing university librarians. The course team initially had two members from the Unisa library, and a third librarian from another local university. As the new user education programmes of the Library develop, more Unisa librarians will become part of the team.

The interdisciplinary nature of information literacy determined our choice of other team members. As pointed out earlier, information handling skills embody many of the skills lacking or underdeveloped in Unisa undergraduate students. Unisa has two bureaus which are specifically concerned with issues related to these problems. The Bureau for University Teaching investigates areas which are problematic to students and also provides guidance to faculty on suitable methods and modes of teaching and student learning, and the Bureau for Student Counseling *inter alia* advises students on effective study methods, the learning environment, and helps them to develop appropriate skills for reading and writing. We therefore have team members from these two bureaus.

As the writing of course material progresses, other members who will be concerned with the physical presentation and production of study material are added to the team — notably specialists from the Editorial Department, Unisa Press and the Production Department. Furthermore, we have ad hoc members who either join the team for short periods or are consulted on specific smaller issues. For example, we have consulted with faculty in the Theory of Literature, Linguistics, English and African Languages departments.
for certain sections of the curriculum. E-mail is used regularly for this type of consulting, and also for updating on progress.

We find the course team approach time consuming, but it does avoid insularity and encourages interdisciplinary interaction. Only once the product is finished and then evaluated by students, faculty and the Library after the course has run a few years, will we be able to establish whether the approach was successful. (At the time of writing this paper — November 1997 — the curriculum had been decided in broad outlines, but the finer content was still under consideration.)

**MODUS OPERANDI**

The course team met for the first time in 1996 and we had fairly regular meetings initially to determine the framework of the curriculum. Since the course originates from the discipline of Information Science, the home department obviously had sound ideas of what the curriculum should cover (this had been deliberated during ongoing departmental curriculum development discussions prior to the establishment of the course team). At the first meeting of the course team, members from the Department of Information Science presented an outline of our initial concept of the course. The outline we provided was purposefully basic since we did not wish to influence the perceptions of the team too strongly; it covered the theory of Information Science as well as skills required for information literacy. In subsequent meetings this content was brainstormed, debated, changed and refined by the team. These sessions were extremely interesting. It soon became apparent that what we (the Department of Information Science) envisaged for information literacy epitomized exactly those skills which outside team members had found to be lacking or problematic in undergraduate students in general. It was obvious that the problem of information illiteracy is recognized throughout the university, but is described using other concepts (eg inadequate conceptualizing, study skills, writing skills, critical thinking) and the link with information handling *per se* has not been perceived.

One of the most interesting meetings was the brainstorming session to decide on a name for the course. The title "information literacy" was rejected by the team. There was no problem with the concept "information", but there was a strong feeling from some members that the word "literacy" could be interpreted negatively — with the result that students would not be attracted to the course, thinking that it was a bridging or support course for poor students. (This perception relates to the high incidence of illiteracy in South Africa, and also to students not wishing to be regarded as academically inferior; out of necessity bridging and support courses have been introduced at many South African universities — Unisa included.) Eventually we decided on "Information: its nature, use and power" as an umbrella title for the course, but we still need to decide on individual names for the two modules which make up the course.

**THE CURRICULUM**

We can regard the overall curriculum as two interdependent parts (these do not reflect the division into two modules, however): the theory of Information Science as a discipline, and skills necessary for information literacy.

The **theory** for the curriculum as a whole includes an introduction to the information phenomenon and to the discipline of Information Science, information in society and in university studies, the notion of lifelong learning, the role of information technology, introduction to information management, introduction to information organization and retrieval, information sources and resources, information services, library instruction, database and Internet searching, information handling skills, and aspects of expository writing (audience, purpose, reading for writing, thinking for writing, the writing process, preparing for and writing examinations).
The skills required for information literacy — that is, collecting, analyzing, organizing, critically evaluating, and presenting information — will be taught against this background of theory, and students will learn the skills as they apply to an information task based on the theory of Information Science. The skills will be taught in a typology of information handling skills (Behrens 1992) which has three stages: planning, retrieving, organizing (See Appendix A for the full typology). Library skills are a component of information literacy, but we do not regard library skills and information skills as synonymous since library skills slot into the typology only at the second stage (retrieval) and do not move into the third stage where the higher-order cognitive skills become crucial.

The division of the course curriculum into two modules was still being considered at the time of writing, but will most likely be along the following lines:

1. Information gathering skills (includes theory of Information Science, library skills, Internet)
2. Broader information skills (includes theory of Information Science, planning, retrieving, organizing, expository writing).

The style of course delivery for the two modules will follow the methods and modes of teaching used at Unisa (eg prescribed textbook, study guides, tutorial letters, self-paced activities and exercises, optional and/or compulsory practical sessions, use of WWW via SOL, CAI programs, written assignments for assessment by lecturers, final written examination).

THE TEXTBOOK

The course is to be a wraparound course, where the study guides and other material wrap around a prescribed textbook which students purchase. The textbook will concentrate on how to find information in various collections (including library skills and Internet skills), the whole typology of information handling skills (planning, retrieving, organizing), and expository writing and its allied skills. The textbook (see Appendix B for an outline of the proposed content) is written for English second-language learners since these make up the bulk of the anticipated enrolment for the course. The textbook is not Unisa-specific and can therefore be used at other institutions too. It concentrates on information handling skills and does not include the theory of Information Science as a discipline. The book could be used in conjunction with any other discipline, to teach the skills basic to information literacy.

LIBRARY SKILLS COMPONENT

User education programmes of the Unisa library will slot in with the curriculum content for the first module of the information literacy course. In other words, user education programmes prepared by the Library (eg CAI on SOL) will become part of the Information Science I curriculum, enabling students to gain credits for library skills programmes. This implies that assignments on library skills will be submitted for evaluation, and examinations will include questions on library skills. The marking of assignments and examinations will be done by the Department of Information Science, as the teaching department.

CONCLUSION

The information literacy course will consist of two modules which together are the equivalent of a discipline-specific course at first-year level (i.e. Information Science I). With these modules to their credit, students will be able to continue with second and third year courses in Information Science if they wish to major in the subject for their degrees. The two information literacy modules are complementary, but they can be taken individually. Both are aimed at developing the information handling skills of students, whether these skills are as yet undeveloped or already at a high level. As such the modules have value for all university students since the skills are taught as being transferrable to any situation where information is
used, with specific emphasis on applying the skills in university subjects. Unisa is looking at franchises its courses in the future, and this information literacy course has definite possibilities in this regard.

User education or library skills programmes offered by a library cannot be considered to be information literacy programmes unless the students are also learning how to synthesize and evaluate the information — and this has to be related to a particular subject or discipline. The partnership between the Unisa Library and the Department of Information Science which is being established by incorporating the user education programmes into the information literacy course is beneficial in many ways. It benefits the Library since it formalizes the previously non-credit-bearing courses, benefits the Department since it should increase our student numbers, and naturally benefits students who are able to learn information handling skills in a way that integrates them with a specific discipline.
BIBLIOGRAPHY


### APPENDIX A: Typology of Information handling skills

#### A. PLANNING STAGE

| STEP 1: DEFINING THE INFORMATION TASK | * What is this task about?  
|   | * What am I being asked to do?  
|   | * In what form will I present the completed task?  
|   | * Why is information necessary?  
|   | * What type of information is required?  
|   | * How much information do I need to solve problems related to this task?  

| STEP 2: DECIDING ON A SEARCH STRATEGY | * What do I already know about this topic?  
|   | * What information sources do I have right now?  
|   | * What other sources are available to me?  
|   | * Where will I find these additional sources?  
|   | * Which collections should I go to first to search for information?  

#### B. RETRIEVAL STAGE

| STEP 3: LOCATING RELEVANT SOURCES | * How am I going to trace the relevant sources in this collection?  
|   | * How does the retrieval system of the collection work?  
|   | * Where are these sources located in the collection?  
|   | * How do I find the information in these sources?  

| STEP 4: SELECTING THE INFORMATION | * Is this information relevant for my task?  
|   | * What, and how much, information should I record?  
|   | * How should I record this information?  

#### C. ORGANIZING STAGE

| STEP 5: EVALUATING THE LOCATED INFORMATION | * Is the information at a level I can understand?  
|   | * Is this information up to date?  
|   | * Is it accurate?  
|   | * Is it unbiased?  
|   | * Does some of the information conflict with other information given?  
|   | * Which bits of information are most relevant for my information task?  
|   | * How does this information help me with the problem in my task?  
|   | * What questions in the task does the information answer?  
|   | * Do I have enough information to complete the task?  

| STEP 6: SYNTHESIZING THE INFORMATION | * How does this information slot into my working plan?  
|   | * How do all the blocks of information fit together?  
|   | * Which bits of information belong together?  
|   | * How does this information fit in with what I already know?  
|   | * Do I need to modify my working plan?  
|   | * How can I apply this information to complete the task?  
|   | * How should I organize all the information I now have?  

APPENDIX B: Contents of Textbook

The textbook with the title *Mastering information skills* is written by S. J. Behrens, S. I. I. Olén and M. Machet; the academic editor is A. A. Goodwin-Davey. The book will be published by Unisa Press (P.O. Box 392, Pretoria, 0003, South Africa) during 1998/1999.

A synopsis of the contents:

**Locating information**
Library collections, beyond the library, Internet cafes, home computers, e-mail, listservs, WWW, reference techniques

**Information handling skills**
Information literacy, lifelong learning, information tasks, planning the task, retrieving information, organizing information for the task, evaluating the completed task

**Expository writing**
Audience and purpose, reading for writing, reading skills for studying, thinking for writing, the writing process, preparing for and writing examinations
Lifelong Learning and Higher Education Libraries:
Models for the 21st Century

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Jenny Craven
University of Central Lancashire, UK

Abstract: Lifelong learning is becoming one of the most important issues for all countries as they seek to cope with economic, political and social change in a fast-moving world. In this paper the authors define lifelong learning and place it within the context of learning theories. They report on an analysis of UK academic libraries’ current support for non-traditional, including distance, learning and conclude with a series of action points which need to be addressed if libraries are to secure their position as the major support service for lifelong learning.

1. Introduction

The subject of lifelong learning is receiving considerable attention around the world. Early ideas about lifelong learning can be found well over 300 years ago, when Comenius wrote that "...no age is too late to begin learning." Other references to lifelong learning have been traced back to the 1940s and more recently in literature dating to the 1960s and 1970s. However, what was at one time a minority interest has exploded into world-wide significance: lifelong learning has become an important focus for society due to factors such as the information society, the rapid expansion of new technologies, the rate of economic, industrial, commercial and even cultural change and, in the West, increased competition from emerging economies in South and Central America and Asia, where labour is cheap, plentiful and increasingly skilled.

One of the problems for those undertaking research or developing services and systems in this area is that there is no agreement on what is meant by lifelong learning. At one level it is clear that life itself is a learning process from which it is impossible to opt out - every time we take even a minor decision and observe or participate in the consequences we are learning. However, such a broad definition makes it difficult to see the concept as more than an observation on life. Rather more useful is an approach which places emphasis on deliberate, planned learning as something which should continue throughout every individual’s life. If life is not to be a process of involuntarily drifting from one experience to another,

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without direction, and if societies are to function and develop, then learning needs to be planned, directed, evaluated and reviewed. As the Report on a recent, wide-ranging review of higher education in the UK put it:

The purpose of education is life-enhancing: it contributes to the whole quality of life. This recognition of the purpose of higher education in the development of our people, our society, and our economy is central to our vision. In the next century, the economically successful nations will be those which become learning societies: where all are committed, through effective education and training, to lifelong learning.⁴

In undertaking a national study of the impact of lifelong learning on academic libraries⁵ the authors found it necessary to develop a formal definition of lifelong learning in order to define clearly the scope of their Report. This definition is as follows:

*Lifelong learning is a deliberate progression throughout the life of an individual, where the initial acquisition of knowledge and skills is reviewed and upgraded continuously, to meet challenges set by an ever changing society.*

2. Learning

Before examining the role of libraries and how that role may need to change in the 21st century to accommodate the demands of lifelong learning, we felt that it was necessary to examine the concepts of ‘learning’ itself in some detail. It is all too easy to make assumptions that learning is no more than a simple process of acquiring knowledge or developing skills, and that libraries can assist that process by providing information. In fact it is an extremely complex process which defeats attempts to describe and package it neatly. It is therefore helpful to consider who the learners are, why people learn, when people learn, what people learn, how people learn and where people learn. In this paper we can do no more than summarize these issues, but some important points can be identified.

2.1 Who are the learners?

A recent UK survey⁶ shows that only 23% of adults are currently learning and that only a further 17% have been learning in the last three years. Forty-eight percent of respondents were learning for reasons connected with work and 36% for personal development reasons. Two thirds of those studying, and three quarters of respondents of working age, are aiming for qualifications. Participation in learning is still skewed by social status and educational experience. Fifty percent of adult learners are middle class, 33%

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⁵This paper is based on a Study undertaken by the authors and Shelagh Fisher, all based in the Centre for Research in Library & Information Management of the University of Central Lancashire, UK, during 1997. The Study was commissioned by the UK Higher Education Funding Councils' Electronic Libraries Programme, eLib. A Final Report will be published by eLib in Spring 1998.

are skilled working class, 25% unskilled working class and 23% are unemployed. Tett⁷, in her analysis of statistics relating to participation in higher education produced by the Scottish Office, maintains that the adult participants tend to be under 35, from skilled, managerial or professional backgrounds and have positive memories of, or tangible achievements from, school. Non-participation rates are highest from older age groups, ethnic minorities, those from semi- and unskilled occupations, those living in rural areas and women with dependent children. All of these statistics demonstrate that there is a large proportion of the population which is not involved in learning. There is no reason to suppose that the statistics for the UK are significantly different to those for other developed countries.

2.2 Why do people learn?

Learning may be seen as a route to a goal. The individual “can consider what sort of person he wants to become, and what goals he wants to achieve, before making a choice between various alternatives.”⁸ But learning is not simply motivated by individuals. Motivation can come from organizational workplaces or from societal requirements. The concept of a learning organization has arisen from the growing need for organizations to be aware of new developments and to harness new skills. Organizations may need to change the focus of their business in order to compete effectively, they may need to become more aware of specific market forces in order to gain a competitive advantage. By taking part in the learning process, the organization can take positive steps towards “developing its potential by developing its workers.”⁹ A learning organization environment can be achieved by supporting learning for the individual, department, team, section and ultimately the whole organization.

2.3 When do people learn?

Closely linked to the question “Why do people learn?” are the circumstances and situations which prompt individuals to engage in learning activity. Examples of such motivations are:

- Pleasure and enjoyment from the context and activity of learning or from practicing a skill;
- Self-actualisation - the achievement of an ambition, meeting a challenge, gaining pleasure from success;
- The need to update specific expertise, perhaps to improve long-term efficiency;
- Reward or credit - financial or material;
- Peer recognition;
- Change of personal interests;
- Alleviation of boredom;
- Satisfaction of curiosity, puzzlement or a question;
- Changing personal circumstances, e.g. redundancy, divorce;
- A desire to complete unfinished learning;
- Achievement in earlier learning;
- Legal requirements, as in school attendance requirements;
- Peer or parental ambition.

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⁹Raggatt, Peter et al. From adult education to a learning society In Raggatt, Peter et al. eds., The learning society. London: Routledge, 1996.
2.4 What do people learn?

There is considerable debate over the appropriate content of lifelong learning. Adult learning activity may be knowledge-based or skills-based, or a mix of the two. Knapper and Cropley\(^{10}\) suggest that lifelong learning would be facilitated by changes in the orientation and organization of the existing content of courses and identify a number of areas thought to define the minimum content necessary in a system devoted to lifelong learning. These include knowledge of communication, science and technology, the fine arts, ethics and citizenship, time and space and how to care for one’s own body. These, it was suggested, should run through all courses and programmes to the maximum extent possible. Extending this approach to university education and lifelong learning raises issues surrounding specialisation and fragmentation of content, as opposed to integrating insights from a variety of disciplines. More succinctly expressed by Harvey and Knight\(^{11}\), “higher education is about transforming the person, not simply about transforming their skills or domain understanding.” Tuijnman\(^{12}\), reflecting on the “education vs training” debate, observes that the UK is moving closer to the model used in Japan and Germany where there is more reliance on employer sponsored industrial training, and comments that “it seems doubtful whether the ideals of lifelong education can be given real meaning in the context of a training market model.”

Linked to this issue are the views of employers on the appropriateness of the knowledge and skills which graduates currently possess, and various reports have been published on what ‘graduateness’ should mean. The UK Association of Graduate Recruiters issued a report, also in 1995, which examined the skills which a new graduate should possess with the focus placed on “Self Reliance Skills.” These are:

- Self-Awareness - including the ability to identify where personal development is needed;
- Self-Promotion - including the ability to promote one’s own strengths in a convincing way;
- Exploring and Creating Opportunities - with good research skills to identify sources of information;
- Action Planning - including making a plan, implementing it and evaluating progress;
- Networking - developing a support network of contacts;
- Matching and Decision Making - including prioritization, matching opportunities to skills and making informed decisions;
- Negotiation - including the ability “to negotiate the psychological contract from a position of powerlessness”;
- Political Awareness - understanding the tensions and power struggles within organizations;
- Coping with Uncertainty - adaptability to changing circumstances;
- Development Focus - including a commitment to one’s own lifelong learning, a reflective style and an ability to learn from others’ mistakes;
- Transfer Skills - the ability to apply skills in new contexts;
- Self-confidence - an underlying confidence in one’s own abilities and a “personal sense of self-worth, not dependent on performance.”

These skills (and it should be noted that none of them are discipline specific), together with an appropriate level of knowledge, may be taken as a reasonable objective for all individuals in an advanced society.


\(^{11}\)Harvey, L. and Knight, P.T. *Transforming higher education*, Buckingham: SRHE/Open University Press, 1996 p.133.

Lifelong learning may thus be seen as a progression, first to an acceptable standard of literacy, and then on through life to a high level of knowledge, skill and ability such as that outlined above.

2.5 How do people learn?

This question is perhaps at the heart of the issue, not only for educators who need to design programmes which are appropriate to those who will access them, but also to librarians and others who have responsibility for designing appropriate support. It is perhaps surprising that librarians have not paid greater attention to these issues in the past, especially as the literature on learning processes and learning styles is immense. As a single example of the richness of this literature, consider Kolb's useful paradigm which suggests that four distinct learning models can be identified: concrete, reflective observation, abstract conceptualization, and active experimentation. Described below in Figure 1 these models are not exclusive and most people will use each in different learning experiences or indeed with the same situation.

<table>
<thead>
<tr>
<th>LEARNING MODELS</th>
<th>FOCUS</th>
<th>CHARACTERISTICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concrete Experience</td>
<td>Involved in experiences and dealing with immediate situations in a personal way. Emphasis on feeling as opposed to thinking, and reality as opposed to theory.</td>
<td>Good at relating to others, functions well in unstructured situations and values relating to people involved in real situations. Encourages an open-minded approach to life.</td>
</tr>
<tr>
<td>Reflective Observation</td>
<td>Focuses on understanding the meaning of ideas and situations by observing and describing them in an unbiased way; on understanding rather than practical application and on reflection rather than action.</td>
<td>Good at seeing implications and at looking at things from a different perspective. Appreciates different points of view. Relies on own thoughts and feelings to form opinions. Values patience, impartiality and thoughtful judgment.</td>
</tr>
<tr>
<td>Abstract Conceptualization</td>
<td>Focuses on using logic, ideas and concepts. Emphasizes thinking as opposed to feeling. Concern with building theories as opposed to intuitively understanding unique, specific areas. The approach is scientific rather than artistic.</td>
<td>Good at systematic planning, quantitative analysis and manipulation of abstract symbols. Values precision and the discipline of analyzing ideas.</td>
</tr>
<tr>
<td>Active Experimentation</td>
<td>Focuses on actively influencing people and changing situations. Emphasizes practical applications as opposed to reflective understanding. Concerned with what works rather than what is absolute truth. On doing as opposed to observing.</td>
<td>Good at getting things done, enjoys active experimentation and a degree of risk taking in order to achieve objectives. Values having an influence on the environment and likes to see results.</td>
</tr>
</tbody>
</table>

Figure 1  Kolb’s Learning Models

2.6 Where do people learn?

Learning may take place at or away from an educational institution. Although traditionally learning has been institutionalized (nursery, school, college, university) it is now recognized both that much learning takes place outside formal establishments and that such learning can be more effective, especially where it relates directly to the problem or work situation.

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The image of the "traditional" route for higher education students has been full-time attendance, between the ages of 18-21, physically based within a higher education institution, usually away from the parental home, for a duration of three or four years, with minimal but adequate financial support. This model is being increasingly challenged "by the accelerating changes in the once almost exclusive constituency of qualified school leavers." Changes have not only been in social and educational backgrounds, but also in modes of attendance. They are full-time, part-time, sandwich course or distance learning students, benefiting from access courses, accreditation of prior learning, credit accumulation and transfer, accredited in-house courses whilst in employment, or partnership programmes between employers and higher education. Independent learning, a term with many different definitions, may be important in drawing recognition to learning which takes place in virtually any setting to suit the learner.

2.7 Learning: a summary

This heading may be somewhat misleading! It would be nice if there was such a thing as a neat summary of ‘learning’, but unfortunately no such model exists. Instead we may have to accept that “learning is messy.” What is more it must be expected that this “messiness” will become more and more pronounced as lifelong learning becomes embedded in society. Educators may try to impose order, as may governments and institutions, but individuals will follow their own motivations as they respond to the pressures, challenges and opportunities of learning. Ideas such as the “learning bank” which provide credits to be used throughout life will further empower individuals to define their own learning patterns. Rather than impose one “model” on society, it is more fruitful to accept that lifelong learning needs to be messy and almost chaotic, subject to rapid change and largely self-determined.

3. Academic Libraries and Lifelong Learning: UK Experiences

As part of the Study on which this paper is based, CERLIM staff examined statements of academic library provision for some aspects of lifelong learning. Because lifelong learning itself is not yet sufficiently well assimilated by institutions to have attracted formal statements about library support for it, we examined support for distance, franchise and part-time students only. We recognize, however, that lifelong learning extends well beyond these models.

Distance learning courses and franchised courses are different in their delivery. Distance learning courses are run for off-campus students who, for whatever reason, find it difficult or inconvenient to physically attend courses at the institution, whereas students studying on a franchised course will spend part of the course at a separate institution such as a local college. Problems experienced by students regarding access to the university and its library facilities will often be very similar. Part-time students may also be classified on the same spectrum as distance learning as they may only attend the institution one day or evening a week, or even less. Due to the intensive nature of part-time courses, students may find it difficult to fit in visits to the library while attending their course and may have work or family commitments outside course time which could make visits to the university a problem.

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The following discussion concentrates mainly on library provision for distance learning students, but may also be related to part-time students and students studying on franchised courses. For a more in-depth analysis of library provision for franchised students, see another CERLIM publication, *A Comparable Experience: library support for franchised courses in higher education*.17

Information for study purposes is often provided direct to the distance learning students by the course tutors, in a re-packaged form. The majority of institutions which run distance learning courses provide printed study materials as standard to course provision. In many cases, the printed materials are also complemented by electronic materials such as video, audio and computer software packages. Some institutions give the impression that students do not need to have access to any other supporting materials or indeed libraries, other than those supplied by the course. For example, Glasgow Caledonian University course information informs students studying science based courses by distance learning that "...access to the book list is not essential."18

A number of institutions do, however, make some mention of the use of the library facilities, although in general this relates to library access in much the same way as any on-campus student, and does not refer to the fact that the very nature of "distance" learning means that many students will be unable to physically visit the library in the way an on-campus student would. An institution may even acknowledge that the level of library services offered to a distance learner will "depend on your ability to visit the library in person."19

An awareness of the special needs of distance learning students is apparent at some universities who promote the special services they offer. Leeds Metropolitan University encourage students studying "Planning" by distance learning to make "...use of a good Planning library and other facilities. For this, the nearest Consortium Planning School ... will become the student’s ‘study base.’ The application form asks the student to indicate which school they would like this to be."20

Thames Valley University states in its Learning Resource web page that "The LRC is a flexible, one-stop-shop learning facility, open 24 hours a day, seven days a week. It is designed to remove the constraints and pressures of time, place and access. Students .....can study with but not necessarily at the University, at any time of the day."21 Students studying with the Open University may not be able to borrow from the library, but it can be accessed for reference purposes via telephone requests, and via the Internet, and there are plans to extend this service through additional learner support staff22.

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17 Goodall, Deborah and Brophy, Peter *A comparable experience: library support for franchised courses in higher education*. (British Library Research and Innovation Report, 33) Preston: University of Central Lancashire, Centre for Research in Library and Information Management, 1996.

18 Glasgow Caledonian University (science based courses by distance learning)

19 University of the West of England
http://hermes.uwe.ac.uk/libsup/

20 Leeds Metropolitan University, UK

21 Thames Valley University - Paul Hamlyn Learning Resource Centre at Slough
http://www.tvu.ac.uk/tabout/phlrc.html

Special services for students studying at a distance may include collections, such as short loan which are "...purchased by the library specifically for distance learners." The library will also send items requested by mail to distance learning students. This facility is useful for distance learning students who may find it difficult to visit the library in person and libraries such as the University Wales, Aberystwyth offer such as service. Other libraries allow students to renew items by post and by telephone.

Sheffield Hallam University offers students a Distance Learning Support Service with a range of services to off-campus students, mainly from Management and Business related areas. The service offers distance learning support to students studying on courses that have been deemed as appropriate to distance learning. As well as sending out books and articles in the post to students, the service also offers book loans for up to three weeks, an inter library loan service and photocopying and supply of journal articles. Expansion of the service may see a move towards a "network" of support with access to Internet based databases and OPACs, development of a database of academic library access policies and the possibility of offering services such as video conferencing.

Students who are studying on franchised courses run by the University of Central Lancashire are able to use the services of the Virtual Library of the North West (VALNOW) service which was launched in 1997. Based on the European Commission funded BIBDEL Project, VALNOW is the first attempt to replicate for students at a distance the library and information services enjoyed by their on-site counterparts. Students at participating institutions have access to electronic journals, browse the University’s library catalogue and have loan items delivered by post to their local library. Requests can be made for photocopied periodical articles, and to access a range of online databases as well as the Internet. They are also able to draw on the subject expertise of specialist staff in response to reference enquiries, with electronic video-conference links bringing experts and students into a "virtual" consultation.

The VALNOW service is an excellent example of the development of a new initiative based on a careful R & D approach which explored a series of service options. The original European Commission funded BIBDEL project took as its basic premises that:

- the distance users should be provided with a service which is as close as possible to the service experienced by the on-campus user;

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23 University of Wales, Aberystwyth
http://www.aber.ac.uk/~infolib/libmenu/specneed.htm#distance

24 See University of Wales, Aberystwyth, ref 23.

25 See examples:
http://www.ston.ac.uk/~library/parttime.htm
http://www.mmu.ac.uk/services/library/libguide/services/c25.htm
http://www.plym.ac.uk/services/help-advice/parttime.htm

26 Sheffield Hallam University Learning Centre’s Distance Learner Support Service:
http://www.shu.ac.uk/services/lc/services/dl.htm

27 University of Central Lancashire
http://www.uclan.ac.uk
• the IT services should conform to open system standards where possible. However, as academic libraries operate within a broader academic information technology environment, compatibility between new and existing systems is of paramount importance;
• issues of cost-effectiveness are paramount, since small institutions and individuals will not accept systems which are expensive to set up or run;
• distant users may have little or no technological expertise, so the systems must be simple to install, maintain and use.

The approach was thus service rather than technology led and proved its worth in the establishment of VALNOW as a permanent operational service to off-campus students.

Such special services are, however, not always offered to distance learning students. In some cases, although support for distance learning students is advertised, the library is still "unable to offer a postal service for books or compensate totally for you not being able to access the services and collections in person."\textsuperscript{28} Some universities do not seem to even mention what, if any, library service is offered to students for whom distance learning courses are provided. To avoid confusion regarding access, services and any special features for distance students, the University of Dundee has produced a guide specifically for students considering study by distance learning. The guide includes activities such as registering with the library and aims to "ensure students are ready for their study and therefore do not waste time, or flounder, later in their course, when the pressure is on."\textsuperscript{29}

Distance learning courses offered by UK institutions often include some form of intensive study, usually in the form of a weekend or summer residential school. For example the Universities of Strathclyde and Plymouth mention that students are required to attend residential schools or "intensive seminars during their period of study."\textsuperscript{30} Other institutions such as the University of Wales, Aberystwyth see residential schools as an "integral part of the course", the aim of which is to "establish a good working relationship between the student and the Director of Studies..."\textsuperscript{31} It is also seen as a good opportunity for students to use the library facilities.

The importance of self help groups is also given a high priority, and at Birkbeck College, students studying Occupational Psychology, Career Counseling and Organizational Behaviour are informed that the course "is self-taught from the study materials provided. No formal contact with staff or other students is necessary but students in the same geographical areas are encouraged to network..."\textsuperscript{32} The implication here is that library support is not needed.

\textsuperscript{28}University of the West of England
http://hermes.uwe.ac.uk/libsup/

\textsuperscript{29}University of Dundee
http://www.dundee.ac.uk/orthopaedics/oncourse/info.htm

\textsuperscript{30}University of Strathclyde

\textsuperscript{31}University of Wales, Aberystwyth
http://www-icdl.open.ac.uk/icdl/database/europe/unitedki/univwala/inst/index.htm

\textsuperscript{32}University of London - Birkbeck College, UK
UK http://www.icdl.open.ac.uk/icdl/database/europe/unitedk/univlonb/inst/index.htm
Telephone, email and fax links have been set up providing advice and counselling as well as requests for items to be posted out or transmitted. Thames Valley University promotes its 24 hours a day learning facility with access to the library helpdesk via "telephone, fax and computer."  

Students studying with the Open University library may soon be able to access materials via an electronic library. Since 1995 a number of projects have been undertaken to meet the aim of an electronic library and will work in collaboration with other universities and research institutes nationally and internationally. Electronic enquiry services are a useful way of enabling students to access services out of hours. Heriot-Watt University for example offers LIBHELP which promises a response within one working day.

Distance learning students are, however, often encouraged to take responsibility for finding materials. At Kingston University, distance learning Management students are told that use of their "...own knowledge of a working environment can be useful as well as access to local libraries and companies..." and at Anglia Polytechnic University, distance learning students on radiography courses are told "Students are advised to join public and hospital libraries as they will need access to a variety of reading matter" and that "if students have a School of Radiography close by they may be able to obtain access to its library and resources." This may also be the case in other universities who simply do not mention how materials will be obtained. For example Heriot-Watt University states that "students are also required to undertake preparatory reading and assessed project work and assignments." Overall, however, our analysis shows that in the UK very few university libraries are making a serious attempt to meet the needs of distance learners and nearly all still assume that the predominant model of delivery will be through a personal visit. The question to be addressed, therefore, is what changes will be needed if lifelong learners are to receive adequate library support?


Having examined the background to lifelong learning, undertaken an analysis of learning itself and looked at the services currently on offer by UK higher education libraries, we formulated a series of recommendations for issues on which libraries will need to work if they are to offer the support lifelong learners will need. Briefly, these are as follows:

33See Thames Valley University, Ref.21.

34Heriot-Watt University, UK
http://www.hw.ac.uk/libWWW/libinfo/charter.html

35Kingston University, UK

36Anglia Polytechnic University

37Heriot-Watt University, UK.
http://www.icdl.open.ac.uk/icdl/database/europe/unitedk/heriotwa/inst/index.htm
4.1 Development of Basic Services

In our view that there is a need for a concerted attempt to develop a basic set of services for the lifelong learner. This might include some or all of the following:

- a clear statement to all students, no matter how short their course nor the means used to deliver it, of the services which they have the right to expect.
- opening hours, professional staffing etc. available at times to suit lifelong learners (e.g. weekends, vacations)
- the right to have access to the physical library on a long-term basis without payment of an additional fee i.e. membership to be part of a students long-term relationship with the institution.
- formal arrangements between libraries for the support of each other’s students
- a limited set of services, but including some document delivery, which is available to students of the university based at a distance from the institution
- access for all students (or at least for all based off-campus) to library advisory services.
- arrangements for accessing electronic services, including the library’s web site, where links to key resources will be provided.

4.2 Developing Hybrid Libraries

The rapid development of electronic information sources has changed the nature of academic library provision in a very few years. It is now clear that electronic sources can replace many of the traditional materials which libraries have used, especially in the area of datasets, some journals (an area where the trend to electronic formats will almost certainly accelerate) and new media such as Web pages. However, there is almost universal acceptance that traditional formats (print, audio, video, etc.) will continue to play an important role in the total service which users require. From this has emerged the concept of the ‘hybrid library’, which may be seen as a new service model which provides integrated access to the full range of services. CERLIM is involved in two new research projects funded by the UK Higher Education Funding Councils which will explore the concept of the hybrid library further.¹⁸

4.3 Focusing on Content

Following on from the hybrid library concept, it will be necessary for academic libraries to shift their focus from form to content. At present, libraries tend to be organised by form, and frequently budgetary allocations reinforce this approach: it is still not uncommon for library allocations to be split into ‘book’ and ‘journal’ funds, with online services treated as an uneasy compromise. Once users gain widespread access to information delivery services, these divisions will be seen to be increasingly irrelevant. Most users will wish to have access to content regardless of form, although they will also wish to be able to state a preference - which increasingly may be for electronic formats which can be manipulated within other documents. The library role will therefore be to facilitate content access as the primary concern. Managing this scenario will be a complex task (see 4.13 below).

¹⁸The HYLIFE (Hybrid Libraries of the FuturE) project is jointly led by CERLIM and the University of Northumbria; the AGORA project is led by the University of East Anglia with evaluation being undertaken by CERLIM.
4.4 Converged Services

A recent study\(^{39}\) of the views of senior academic librarians in the UK reported that convergence is seen as an inevitable trend. In the public library sector, the recent Public Libraries Review\(^{40}\) highlighted the UK Government’s desire to see public libraries playing an important role in the ‘IT for All’ programme and saw them as key players in delivering “the benefits of new technology to the wider population.” A variety of reports on individual experiences of convergence have also appeared\(^{41}\). It has been interesting to observe from a distance the at times heated debate on this issue in the United States, with eminent figures like Michael Gorman warning librarians of a ‘dark age of electronic tyranny’\(^{42}\). Despite such warnings, it now seems inevitable that academic libraries and computing services will need to provide a single interface to their users, so that guidance, help and advice can be provided regardless of the format of the information which is sought. This can only be helpful to the lifelong learner.

4.5 Multi-Agency Provision

Many lifelong learners are likely to access the campus less often than the traditional student or researcher. From that viewpoint, the library service they require will best be provided by alliances which enable them to use their own local libraries as their point of access. A number of co-operative schemes in the UK, such as the ‘M25’ and ‘CALIM’ groups, have taken access for all their students as a primary reason for co-operation. To date, however, there are few examples of formal involvement of universities, public libraries, the libraries of research institutes, commercial information services etc. within an integrated (to the user) service.

An interesting issue is how library support for international research teams can best be organised. Which of the institutions’ libraries will take the lead in ensuring that appropriate services are in place?

4.6 Integration of Library Services into Learning

Librarians have long struggled to try to make the service provided as relevant as possible to the users’ requirements. For undergraduate courses this has often been epitomised by the annual struggle to acquire reading lists in time for books to be ordered and put on the shelves. In the future, as learning becomes more and more reliant on problem solving rather than on knowledge acquisition \textit{per se}, and as knowledge becomes out of date more and more rapidly, this approach raises a number of issues:

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\(^{41}\) See, for example, Paterson, A. Surf and Turf: issues in the development of academic services \textit{IATUL Proceedings (new series)} 5, 1996, pp. 194-204, which reports on the experience at Exeter University. Some early observations on convergence can be found in a 1988 issue of the \textit{British Journal of Academic Librarianship} (Vol. 3 Pt. 3), which also contains an excellent overview of the issues (Naylor, B. The convergence of the library and the computing service: the central issues, BJAL 3(3), 1988, pp. 172-186).

\(^{42}\) See, for example, Young, A.P. Libraries and digital communication: collision or convergence? \textit{Journal of Academic Librarianship} 22(2), 1996, 11-13.
• it is not possible to predict information requirements in advance, so that the former *Just-in-Case* approach to content acquisition has to be replaced by *Just-in-Time*;
• courses' use of information will be much more dynamic, with teachers changing the emphases rapidly in response to developments
• a considerable proportion of the information will not be published in the traditional way, and may be ephemeral (dynamic web pages etc.)

For these reasons, but perhaps more importantly because the best library services become an integral part of the learning process, librarians need to become more involved with course planning. They will be able to bring new sources of information, and perhaps new learning tools, to the attention of teachers and to suggest ways in which the use of library services can contribute to the achievement of learning outcomes. There have been a number of practical developments in the area of "networked learner support" which are capable of being exploited more widely. Moving down this track it becomes apparent quite quickly that what is being introduced is an entirely new kind of learning environment where the student can easily and within the same interface access information ("library") and expertise ("tutor") while discussing ideas with fellow students ("seminar") and using a self-diagnostic tool ("assessment"). If such environments are to become widespread, staff in institutions will have to think about their roles in new ways.

4.7 Libraries as Social Centres

In all the discussions of the future electronic library it is easy to lose sight of one of the key roles of the library - namely, its value as place. Libraries on campuses are often used by groups as places to meet, and with the increase in group work they often provide group study areas. Even for students and researchers working alone, the Library can provide social contact. If there is a continuing reduction in class contact hours, the availability of this 'social-learning centre' may be crucial to the student experience.

Where courses are delivered at a distance, there is considerable merit in providing some kind of learning centre to encourage this social interaction as part of the learning experience. Further education colleges and public libraries would offer obvious centres for this kind of planned activity.

4.8 Information Quality

The widespread availability of access to Internet resources, including the World Wide Web, has raised considerable concern about the quality of information which is being accessed. While printed publications go through a well-known and tried and tested quality assurance procedure, involving referees, editorial boards and publishers' expert opinions, there is a lack such procedure for electronic resources. In a situation where anyone can publish anything on the Web, it is difficult for users to judge the validity of the information they retrieve.

Undoubtedly there is a role for systems which provide some kind of authoritative grading for networked resources, but at present it is unclear as to what that mechanism will be. Again, for lifelong learners, the need is likely to be acute as they may well be remote from sources of advice and peer support.

4.9 Electronic Resources

Information and communications technologies have much to offer the lifelong learner and may provide the boost which will make lifelong learning a reality. Libraries need to redouble their efforts to assist in the development of networked information resources and in their exploitation. However, the networked information arena poses questions about how users will be able to identify and retrieve particular information from the vast resources potentially available - the need is to provide the equivalent of a library
catalogue which can be used as an access point to world-wide sources. We have written elsewhere of the problems this creates\textsuperscript{43}.

4.10 Information Skills

The development of information handling skills is now recognized as central to learning. Included within these skills are the ability to identify information requirements, to develop and conduct a search, to retrieve information, to understand it and manipulate it, and to present information in a variety of contexts.

Universities have taken different approaches to the development of these skills. In some, a compulsory module is taken by all first year students to equip them with the study skills, including information skills, that they will need. In others the approach taken is to embed the development of generic skills in the curriculum, so that the relevance of each skill is demonstrated within the learning context of the discipline. There are advantages and disadvantages to both approaches. What is clear, however, is that ways need to be found to ensure that all lifelong learners have the opportunity to acquire these skills, and develop their existing skills, so as to equip them to learn in the future.

At the same time, we still know very little about "how" users actually use information sources, especially in networked electronic environments. This is a very complex question but one which should underpin the design of the information skills curriculum and indeed service design more generally. More research on this question is needed.

4.11 Helpdesk Services

The provision of adequate helpdesk and other advisory services will be crucial to the success of academic libraries in the future. Users will expect to be able to access such services in person, by telephone, by email and through web pages and will expect rapid and authoritative responses.

4.12 Lifelong Relationships

The essence of lifelong learning is that each individual will be undertaking learning of some kind throughout life. This provides an opportunity for universities to transform the relationships they develop with their students. Instead of the classic route of a three or four year undergraduate degree course, followed at best by a remote relationship through an alumni society, institutions will have the opportunity to persuade students to return again and again. It is a truism of marketing that it is far easier to sell another product to an existing customer than to recruit a new customer, and universities will need to grasp the opportunities this presents by developing lifelong relationships.

The academic library could have an important role to play in these relationships, perhaps by transforming current ‘external reader’ membership arrangements into a new type of university membership which includes access to courses as well as to university facilities. Bearing in mind the large numbers of adult learners and scholars who are currently outside institutions, it may be that universities could use access to library services as a means of bringing such people into their communities in a much more active fashion than occurs at present.

\textsuperscript{43}Brophy, P. and Wynne, P. M. \textit{Management Information for the Electronic Library (MIEL) Programme. Final report}, University of Central Lancashire, Centre for Research in Library and Information Management, 1997. The text is available at URL: http://www.ukoln.ac.uk/models/studies/
4.13 Dynamic Management

Overlaying all of the changes in academic libraries that a commitment to the support of lifelong learning will bring there will be a need for a high level of management skills. The administrative systems used by libraries need to be reconsidered as to their suitability for a service which is based as much on access to electronic information as on access to physical objects, and in particular where users are much more mobile and present their demands at a variety of service points across a network. Services must be expected to evolve rapidly, new technologies will need to be exploited, resources will be tighter than ever.

The development of suitable performance measures for services provided off-campus, and more generally to non-traditional learners, will need to be a priority if effective management is to be possible. This is particularly important to enable judgements to be made on the value for money of services.

5. Conclusions

It is clear that lifelong learning implies major changes to the pattern of higher education to which we have become accustomed. Students will enter higher education for short periods, but do so repeatedly. Students will receive higher education at the place and time of their own choice, rather than on campus within a traditional academic year. Students will build up qualifications from small units, and may do so using modules from a variety of institutions. It could be that virtually everyone comes to regard themselves as a "university student" on frequent occasions - and even perhaps permanently if institutions choose to forge enduring relationships. It is to the library needs of such students that the work described in this paper has primarily been addressed. Lifelong learning poses great challenges for libraries, but it also offers the prospect of enormous rewards if they succeed in transforming themselves into the central support agency for the lifelong learner.
Index Utilization Patterns in
University Branch Campus Libraries
Which Provide FirstSearch as a Virtual Indexing Tool

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Abstract: This paper discusses the evolution and application of the Class and Academic WWW Pages Project, developed as part of a course-integrated user instruction program for adult evening students. The project is intended to enhance students’ abilities to conduct effective research from remote sites as well as in the extended campus library.

Introduction

Branch campus libraries provide a valuable microcosm for researching the academic library experience, with smaller data sets based on smaller enrollments in a limited number of academic programs. Prior to the development of automated indexes, academic libraries did not routinely keep statistics or conduct studies on index utilization. Such knowledge was anecdotal and informal, based upon seasonal variations in use patterns and rates of wear on the index volumes. An attempted review of the literature, for example, in the FirstSearch Library Literature database found no studies ever done on rates or patterns of index utilization.

The advent of automated, online indexing services such as FirstSearch, which supplies database use statistics, made data automatically available which can be drawn upon to document index utilization and confirm or discount some of the informal assumptions of the past. Bringing FirstSearch and branch campus libraries together has facilitated research in this heretofore neglected area.

In 1992, OCLC launched FirstSearch (FS), its end-user gateway to a collection of electronic research tools, primarily indexing and abstracting databases, covering a wide range of disciplines. FS has continuously added new databases, expanded its document delivery capabilities, and added full-text options. FS is accessible using Telnet or the World Wide Web.

Branch campus librarians were among the first to recognize FS’s potential for supplying user research needs. Since most branch campus libraries lack large on-site print collections and extensive indexing services, FS is especially well suited for providing research assistance to students in this type of setting. This certainly has been the case at our three extended campus sites, two of which, the Regents Center Library of the University of Kansas Edwards branch campus and the Max E. Benitz Memorial Library of Washington State University (WSU) at Tri-Cities, have been using FS as their primary indexing tool since shortly after its inception. Within a few months, WSU Spokane followed suit.
This study undertakes to provide valuable cross-institutional information on index usage in branch campus library settings useful for all involved in extended academic library services and with implications for all academic libraries. That very similar branch campus libraries from more than one university system were able to take part in this study added significantly to its potential importance to the literature of extended academic library services and to that of academic libraries in general.

Analysis is provided on how students have used FS, from 1993 through 1996, as the primary indexing/abstracting tool for these branch campus libraries. Among the elements examined variously from campus to campus are:

- The five most heavily used databases for each site will be identified from the OCLC monthly statistical reports indicating by database the length of time searched and the number of searches.
- Any relationships found between the average length of a search in these top five databases and the number of uses will be reported, such as whether some databases were selected because they require less time.
- The possible relationship between program enrollment and the use of relevant databases as a predictor of future use will be examined.
- Trends and changes in the use of FS during the four years being examined, especially the impact of the growing availability of full-text journal articles, through the OCLC proprietary indexes.

The University of Kansas Regents Center
Nancy J. Burich

Introduction

The University of Kansas Regents Center Library has used FirstSearch as its primary indexing tool since it was introduced by OCLC late in 1992. Subscriptions to print indexes or abstracts have been canceled as the same or similar titles were added to FirstSearch. Not only has the number of searches used each year grown steadily, but the number of databases used has also grown. In 1993 we accessed forty-one databases; in 1994 there were forty-five which we used; in 1995 we used fifty-three databases, and in 1996 patrons utilized sixty different databases.

Because OCLC has supplied monthly statistics on our use from the beginning, it seems prudent to examine our use patterns to determine what they might reveal about past use as well as to help us to predict future use. This has become necessary since our use continues to climb. What follows is an analysis of data from 1993 through 1996.

Setting

In the fall of 1996, the University of Kansas (KU) had an enrollment of 24,874 students, with 6,225 graduate students. The University employs about 1,300 faculty members. The KU Library is a member of the Association of Research Libraries. Its collections contain more than three million volumes. It is a regional depository for government documents. Librarians are faculty and are eligible for tenure, which requires a record of service and research in addition to a high level of professional performance.

The main KU campus in Lawrence operated in a DOS environment from 1993 through 1996. Terminals for patron use were stand-alone workstations. Some terminals were dedicated to one use, with databases permanently loaded. Most terminals provided access to our online catalog (OCAT). This locally
developed system does not integrate with either of our locally developed circulation or serial systems, or with the acquisitions system (Innovacy, from Innovative Interfaces). Access to electronic indexes or abstracting services has required checking out individual compact discs from the Reference Desk. Access to FirstSearch has been restricted and has required staff assistance.

The KU Edwards campus, where the Regents Center Library is located, presents a totally different environment from that of the main campus. The facility is located in the southwest corner of the Kansas City metropolitan area. This new campus was established in 1993 with its first building, the Regents Center. Previously, the Center had been located in an old elementary school building where the library occupied a renovated gymnasium.

The presence of the University of Kansas in the KC metro area has grown steadily since the Regents Center was established. The Center began by offering three degree programs in 1976 (education, engineering, and business) with some undergraduate courses as well. Today this has changed, and we offer only graduate courses leading to eleven master’s degrees and one doctoral degree (the Ed.D., first offered in 1995). Degrees are offered in education, social welfare, engineering, and several management programs (business administration, public administration, health services administration, engineering and journalism management, and architectural engineering). All programs have a practical orientation rather than an academic or research emphasis. Enrollment in 1996 was 26,307 student credit hours, and credit hour production continues to climb. The Regents Center currently produces 26.2% of all graduate student credit hours generated by the University (see Table I for detailed information on enrollment).

Edwards campus students are adults, and most have family and career responsibilities. The average age of our students is thirty, and 61% are women. Students typically take one or two courses per term. Most classes are held from 4:15 to 7:00 p.m. and 7:15 to 10:00 p.m., Monday through Thursday. As rooms fill during these time periods, some classes are being taught on Saturday mornings. One of the strengths of Regents Center programs is the faculty. Most have regular Lawrence campus appointments. They travel to the Center to meet with students and to teach classes. Adjunct faculty are in the minority and usually are invited to give presentations to classes in their areas of expertise.

Generally speaking, in terms of paying for document delivery, our students have more money than time. They want to get the information they need quickly, with a minimum of delay, and get home. Electronic access to journal articles is extremely attractive to our patrons. In fact, their appetite is voracious, and they will utilize all options available to them. Due to the variety of electronic options we provide, our service tends to be personalized. Operation of the Regents Center Library is very labor-intensive since most students receive a high level of individual attention.

The Regents Center Library employs seven staff members (four librarians, a library operations manager, and five support staff) and five hourly staff members (currently three have an MLS and one is a doctoral student in library science). The library is open seven days week for a total of 86 hours. All staff work one night a week, and librarians rotate weekend hours. Access to a librarian is available at all hours through our electronic reference service, which is among the services featured on our Web page (http://vision.rc.ukans.edu/library/docs/index.htm).

The Regents Center Library facility contains 6,600 square feet of space. In addition, there are four teaching labs within the library security perimeter. The library proper has a cluster of fourteen PCs, which are visible from the library circulation desk. Terminals in the library and the labs are modeled on the scholar’s workstation. There are no dedicated terminals, and all are networked. A patron can find information from indexes or abstracts, locate full-text journal articles, put this information in a word processor or statistical program, turn this information into a presentation, and print out the final product using one workstation.
The Regents Center Library operates on Windows95 and WindowsNT platforms. There is a CD tower for locally owned databases, and we access campus electronic resources via Telnet and Internet connections. The University Library is preparing to migrate to *Virtua* (VTLS), a fully integrated system, within the next year.

There are about 16,000 volumes and 150 journal subscriptions in the library, with journal back files on microfilm or fiche. We do not bind journals due to lack of space. Most materials in the library are duplicates of campus titles. A courier service (Pony Express) links the campuses and transports materials on demand between the sites. Patrons locate materials in a database, check the online catalog, and fill out a paper request form. Staff fax the request to Retrieval Services on the main campus using *ARIEL* software (RLG). When considering circulation and gate count statistics as well as the number of requests submitted for lawrence campus materials, use of the library has increased steadily each year since our move (see Table 2).

Since we support twelve graduate programs and have just 6,600 square feet of space, most information which we provide to patrons is electronic. This is advantageous due to the practical orientation of our programs. Students need to access current information, which is most apt to be found in journals and in electronic databases. Whereas budgets for other library units at the University are divided along traditional lines—monographs and serials—the Regents Center Library’s budget adds a third component, document delivery. Document delivery costs include some searching as well as the cost of the articles and any copyright fees which apply.

**Indexes and Abstracts**

When we moved into our new facility in January 1993, we brought with us two eight-foot long index tables. We utilized many different paper indexing tools: Wilson indexes (covering art, general science, education, the social sciences and humanities, general periodicals, and business), *CIJE* and *RIE*, *PAIS*, *Psychological Abstracts*, *Social Work Research and Abstracts*, *Wall Street Journal Index* and *New York Times Index*. These index tables and the print indexes and abstracts which they once held, reminders of an earlier time, have since been removed and replaced by our fourteen networked terminals. No one has missed these print materials once their electronic counterparts have been discovered. Indeed, today patrons clearly prefer electronic indexes and abstracts due to the ease of executing complex searches.

Today we subscribe to only one index in paper format, *Construction Index*, because an electronic version is not available. Instead we now rely on *UnCover* and *Ethnic NewsWatch* (added in 1995) and on *Lexis/Nexis* and *CommSearch 95* (added in 1996) for electronic access to full-text journal articles. Trials of *ProQuest Direct* in 1996 (and a subsequent subscription in 1996-97) and of *EbscoHost* (in 1996-97) expanded greatly our access to full-text journal articles. Early in 1997 the University established an *ERL* server (SilverPlatter's *Electronic Resource Library*) which includes many SilverPlatter compatible products. We have access to these databases through an Internet connection to the server on the Lawrence campus. However, our most popular source of indexing, abstracting, and full-text information remains OCLC’s *FirstSearch*.

**FirstSearch**

Why use *FirstSearch* (FS)? It provides a gateway to more than sixty databases using one search engine, so it is easy for staff to teach and for patrons to learn. The variety of subjects covered and the number of different titles included has allowed FS to match our diverse information needs. Its weakest coverage has been in law and business, and OCLC has consistently added resources in these areas to improve such coverage. An analysis of patron requests for copies of journal articles from the main campus has shown that less than a dozen journal titles are requested more than once in any given term.
Payment for FS has been on a per search basis. Given the breadth of subject coverage needed as well as our desire to make the product available on all terminals in the library and computer labs, we simply could not afford a subscription to all the databases we use and to the number of simultaneous users required. Such an arrangement as per search payment, which has unpredictable costs, makes long-range budgeting very difficult. Due to our escalating use of FS during the last year, we are now developing strategies to control costs. Unfortunately, this will necessitate blocking access to certain FS databases, especially those containing full-text access. We will substitute instead another product which was purchased by a consortium of Regents schools (i.e. state-supported universities).

Our use of FS began in our old facility in October 1992, with one workstation using a Telnet connection. After our move, the library cluster of terminals had eight workstations. During our first month in this new setting (in January 1993) we accessed information in twenty-four FS databases and used 737 searches. By the end of that calendar year, we were accessing forty-one FS databases and had used a total of 26,916 searches.

During that first year, all databases were available without restrictions with printing and downloading capabilities available without limit or charge. However, during the second year access to ERIC was blocked due to extremely heavy use (13,143 searches in 1993). In fact, its use surpassed that of the other top five databases by a wide margin (see Table 3). It was replaced with a networked SilverPlatter CD-ROM version of ERIC. Open access to all databases except ERIC continued throughout 1996. The addition of full-text (ASCII) databases by FS in 1995 has been extremely popular with both patrons and staff. Patrons want (and increasingly expect) instant access to the article itself. Staff view this FS access as a bargain at a cost of just five searches each, even though the per search costs rose during the period under review from $.50 to $.58.

Analysis of FirstSearch Use

An analysis of data must begin with a few definitions. According to OCLC’s FirstSearch System Guide (1995, 2:13), a search is counted when you send a search word or phrase to FS and you receive at least one record. After the initial search, another search is charged when adding another search word with a Boolean operator, when limiting a search, and when a word is selected from a word list. The raw data used in the accompanying analysis was reported monthly by OCLC (for KU this information comes through the Bibliographical Center for Research (BCR) about six weeks after the end of each month). This data includes the time (in hours) spent online by database, the number of searches used by database, and full-text use.

The data to be examined here includes the use of FS databases from January 1993 through December 1996. This examination of index utilization patterns will include: the five most popular databases used and the % of all searching each represents; the use of OCLC’s proprietary databases as a % of all searching (pricing for subscriptions to these databases as a group tend to be less expensive than subscriptions to products developed by other vendors); the correlation between database use and time spent online (to determine whether databases which produce quicker results are more popular); an analysis of full-text use (especially developing trends in the use of these databases); a comparison of FS use and academic program enrollment (as an indicator of future use); and a compilation of monthly and annual use of FS for 1993-1996.

Discussion of Data in Tabular Form

The Tables, as shown in Appendix A, provide the basis for an analysis of the use of FS at the Regents Center Library. The goal of this analysis is to gain an understanding of how we use FS now and what factors might help us to predict future use.
Table 1: “KU Regents Center Enrollment Data” provides information on enrollment in student credit hours and is differentiated by program (including the percentage of total enrollment which each program provides). This data also indicates changes in credit hour production by each program from 1993-1996. Total student credit hour production grew by 37% between 1993 and 1996. The largest programs continue to be education and social welfare.

Table 2: “Regents Center Library Use Statistics” from 1993-1996 provides information on the growth of circulation (up 29%) and gate count numbers (up 81%), as well as in the growth of requests for materials from the main campus which patrons have submitted (up 128%). Whereas the growth in the number of individuals passing through the security gate and in the number of materials circulated have not kept pace with enrollment increases, the number of requests for materials on the main campus is nearly three times the increase in enrollment. Those who request materials from Lawrence are asking for more. Turnaround time averages two to three working days. This prompt service undoubtedly adds to this service’s growing popularity.

Table 3: “Five Most Popular Databases Searched in FirstSearch, 1993-1996” shows by the number of searches used during 1993-1996 which databases were the five most heavily used. This table also indicates the percentage of the total number of searches used by these five databases. In 1993 the top five databases accounted for 77% of all searches used; in 1994 they accounted for 55% of the total; in 1995 they used 54%, and in 1996 these five databases accounted for 64% of all searches. It is interesting to note that in 1993, three of the top five databases had a subject orientation (ERIC, PsycFirst, Business Abstracts) and accounted for 75.4% of all searches used by the top five databases that year. But by 1996, only one database, Medline, had a subject orientation and it used only 12% of the searches expended by the top five. Migration to full-text databases with broad coverage is increasing.

Table 4: “Use of OCLC Proprietary Databases” provides an annual ranking of the use of each of OCLC’s own (or proprietary) databases and the percentage of all searches this use represents. In 1993, OCLC’s databases accounted for 18% of all searches used and two were among the five databases most heavily used. In 1994, they represented 34% of all use with two databases among the five most heavily used databases. In 1995, the proprietary databases used 29% of all searches, and two databases were again among the top five databases. In 1996, these databases accounted for 45% of all use and three of their databases were among the five most heavily used. For our users, the most important proprietary database is WorldCat. Despite the growing popularity of full-text databases, WorldCat has ranked as either the second or third most popular database each year. The use of OCLC’s own databases is important, since they often are included in special subscription packages offered by OCLC at a reasonable cost. The important question is how well these proprietary databases would fill all searching needs. Clearly, they represent an important part of our use, but more than 50% of our need for indexes and abstracts falls outside the scope of these databases. Service would suffer if only these databases were available.

Table 5: “Relationship of Searching and Time Online” attempts to determine whether a correlation exists between the time needed to search a particular database and its popularity. However, no clear pattern emerges from the data, which would support the idea that a database, which can be searched quickly, will be popular. Too many variables exist, especially since some databases provide more information than others and this translates into time spent online. A simple citation will be much shorter and quicker to access than an abstract. In addition, the speed of printers and terminals also will affect time spent online.

If one expands the examination to include the ten “fastest” and ten “slowest” databases searched each year (determined by the time online per search) and compares these databases to their rank in terms of the total number of searches used, some interesting observations can be made. On average from 1993-1996, there were more searches expended each year by the ten “slowest” databases than on the ten “fastest” databases. The average rank is always a higher number for the “fastest” databases. This is logical since the “slowest” contain databases whose records are longer and have more text than the “fastest.” Examples of the
“slowest” databases include the Encyclopedia, FactSearch, Sociology Abstracts, Business Abstracts, Microcomputer Abstracts, Newspaper Abstracts, Periodical Abstracts, etc.

This data cannot be used to support the thesis that quick results will translate into use. In fact, just the opposite is true, since patrons generally want as much information as they can get (i.e. an abstract rather than a citation). The more information gained, the longer one will be online.

Table 6: “Use of FirstSearch Full-Text vs. Searching” provides figures by month for 1995 and 1996 (the only two years when full-text journal articles were available). These data sets are useful in indicating the radical changes which have occurred in the ways in which FS is being used at the Regents Center Library. In January 1995, full-text journal articles were introduced and accounted for only 1.4% of all searches expended (10 of 729). During the year, use fluctuated as the academic terms progressed and ended. By December, use had grown and the annual total of searches used for full-text was 1,745 of 11,188 total searches (or 15.6%).

In 1996, the popularity of full-text grew so that 32.6% of all searches were expended to support full-text delivery (2,915 of 8,950). However, use was not spread evenly throughout the year. The second half of the year experienced dramatic growth. From July through December 14,000 searches (of 20,360 total) went for full-text access. This was a dramatic 68.8% of all use! In 1995 there were four months with single digit use (January, May, August, and September). But in 1996 only one month (August) had single digit use (6.9%). From October through December 1996, full-text accounted for 73.4%, 76.3%, and 75.9% of all searches! In 1997, this rate of use has continued. In 1995 and early 1996, roughly 25% of all use was for full-text access and 75% was for searching. By the end of 1996, this had reversed and full-text use accounted for 75% of all searches. It is this shift from searches to accessing full-text articles (and the related costs) which has necessitated a re-examination of our use of FS.

Table 7: “Document Delivery Costs, Regents Center Library, FY 1997.” What makes this rapid increase in use of FS full-text so dramatic is the addition at the same time of new full-text options. In 1995, Lexis/Nexis and UnCover were made available to all graduate students and faculty. In 1996, we introduced ProQuest Direct (UMI) and EbscoHost (Ebsco). Yet, FS use still continued to grow. As the table indicates, nearly $50,000 was spent to provide full-text journal articles to patrons during fiscal year 1997.

Table 8: “Program Enrollment and Database Use” attempts to provide information which might help to predict future use of subject-related databases, based on program enrollment. The rationale was that if there were a stable correlation between enrollment (in student credit hours) and subject-specific database use (in number of searches), this figure could be used to project use and predict future expenditures. However, several factors make this sort of analysis very difficult, if not impossible.

Most degree programs at the Regents Center are interdisciplinary in nature. Virtually no databases are used by just one program. Social welfare students utilize ERIC (education), PsycFirst (used by almost all programs), Sociological Abstracts (used by social welfare and business), GPO Monthly Catalog (used by all disciplines), and CINAHL (nursing, social welfare, and health services administration students use it). Students in the Health Services Administration program utilize information in business, medicine, psychology, and social policy. Some of our Communication Studies courses are listed in three schools simultaneously (arts and sciences, journalism, and business).

The full-text databases, which are general rather than subject-specific in nature, are used by all so that it is impossible to attribute use to any one program or group of programs. Further, these full-text databases account for at least 68% of our use of FS. In 1993, 1994, and 1995, the top five databases used included ArticleFirst. In 1996, full-text databases in the top five included FastDoc, ArticleFirst, and Ebsco MasterFILE. The addition of Lexis/Nexis and UnCover during this period provided additional variables.
Looking at the figures for 1993 in Table 8 indicates that those enrolled in education programs accounted for 40% of the total student credit hour production and the three "education" databases accounted for 56.7% of all searches. Social Welfare enrollment provided 23.8% of our total credit hour production, but the four "social welfare" databases accounted for only 6.2% of the searches. Business enrollment accounted for 14.2% of credit hour production, but the four "business" databases used only 3.9% of all searches.

When examining Table 8 for 1996, we find education having 38.6% of enrollment and its two databases having 5.2% of all searches. This represents a real reduction in use which was influenced by the blocking of ERIC on FS. Social Welfare enrollment accounted for 20.8% of credit hour production and its four databases used 10.6% of all searches (an increase in use over the 1993 figures). Finally, business enrollment had 18.1% of all student credit hours, but its four databases used only 2.1% of all searches. Business use of FS was reduced, probably due to the extensive promotion of Lexis/Nexis and ProQuest Direct by School of Business faculty members.

If one agrees that the interdisciplinary nature of degree programs at the Regents Center makes a correlation of use and enrollment by program impossible, do the gross figures provide any useful information? Is there constancy in the ratio of total searches to total enrollment? The ratios from 1993 through 1996 are: 1.4; 0.67; 0.41; and 0.47. Taking all four years, the ratio is 0.70. If data for 1997 provides a ratio of between 0.41 and 0.47 this data might be useful. Only time will tell if this is so.

Our most reliable indicator of use of indexing and abstracting tools by program remains the requests patrons submit for materials from the Lawrence campus. This is possible since each request must include the individual's program as well as the source of the citation. See Table 2 for the most recent analysis of requests for materials by program.

Table 9: "FirstSearch Use 1993-1996" has not been included due to its length (16 pages). However, it can be supplied upon request in either print or electronic form. It provides data on monthly and annual use of all FS databases from 1993-1996. This raw data was used for many of the tables included in this report. It is interesting to note that the data indicates that the number of databases used each year grew. In 1993, we utilized forty-one databases; in 1994, it was forty-five; in 1995, fifty-three, and in 1996, sixty.

Conclusions about Use Based on Tabular Data

- Use of FS has grown steadily. Its ease of access as a gateway to more than sixty databases has led patrons to believe that searching of indexes and abstracts should provide quick results regardless of the complexity of the search. Observation has shown that patrons at the Regents Center Library will use electronic indexes and abstracts instead of their paper counterparts. Indeed, they will wait to use the electronic version even if the print is readily available. Cancellation of print counterparts has made sense at the Regents Center Library and they have not been missed by patrons or staff.

- Patrons expect electronic full-text articles to be as easy to obtain as are their citations. FS has responded to this demand for full-text journal articles by providing an increasing number of database options.

- OCLC's proprietary databases in FS fill a real need, especially WorldCat, and they fulfill a significant percentage of the information needs of our patrons. Despite our growing use of full-text databases, WorldCat was either the second or third most heavily used database each year. However, it is also clear that the proprietary databases will not meet all of our needs.
• It appears that there is a relationship between the time spent online and the frequency of use of some databases. Patrons want as much information as they can get, whether this is specific information from the Encyclopedia or an abstract, and this means time online.

• There appears to be no clear-cut relationship between enrollment in a program and the use of subject-related databases. In fact, it is impossible, given the current data, to determine which groups of individuals are using specific databases. The growth of full-text databases which are general in nature further clouds the issue.

• Full-text, especially when it can be received online or sent to an email address, is the format of choice of Regents Center students. When there is no charge, they will use all records available in this format. Given the demographics of our students, even a minimal charge per record would not greatly change their use of full-text articles.

• During the last year, use of FS has changed dramatically. At the beginning of this time, roughly 25% of all FS use was for accessing full-text journal articles and 75% was for searching. By the end of the year, however, 75% of searches were for full-text access and only 25% were for searching. When each full-text article requires five searches, the change, which we have experienced, can come very quickly.

• Change and fluctuating conditions make any analysis of use of electronic indexes and abstracts a challenge. However, libraries must devise strategies to monitor carefully the use of databases, especially those which charge a user fee.

Work Cited


Washington State University at Tri-Cities
Harvey R. Gover

Setting

Located in the desert shrub steppe lands of the Columbia River Basin of southeastern Washington state, the Tri-Cities of Richland, Kennewick, and Pasco offer a unique urban, yet town-like, environment of business, shipping, and high-tech industries, surrounded by large scale irrigated agriculture, and having some of the finest vineyards in North America. Washington State University at Tri-Cities is located in north Richland in the Tri-Cities Science and Technology Park on the southern periphery of the Hanford Nuclear Site.

Washington State University at Tri-Cities is one of three branch campuses of Washington State University (WSU), a land grant university of 18,500 students founded in 1890 with its main campus located in Pullman. Other branch campuses are located in Spokane and Vancouver. The Tri-Cities branch campus, formerly a joint university center, became the exclusive responsibility of WSU in 1989.

The WSU Tri-Cities Max E. Benitz Memorial Library is a unit of the WSU Libraries, a member of the Association of Research Libraries, having holdings of 1.7 million volumes, and implementing a new integrated online system from Innovative Interfaces, Inc. On the Tri-Cities campus, the Benitz Library is also a unit of the Consolidated Information Center Libraries or Consolidated Libraries (CL), which are a component of the recently completed Consolidated Information Center (CIC). The CL include, in addition
to the Benitz Library, the Hanford Technical Library, a corporate library serving the Hanford Nuclear Site, and the local Public Reading Room of the U.S. Department of Energy (DOE). The combined CL collections number more than a million items.

The Benitz Library serves a branch campus of more than 1,250 upper division and graduate students, fifty teaching faculty, and about seventy interactive video and adjunct faculty per term. Average student age is thirty-three, with 60% female. Tables 11 through 17 in Appendix B display enrollment by declared majors for each of the six semesters covered by this segment of the study. The Benitz Library’s on-site collection consists of over 720,000 items including monographs, hard copy periodicals, and microtext. Electronic access is provided to Griffin, which is the combined online library catalog of Eastern Washington University and WSU, and to FirstSearch. Both Griffin and FirstSearch, as well as UWIN, the online catalog of the University of Washington, are available on the campus LAN and via the World Wide Web.

During the time covered by this section of the study, fall 1993 through spring 1996, the Benitz Library was housed as a stand-alone facility in the West building of the branch campus. Entered through the Benitz Library, but operated separately, was the DOE Public Reading Room. Since June 1997, the Benitz Library and the DOE Reading Room have occupied new quarters in the CIC. Also moved into the CIC with the Benitz Library was the Hanford Technical Library. Together, the three libraries formed the CL. In accordance with agency requirements, the DOE Public Reading Room maintains separate quarters within the CL. However, the Hanford Technical Library and the Benitz Library operate and interact within the same space, their print collections intermixed on the shelves, having separate, but overlapping clientele, and with separate funding and administrations.

The Hanford Technical Library (HTL) is operated by the Pacific Northwest National Laboratory (PNNL), a facility of the DOE contractor, Battelle Memorial Institute. The HTL serves PNNL research scientists and those of the other DOE contractors participating in the environmental restoration of the Hanford Nuclear Site. The move of the DOE Public Reading Room and later the Hanford Technical Library to the WSU Tri-Cities branch campus was a natural culmination of their historic linkage, with the campus tracing its origins back to the founding of the General Electric School of Nuclear Engineering in 1945.

However, as noted above, during the time frame of this study, the Benitz library operated independently and exclusively as a branch campus facility in a 10,000 sq. ft. section of the campus’s West Building, completed in 1992. The branch campus librarian was the only full time permanent employee during much of this time. Additional, part time librarians were hired to cover the reference desk and process interlibrary loan requests. Hourly permanent support staff numbered 1.5 FTEs. In addition, approximately six FTEs in student assistants and work study students rounded out the staffing for the library. The library collection numbered around 20,000 items with 150 journal subscriptions.

**FirstSearch**

In September 1992, the Benitz Library became one of the first in the nation to subscribe to FirstSearch (FS). From the beginning, searches in all FS databases have been purchased in blocks and have been made available for searching free of charge, thus revolutionizing the indexing capabilities for the branch campus. Critically needed indexing resources for which there had been no local equivalent became available over night. As databases supplying hard copy became available, they were not utilized for ordering article copies due to the operation by the WSU branch campuses of their own document delivery service, the Extended Campus Library Services (ECLS) unit, based in Holland Library, the main campus social sciences and humanities library in Pullman. As with the UK Regents Center, daily courier service links the campuses. Patrons locate materials in a FS database, check the Griffin online catalog for holdings, and fill out a paper request form which is faxed to ECLS the same day or following morning. Therefore, all the index utilization counts from the tables in Appendix B are for searching exclusively.
Telnet access to FirstSearch was provided on six dedicated user workstations, which also included Griffin and UWIN. Most printed index subscriptions were discontinued, as in the UK Regents Center experience. Printed indexes were retained only on request of the professor for instances in which use of the printed indexing resources was still being taught.

**Analysis of FirstSearch Use**

The data for this study begin in the second year of FS usage on the Tri-Cities campus with September 1993, and run through May 1996. This timeframe parallels that used in the KU Regents Center study and closely matches that of WSU Spokane. Tables 1 through 4 in Appendix B show the numbers of searches for each database per month for the entire year, except for Table 4, 1996, for which data was available only through October. Data from 1996 was used only for the spring semester, so there was no need later to go back and complete the table.

Tables 1 through 4 in Appendix B may be used to examine the most frequently used indexes at the Tri-Cities campus. WorldCat, ERIC, and PsychFst appear all four years in the top five. WorldCat is always number one. This is misleading, because most of this usage is by the Benitz Library’s interlibrary loan personnel, who are making verifications for interlibrary loan requests. However, ERIC and PsychFirst represent substantial index utilization by students in the education, counseling, and psychology programs, all grouped under Education in text Tables 1 through 7, which follow here in this section. After the top three, there is little or no consistency in the other contenders for top five. ArticleFirst and ESPM each appear twice. Then, Agricola, AppSci, Basic Bios, and Medline each appear only once. Initial set up for this segment of the study did not allow for examination of the time spent searching each index and frequency of use.
### Table 1

Washington State University at Tri-Cities  
Fall Semester 1993 Subject Disciplines and Corresponding Database Searches

<table>
<thead>
<tr>
<th>Discipline</th>
<th>Number Enrolled</th>
<th>Percent of Total Enrolled</th>
<th>Total Discipline Searches for Semester</th>
<th>Percent of Total Searches for Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture/Life Sciences</td>
<td>$1.1e+22$</td>
<td>1%</td>
<td>243</td>
<td>4%</td>
</tr>
<tr>
<td>Business</td>
<td>15%</td>
<td>756</td>
<td>11%</td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td>11%</td>
<td>1287</td>
<td>19%</td>
<td></td>
</tr>
<tr>
<td>Engineering</td>
<td>21%</td>
<td>318</td>
<td>5%</td>
<td></td>
</tr>
<tr>
<td>Environmental Science</td>
<td>5%</td>
<td>129</td>
<td>2%</td>
<td></td>
</tr>
<tr>
<td>English</td>
<td>--</td>
<td>83</td>
<td>1%</td>
<td></td>
</tr>
<tr>
<td>General Hum</td>
<td>4%</td>
<td>--</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>Gen Soc Sci</td>
<td>16%</td>
<td>180</td>
<td>3%</td>
<td></td>
</tr>
<tr>
<td>Nursing</td>
<td>2%</td>
<td>526</td>
<td>9%</td>
<td></td>
</tr>
<tr>
<td>Physical Sciences</td>
<td>2%</td>
<td>97</td>
<td>1%</td>
<td></td>
</tr>
</tbody>
</table>

The purpose for this section of the study, utilizing data from the Benitz Library, is to test whether discipline-specific patterns of index utilization emerge from observations of the data over time. It was hypothesized going into the study that distinct discipline profiles of index utilization would be shown.

The data used for this study was taken from the OCLC database usage reports and from WSU enrollment counts by declared majors, as shown in Appendix B. This data was in turn drawn upon to prepare Tables 1 through 7, as shown. Tables 1 through 6 report levels of enrollment and corresponding levels of index utilization for each discipline on a semester basis. Table 7 summarizes the percentage points of difference between percentages of enrollment and percentages of index utilization for each discipline in each of the semesters under consideration.

In each of these seven tables, subject majors were listed, or grouped and listed, in the Discipline column. These subject disciplines, or groups of disciplines, were chosen because there are matching FS subject databases for them. As seen in the Majors tables 11 through 17 in Appendix B, the categories in the Discipline column cut across the entire branch campus curriculum.
Table 2
Washington State University at Tri-Cities
Spring Semester 1994 Subject Disciplines and Corresponding Database Searches

<table>
<thead>
<tr>
<th>Discipline</th>
<th>Number Enrolled</th>
<th>Percent of Total Enrolled</th>
<th>Total Discipline Searches for Semester</th>
<th>Percent of Total Searches for Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture/Life Sciences</td>
<td>2.3e+22</td>
<td>2%</td>
<td>1.9261120e+25</td>
<td>3%</td>
</tr>
<tr>
<td>Business</td>
<td></td>
<td>17%</td>
<td></td>
<td>9%</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td>9%</td>
<td></td>
<td>28%</td>
</tr>
<tr>
<td>Engineering</td>
<td></td>
<td>21%</td>
<td></td>
<td>1%</td>
</tr>
<tr>
<td>Environmental Science</td>
<td></td>
<td>4%</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>English</td>
<td></td>
<td>--</td>
<td></td>
<td>--</td>
</tr>
<tr>
<td>General Hum</td>
<td></td>
<td>4%</td>
<td></td>
<td>1%</td>
</tr>
<tr>
<td>Gen Soc Sci</td>
<td></td>
<td>14%</td>
<td></td>
<td>2%</td>
</tr>
<tr>
<td>Nursing</td>
<td></td>
<td>2%</td>
<td></td>
<td>6%</td>
</tr>
<tr>
<td>Physical Sciences</td>
<td></td>
<td>3%</td>
<td></td>
<td>4%</td>
</tr>
</tbody>
</table>

Here in the text, Tables 1 through 6 then provide the number of students enrolled in each discipline each semester and the percent of total enrollment for each discipline. Next, a count of the number of searches done that semester in FS databases relating to each discipline is provided. These counts are taken from the respective semester database usage counts shown in Appendix B, Tables 5 through 10. Finally, the percentage of the total searches done during the semester is given for each discipline.

Tables 1 through 6 provide an opportunity to view and compare variations in levels of enrollment and levels of index utilization from discipline to discipline and from semester to semester. Note that the percentages in the two percent columns do not add up to 100%, since both the disciplines and the corresponding database searches are selected rather than comprehensive. Amounts too small to calculate at the level used in the tables were indicated with the -- symbol.

As one moves from table to table, viewing tables 1 through 6, one notes some disciplines seem to follow a repeated pattern from year to year in their percentages of enrollment and index utilization. Agriculture/Life Sciences, for example was consistent within one or two percentage points from semester to semester. The first two years, before the new agriculture degree program was fully underway, the percentages were 1 and 4 and 2 and 3. Afterwards the percentage enrolled stayed at 2, but the percentage level of index searching rose to 8 then 10, then 9, and finally 10.
Table 3  
Washington State University at Tri-Cities  
Fall Semester 1994 Subject Disciplines and Corresponding Database Searches

<table>
<thead>
<tr>
<th>Discipline</th>
<th>Number Enrolled</th>
<th>Percent of Total Enrolled</th>
<th>Total Discipline Searches for Semester</th>
<th>Percent of Total Searches for Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture/Life Sciences</td>
<td>31</td>
<td>2%</td>
<td>6.6143491e+27</td>
<td>8%</td>
</tr>
<tr>
<td>Business</td>
<td>200</td>
<td>16%</td>
<td></td>
<td>5%</td>
</tr>
<tr>
<td>Education</td>
<td>124</td>
<td>10%</td>
<td></td>
<td>11%</td>
</tr>
<tr>
<td>Engineering</td>
<td>256</td>
<td>20%</td>
<td></td>
<td>4%</td>
</tr>
<tr>
<td>Environmental Science</td>
<td>59</td>
<td>5%</td>
<td></td>
<td>4%</td>
</tr>
<tr>
<td>English</td>
<td>2</td>
<td>--</td>
<td></td>
<td>1%</td>
</tr>
<tr>
<td>General Hum</td>
<td>177</td>
<td>5%</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Gen Soc Sci</td>
<td>173</td>
<td>15%</td>
<td></td>
<td>1%</td>
</tr>
<tr>
<td>Nursing</td>
<td>11</td>
<td>1%</td>
<td></td>
<td>6%</td>
</tr>
<tr>
<td>Physical Sciences</td>
<td>27</td>
<td>2%</td>
<td></td>
<td>5%</td>
</tr>
</tbody>
</table>

Similar consistencies can be viewed from discipline to discipline from year to year with only two to three percentage points variation in the percentages in each category from year to year. As one views the tables across from semester to semester for each discipline, one also becomes aware that each discipline has its characteristic, consistent level of exceeding or falling below in its percentage of index usage compared to its percentage of enrollment. One exception in the pattern of stability appears to be in the field of education. However, there were alternative access points to ERIC other than FS, which seem to have drawn away users in an irregular pattern.

Limitations of the Analysis

The data in these tables and their indications may be regarded as pointers rather than hard measures of levels of index utilization from discipline to discipline. For example, course enrollment figures would provide a more accurate count of the numbers of students available for index searching in any given semester than do the counts of majors. However, a complete set of course enrollment figures for these semesters was not readily available when the study was undertaken. In addition, the availability of the non-discipline specific indexes or proprietary indexes on FS tends to mask some discipline-specific index utilization.
Table 4
Washington State University at Tri-Cities
Spring Semester 1995 Subject Disciplines and Corresponding Database Searches

<table>
<thead>
<tr>
<th>Discipline</th>
<th>Number Enrolled</th>
<th>Percent of Total Enrolled</th>
<th>Total Discipline Searches for Semester</th>
<th>Percent of Total Searches for Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture/Life Sciences</td>
<td>2.4e+22</td>
<td>2%</td>
<td>8.8852011e+29</td>
<td>10%</td>
</tr>
<tr>
<td>Business</td>
<td></td>
<td>16%</td>
<td></td>
<td>6%</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td>12%</td>
<td></td>
<td>13%</td>
</tr>
<tr>
<td>Engineering</td>
<td></td>
<td>20%</td>
<td></td>
<td>2%</td>
</tr>
<tr>
<td>Environmental Science</td>
<td></td>
<td>6%</td>
<td></td>
<td>6%</td>
</tr>
<tr>
<td>English</td>
<td></td>
<td>--</td>
<td></td>
<td>2%</td>
</tr>
<tr>
<td>General Hum</td>
<td></td>
<td>4%</td>
<td></td>
<td>1%</td>
</tr>
<tr>
<td>Gen Soc Sci</td>
<td></td>
<td>14%</td>
<td></td>
<td>1%</td>
</tr>
<tr>
<td>Nursing</td>
<td></td>
<td>1%</td>
<td></td>
<td>6%</td>
</tr>
<tr>
<td>Physical Sciences</td>
<td></td>
<td>3%</td>
<td></td>
<td>8%</td>
</tr>
</tbody>
</table>

Another great weakness in the methodology used to prepare these tables is that the relationship between the subject major and the subject indexes searched is assumed. There is no definite verification that use of the Humanities Index, for example, was predominately the work of our students with declared General Humanities majors. Likewise, the consistently extremely low level of index usage by General Social Sciences majors seems questionable of such research-oriented fields. There is cause to believe that these students have discovered the comprehensive coverage of ArticleFirst, the FS proprietary database covering over 12,500 journals.

There were difficulties in assigning indexes to other fields as well. For example, the linking of nursing and Medline was arbitrary, bearing in mind that there are others frequently accessing the national medical database. CINAHL, the Cumulative Index to Nursing and Allied Health Literature was not added to FS in time for it to function as the index of choice for the nursing program during the time frame of this study.
Table 5
Washington State University at Tri-Cities
Fall Semester 1995 Subject Disciplines and Corresponding Database Searches

<table>
<thead>
<tr>
<th>Discipline</th>
<th>Number Enrolled</th>
<th>Percent of Total Enrolled</th>
<th>Total Discipline Searches for Semester</th>
<th>Percent of Total Searches for Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture/Life Sciences</td>
<td>2.7e+22</td>
<td>2%</td>
<td>8.5976715e+30</td>
<td>9%</td>
</tr>
<tr>
<td>Business</td>
<td></td>
<td>13%</td>
<td></td>
<td>7%</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td>12%</td>
<td></td>
<td>14%</td>
</tr>
<tr>
<td>Engineering</td>
<td></td>
<td>20%</td>
<td></td>
<td>3%</td>
</tr>
<tr>
<td>Environmental Science</td>
<td></td>
<td>5%</td>
<td></td>
<td>9%</td>
</tr>
<tr>
<td>English</td>
<td></td>
<td>--</td>
<td></td>
<td>2%</td>
</tr>
<tr>
<td>General Hum</td>
<td></td>
<td>5%</td>
<td></td>
<td>3%</td>
</tr>
<tr>
<td>Gen Soc Sci</td>
<td></td>
<td>14%</td>
<td></td>
<td>5%</td>
</tr>
<tr>
<td>Nursing</td>
<td></td>
<td>2%</td>
<td></td>
<td>6%</td>
</tr>
<tr>
<td>Physical Sciences</td>
<td></td>
<td>2%</td>
<td></td>
<td>7%</td>
</tr>
</tbody>
</table>

A similar problem existed for agriculture and the life sciences and their target indexes. The disciplines were grouped together, because they share indexing services across the board. Taken together the fields revealed a relatively high level of index utilization.

In spite of these problems in arriving at meaningful matches for disciplines and indexing databases, the consistency of the emerging data leads one to assume that these necessarily arbitrary decisions were usually on target. In spite of the data limitations, the patterns of index utilization from discipline to discipline, which appear in Tables 1 through 6, provide ample motivation for further study. Ideally, one would want an opportunity to set up a pilot survey using a data-gathering logon screen which would take each user’s major and the course for which the index searching was being conducted and record the databases searched, thus providing definite linkage between the major, the course, and the index being used.
Table 6  
Washington State University at Tri-Cities  
Spring Semester 1996 Subject Disciplines and Corresponding Database Searches

<table>
<thead>
<tr>
<th>Discipline</th>
<th>Number Enrolled</th>
<th>Percent of Total Enrolled</th>
<th>Total Discipline Searches for Semester</th>
<th>Percent of Total Searches for Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture/</td>
<td>2.6e+22</td>
<td>2%</td>
<td>8.2145473e+29</td>
<td>10%</td>
</tr>
<tr>
<td>Life Sciences</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business</td>
<td></td>
<td>14%</td>
<td></td>
<td>6%</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td>12%</td>
<td></td>
<td>9%</td>
</tr>
<tr>
<td>Engineering</td>
<td></td>
<td>19%</td>
<td></td>
<td>6%</td>
</tr>
<tr>
<td>Environmental</td>
<td></td>
<td>5%</td>
<td></td>
<td>8%</td>
</tr>
<tr>
<td>Science</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>English</td>
<td></td>
<td>--</td>
<td></td>
<td>1%</td>
</tr>
<tr>
<td>General Hum</td>
<td></td>
<td>4%</td>
<td></td>
<td>2%</td>
</tr>
<tr>
<td>Gen Soc Sci</td>
<td></td>
<td>15%</td>
<td></td>
<td>3%</td>
</tr>
<tr>
<td>Nursing</td>
<td></td>
<td>1%</td>
<td></td>
<td>7%</td>
</tr>
<tr>
<td>Physical Sciences</td>
<td></td>
<td>3%</td>
<td></td>
<td>9%</td>
</tr>
</tbody>
</table>

Conclusions

Finally, Table 7 summarizes the differences in percentage points for each discipline between the percentage enrolled and the percentage of index utilization. Only once, in education, is there a variation of more than four percentage points from one column to another for each discipline. The availability of other indexing options for education has earlier been noted as a possible explanation for its lack of conformity to the pattern shown by all other disciplines in the table. One can see clearly arrayed here that, in this instance, disciplines tended to be either consistently negative or consistently positive in their level of index utilization. Further, the number of points of variation tended to remain constant over time within four percentage points.
Table 7
Washington State University at Tri-Cities
Percentage Points of Variation Between Percent Enrolled and Percent of Searches for
the Designated Disciplines and Semesters

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture/Life sciences</td>
<td>-18</td>
<td>-198</td>
<td>-34</td>
<td>+8</td>
<td>-18</td>
<td>-14</td>
</tr>
<tr>
<td>Business</td>
<td></td>
<td></td>
<td></td>
<td>-10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
<td>+1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Engineering</td>
<td></td>
<td></td>
<td></td>
<td>-18</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental Science</td>
<td></td>
<td></td>
<td></td>
<td>Even</td>
<td></td>
<td></td>
</tr>
<tr>
<td>English</td>
<td></td>
<td></td>
<td></td>
<td>+2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Hum</td>
<td></td>
<td></td>
<td></td>
<td>-3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gen Soc Sci</td>
<td></td>
<td></td>
<td></td>
<td>-13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nursing</td>
<td></td>
<td></td>
<td></td>
<td>+5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical Sciences</td>
<td></td>
<td></td>
<td></td>
<td>+5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Additional work on index utilization studies will benefit from the provision of parallel tabulation of statistics on document delivery requests by discipline and/or course enrollment. Circulation statistics by subject discipline and journal use counts should also provide valuable parallel data. Nancy Burich's work providing such parallel figures illustrates the value of these additional measures of discipline-related activity.

Washington State University at Spokane
Kathleen A. Schwanz

Introduction

The Cooperative Academic Library Services (CALS) library unit serves the following functions: (1) it is the branch campus library for Washington State University at Spokane (WSUS), (2) it is the Spokane center library for Eastern Washington University (EWU) and (3) it is a joint-use facility of both universities. The parent institutions are located in Pullman, Washington and Cheney, Washington, respectively. Pullman is seventy-five miles southeast of Spokane and Cheney is sixteen miles southwest of downtown Spokane.
CALS has served a joint-use purpose for nearly five years. The WSUS student body is composed primarily of graduate and professional certificate students. EWU's departmental programming in Spokane consists of several undergraduate courses, as well as Masters programs that are available only in Spokane. The universities have one "shared" program - - Speech and Hearing Sciences (SHS).

WSU is a land grant university; EWU a regional university. WSU's main campus population is greater than 18,500; EWU's is around 8,000. WSU functions on a semester schedule; EWU a quarterly calendar. WSU's athletic affiliation is the PAC 10; EWU's is NCAA, Division 1. The picture that begins to emerge is how different these institutions are from one another. Their common ground - - literally - - is Spokane. Both desire to be securely established, educationally and financially, here.

Changing our focus from a macro to a micro level, another commonality in Spokane exists within the library itself. For all the differences in missions, programming and dollars, CALS students, regardless of institutional affiliation, have made one FirstSearch database the most heavily used. For the four years that CALS has had access to OCLC's FirstSearch databases, Medline finishes first at the end of each fiscal year.

WSUS supports academic programming in the following health science areas: Food Science and Health Nutrition, Health Policy Administration, Pharmacy and Speech and Hearing Science. It also supports research activities in the areas of: Health Research and Education, and Mental Health. EWU's health-based programming in Spokane consists of: Dental Hygiene, Physical Therapy, Health Services Administration, and Speech and Hearing Science. It is then, no surprise that a database such as Medline would easily surpass the others in terms of usage.

FirstSearch at CALS

CALS is in an unusual situation with respect to its FirstSearch subscription. The branch campus librarian is not the administrator for the Base Package (BP) subscription; the Collection Development Librarian for EWU is. The subscription was devised in such a way that although CALS has its own authorization number and password, it is an EWU FirstSearch subscription, thus, all statistical data extracted by OCLC is reported to that individual. The branch campus librarian relies upon the CD librarian for monthly, quarterly and fiscal year statistical data.

In July 1993, EWU, along with the five other state universities of Washington began to subscribe to OCLC's new FirstSearch (PS) product as a consortium. CALS had achieved six months of joint-use status and would participate in the consortium under EWU's auspices. From July 1993 through December 1994, CALS patrons would have access to some 40+ databases. Of these, six would be Base Package (BP) databases:

- WorldCat
- Article First
- Contents First
- Medline
- ERIC
- GPO

The remaining thirty plus were a mix of BP and Per Search (PS) databases. Several databases had both the BP and PS status, others had the PS status only. Most of the Per Search databases tended to be highly specialized or supported main campus programming and were not heavily used by CALS patrons.
Based on the statistical data furnished by OCLC on usage of all FS databases by EWU’s main campus library (JFK) and CALS, it was decided that the number of BP databases would be increased from six to twenty plus (the most heavily used) and that access to minimally used or specialized databases would be limited to EWU faculty members only. This decision was made in an effort to be cost efficient, but mindful of patron information needs as well.

In January 1995, CALS patrons continued to have access to the six "starter" BP databases and to several other social science, general, science and humanities databases. The WSUS Campus Librarian initiated a separate CALS FS account in order to ensure that WSUS faculty and students would have access to those databases that were not in the Base Package. For these patrons, this meant that access to PsychFirst and MDX Digest would remain. They were the only two PS databases that were heavily used by CALS patrons.

For the past three years, the BP databases that CALS accesses have been fairly stable, although a few have come and gone. Some PS databases such as Books in Print have migrated to BP status which is a welcome addition, particularly to library staff. Others, such as PsychFirst, would be desirable in the BP mode, but are available through other means.

Medline is the database most in demand for use at CALS regardless of how one accesses it whether it be via OCLC FS (telnet and/or Web), UWIN (University of Washington’s Navigator for Medline), NLM’s homepage and other health-related websites. What continues to draw users to FS is its ease of use, standardized searching protocols from one database to another and an all-in-one system for searching, ordering, and in some instances, retrieving documents.

| TABLE 1 | Top Five FirstSearch Databases at CALS |
|-----------------|---------------------|---------------------|---------------------|---------------------|
| DATABASES       | FY93/94  | FY94/95  | FY95/96  | FY96/97  |
| MEDLINE         | 4926     | 6860     | 8464     | 9021     |
| ARTICLE FIRST   | 2478     | 3056     | 4805     | 3564     |
| WORLDCAT        | 1933     | 2987     | 2405     | 2544     |
| ERIC            | 1456     | 1683     | 1156     | 976      |
| PSYCHFIRST      | 1173     |          |          |          |
| SOCIAL SCIENCE INDEX |          | 331     |          |          |
| SOCIOLOGICAL ABSTRACTS |          |          | 604     | 888      |
| TOTAL SEARCHES  | 17634    | 17311    | 19706    | 19563    |
| PERCENTAGE OF CHANGE | FY93/94  | FY94/95  | FY95/96  | FY96/97  |
| MEDLINE         | 39%      | 23%      | 7%       |          |
| ARTICLE FIRST   | 23%      | 57%      | -26%     |          |
| WORLDCAT        | 55%      | -19%     | 6%       |          |
| ERIC            | 16%      | -31%     | -16%     |          |

As shown in Table 1, from FY93/94 through FY96/97, Medline continued in its number one position as the most used database at CALS. It is, of course, a reflection of much of the academic and research programming that is associated with WSU Spokane and to a lesser extent with EWU. For nearly five
years, CALS also served as the library for the Spokane County Medical Society membership, which entailed among other things, providing mediated searches to members, and that, of course, meant Medline. UWIN was often used for its retrospective indexing, but as it is now available via FS, UWIN is rarely used by anyone except hardcore devotees.

The database coming in at the number two spot year after year, as seen in Table 1, is ArticleFirst, which is often used by searchers who are new to FS, or patrons who do not realize that they should be using a more specialized database, or users who want a overall representation of information on their subject. We have found that graduate students are not the only ones who use ArticleFirst when they should be in Medline or ERIC or SocAbstracts, but some faculty members do the same! As soon as it becomes evident that ArticleFirst doesn’t have abstracts, patrons often begin migrating over to the specialized databases rather quickly.

Taking third place is WorldCat. Not only is it heavily used by patrons for research and request purposes, but by the library staff for citation verification and Interlibrary Loan Services. This past fiscal year, there was considerable debate as to whether WorldCat and Article1st should be retained since it was felt by some librarians that these were too generic and that university students should be using more sophisticated databases. After discussion and feedback from a number of quarters, both databases have been retained.

At number four and holding steady is ERIC. This versatile educational database is not only used by Education majors, but by students in Speech & Hearing Sciences, other allied health fields and social science majors in Social Work and Psychology. ERIC’s breadth and coverage make it an all-around favorite.

Unlike the number one through four slots that appear almost to be fixed fields, in Table 1, number five has been a variable place marker these past few years. Year 1, Psych1st held the number five spot, the following year, it was the Social Science Index and from Year 3 on, it has been the province of Sociological Abstracts. Had Psych1st not been dispatched to Per Search status, it is likely that it would run neck & neck with Sociological Abstracts for fifth place. As it is, in its Per Search category, Psych1st is the number 1 database.

Tables 2 through 5 explore the relationship between selected degree programs and their levels of index usage. The tables show that from year to year some disciplines are consistently negative while others are consistently positive in their rates of index usage. Tables 2 through 4 provide the percentage of enrollment for each discipline and the percentage of searches for each. Table 5 provides the number of percentage points either above or below their percentage of index usage was in reaction to the percent of enrollment. Table 5 shows that these disciplines follow a pattern of consistency from year to year in the degree to which the disciplines are either above or below their enrollment levels in their index usage levels.

### Table 2
FY 1993/94 Subject Disciplines and Corresponding Database Searches

<table>
<thead>
<tr>
<th>Discipline</th>
<th>Number enrolled FY 93/94</th>
<th>%Total Enrolled</th>
<th>T/Discipline Searches for FY93/94</th>
<th>%Total Searches for FY 93/94</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design</td>
<td>118</td>
<td>22%</td>
<td>205</td>
<td>2%</td>
</tr>
<tr>
<td>Engineering</td>
<td>69</td>
<td>13%</td>
<td>370</td>
<td>5%</td>
</tr>
<tr>
<td>Education</td>
<td>44</td>
<td>8%</td>
<td>1456</td>
<td>19%</td>
</tr>
<tr>
<td>Health Sciences</td>
<td>274</td>
<td>52%</td>
<td>4926</td>
<td>63%</td>
</tr>
<tr>
<td>Social Sciences</td>
<td>26</td>
<td>5%</td>
<td>879</td>
<td>11%</td>
</tr>
</tbody>
</table>
### Table 3

**FY 1994/95 Subject Disciplines & Corresponding Database Searches**

<table>
<thead>
<tr>
<th>Discipline</th>
<th>Number enrolled FY94/95</th>
<th>% Total Enrolled</th>
<th>T/Discipline Searches for FY94/95</th>
<th>% Total Searches for FY 94/95</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design</td>
<td>83</td>
<td>15%</td>
<td>485</td>
<td>4%</td>
</tr>
<tr>
<td>Engineering</td>
<td>83</td>
<td>15%</td>
<td>355</td>
<td>3%</td>
</tr>
<tr>
<td>Education</td>
<td>41</td>
<td>8%</td>
<td>1806</td>
<td>16%</td>
</tr>
<tr>
<td>Health Sciences</td>
<td>303</td>
<td>56%</td>
<td>6860</td>
<td>61%</td>
</tr>
<tr>
<td>Social Sciences</td>
<td>32</td>
<td>6%</td>
<td>1744</td>
<td>16%</td>
</tr>
</tbody>
</table>

### Table 4

**FY 1995/96 Subject Disciplines & Corresponding Database Searches**

<table>
<thead>
<tr>
<th>Discipline</th>
<th>Number enrolled FY95/96</th>
<th>% Total Enrolled</th>
<th>T/Discipline Searches for FY 95/96</th>
<th>% Total Searches for FY 95/96</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design</td>
<td>134</td>
<td>22%</td>
<td>162</td>
<td>2%</td>
</tr>
<tr>
<td>Engineering</td>
<td>58</td>
<td>10%</td>
<td>362</td>
<td>3%</td>
</tr>
<tr>
<td>Education</td>
<td>39</td>
<td>6%</td>
<td>1275</td>
<td>11%</td>
</tr>
<tr>
<td>Health Sciences</td>
<td>340</td>
<td>57%</td>
<td>8464</td>
<td>74%</td>
</tr>
<tr>
<td>Social Sciences</td>
<td>30</td>
<td>5%</td>
<td>1189</td>
<td>10%</td>
</tr>
</tbody>
</table>

### Table 5

**Washington State University at Spokane**  
Percentage Points of Variation Between Percent Enrolled and Percent of Searches for Designated Disciplines and Semesters

<table>
<thead>
<tr>
<th>Discipline</th>
<th>Academic Year 1993-94</th>
<th>Academic Year 1994-95</th>
<th>Academic Year 1995-96</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design</td>
<td>-20</td>
<td>-11</td>
<td>-20</td>
</tr>
<tr>
<td>Engineering</td>
<td>-8</td>
<td>-12</td>
<td>-7</td>
</tr>
<tr>
<td>Education</td>
<td>+11</td>
<td>+8</td>
<td>+5</td>
</tr>
<tr>
<td>Health Sciences</td>
<td>+11</td>
<td>+5</td>
<td>+17</td>
</tr>
<tr>
<td>Social Sciences</td>
<td>+16</td>
<td>+10</td>
<td>+5</td>
</tr>
</tbody>
</table>

For CALS, subscribing to FS databases is what makes it possible for this branch campus/extended program/joint-use library to exist and flourish. In fact, it is on the basis of electronic access/resources that CALS was conceived! Without this type of bibliographic access, our students and faculty would not have the same level of services and/or resources available to them as their main campus counterparts. FS is an equalizer—with it we’re able to ensure an optimal level of access and service to our students so that they can successfully negotiate the academic route to obtaining their degrees.
We have observed our students and faculty won over by FS in the library setting and now eagerly embracing it from remote locations. In the past year, we have noted a decrease in the number of patrons coming into the library to use FS and a rapid increase in the number of faculty and students who connect to FS services via home and/or office. CALS “face-to-face” contact with students is maintained primarily by Interlibrary Loan and document delivery services. We often see our students only when they come in to pick up their materials.

If there has been a shortcoming to FS, it has been with the number of databases that provide only very recent coverage. For large main campus libraries, this is usually not an issue, but for a small branch campus library it has been frustrating to attempt to verify and/or locate for patrons materials that are deemed too old to be covered in the present version of FS. Perhaps, OCLC will follow its recent action of adding backfiles to Medline to some of the other databases, such as PapersFirst and ProceedingsFirst.

“Tasting” electronic access to periodical indices has whetted the appetites of our users for access to full-text journal articles, which we will be introducing to faculty shortly and then to our students.

If technology and high speed lines can just keep up with all of the bibliographic innovations created by vendors, libraries and patrons will see their information needs met and frustration levels lowered.

**Final Conclusions**

For all three branch campus libraries, their use of FS has grown steadily, even dramatically, since its introduction in 1992. FS is a popular and effective indexing tool, which library users can quickly and easily learn to search on their own. High user expectations are a rapid byproduct of initial experience with FS. Likewise, the option of ordering full text is popular where it has been introduced as a document delivery option. There appeared to be a relationship between the time spent online and the frequency of use of some databases. More significantly, FS has brought to branch campuses access to indexing services that would not otherwise have been possible. As Kathy Schwanz put it, FS has made it possible for her branch campus library “to exist and flourish.”

It is interesting to note that, apparently due to variations in methodology, there was shown to be no relationship between enrollment in a program and use of subject-related databases at one site, KU Regents Center, while a very strong relationship seemed to emerge at the other two, WSUS and WSU Tri-Cities, where the same methodology was used, but one different from that used by the Regents Center. However, in commenting on that methodology, Nancy Burich noted three sets of percentages that seemed to follow the patterns evident in the WSU findings. A follow-up study coordinating our methodology is definitely in order.

That additional studies of index utilization in academic libraries should prove beneficial is definitely indicated by these initial undertakings on branch campuses. As with our knowledge of index utilization, so has our knowledge of discipline-specific expectations of library users been based upon impressions and anecdotal experience. Verification of discipline-specific behaviors among library patrons has implications for future service planning and collection development. Methodologies that seek definite indicators of discipline-related patterns of index usage and other patron activities should provide results valuable for planning purposes and for developing more accurate user expectations from discipline to discipline.
APPENDIX A

TABLE 1. KU Regents Center Enrollment Data

<table>
<thead>
<tr>
<th>Student Credit Hour Production</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993</td>
</tr>
<tr>
<td>1994</td>
</tr>
<tr>
<td>1995</td>
</tr>
<tr>
<td>1996</td>
</tr>
<tr>
<td>4 Year Growth</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Degree Programs Added</th>
</tr>
</thead>
<tbody>
<tr>
<td>6/94</td>
</tr>
<tr>
<td>1/95</td>
</tr>
<tr>
<td>8/95</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Program Enrollment Change from 1993 through 1996</th>
</tr>
</thead>
<tbody>
<tr>
<td>Architecture</td>
</tr>
<tr>
<td>Business</td>
</tr>
<tr>
<td>Education</td>
</tr>
<tr>
<td>Engineering</td>
</tr>
<tr>
<td>HSA</td>
</tr>
<tr>
<td>Journalism</td>
</tr>
<tr>
<td>Social Welfare</td>
</tr>
<tr>
<td>LAS</td>
</tr>
</tbody>
</table>

Note. Abbreviations include: SCH (Student Credit Hours), HSA (Health Services Administration), LAS (Liberal Arts & Sciences)
### TABLE 2. Regents Center Library Use Statistics

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Circulation</th>
<th>Gate Count</th>
<th>Patron Requests</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY 1993</td>
<td>15544 (1%)</td>
<td>74855 (49%)</td>
<td>3262 (-5.3%)</td>
</tr>
<tr>
<td>FY 1994</td>
<td>14482 (-6.8%)</td>
<td>106370 (42%)</td>
<td>3730 (14.3%)</td>
</tr>
<tr>
<td>FY 1995</td>
<td>17506 (21%)</td>
<td>122131 (14.8%)</td>
<td>6496 (74.2%)</td>
</tr>
<tr>
<td>FY 1996</td>
<td>20057 (14.6%)</td>
<td>135532 (11%)</td>
<td>7425 (14.3%)</td>
</tr>
<tr>
<td>4 Year Growth</td>
<td>29%</td>
<td>81%</td>
<td>128%</td>
</tr>
</tbody>
</table>

#### Requests for Materials by Program

<table>
<thead>
<tr>
<th>Program</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Architecture</td>
<td>1%</td>
</tr>
<tr>
<td>Business/Management</td>
<td>8%</td>
</tr>
<tr>
<td>Communication Studies</td>
<td>3%</td>
</tr>
<tr>
<td>Education</td>
<td>60%</td>
</tr>
<tr>
<td>Engineering</td>
<td>4%</td>
</tr>
<tr>
<td>Social Welfare</td>
<td>16%</td>
</tr>
<tr>
<td>Staff</td>
<td>2%</td>
</tr>
<tr>
<td>Other</td>
<td>6%</td>
</tr>
</tbody>
</table>

**Note.** Figures enclosed in parentheses indicate percentage of change from one year to the next; all figures are positive unless otherwise indicated.

### TABLE 3. Five Most Popular Databases Searched in FirstSearch 1993-1996

#### 1993 Searches Charged

<table>
<thead>
<tr>
<th>Database</th>
<th>Searches Charged</th>
</tr>
</thead>
<tbody>
<tr>
<td>ERIC</td>
<td>13143</td>
</tr>
<tr>
<td>ArticleFirst</td>
<td>3409</td>
</tr>
<tr>
<td>WorldCat</td>
<td>1669</td>
</tr>
<tr>
<td>PsycFirst</td>
<td>1648</td>
</tr>
<tr>
<td>Business Abstracts</td>
<td>762</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>20,631</strong></td>
</tr>
</tbody>
</table>

77% of all searches (26,916)

#### 1994 Searches Charged

<table>
<thead>
<tr>
<th>Database</th>
<th>Searches Charged</th>
</tr>
</thead>
<tbody>
<tr>
<td>ArticleFirst</td>
<td>2821</td>
</tr>
<tr>
<td>WorldCat</td>
<td>1615</td>
</tr>
<tr>
<td>ERIC</td>
<td>983</td>
</tr>
<tr>
<td>Education Index</td>
<td>893</td>
</tr>
<tr>
<td>Medline</td>
<td>850</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>7,199</strong></td>
</tr>
</tbody>
</table>

55% of all searches (13,199)
### 1995 Searches Charged

<table>
<thead>
<tr>
<th>Database</th>
<th>1995 Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>ArticleFirst</td>
<td>1877</td>
</tr>
<tr>
<td>Medline</td>
<td>1225</td>
</tr>
<tr>
<td>WorldCat</td>
<td>850</td>
</tr>
<tr>
<td>Education Index</td>
<td>555</td>
</tr>
<tr>
<td>Periodical Abstracts</td>
<td>543</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>5,050</strong></td>
</tr>
</tbody>
</table>

54% of all searches (11,188)

### 1996 Searches Charged

<table>
<thead>
<tr>
<th>Database</th>
<th>1996 Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>FastDoc</td>
<td>2051</td>
</tr>
<tr>
<td>ArticleFirst</td>
<td>2008</td>
</tr>
<tr>
<td>WorldCat</td>
<td>1484</td>
</tr>
<tr>
<td>Ebsco</td>
<td>1470</td>
</tr>
<tr>
<td>Medline</td>
<td>969</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>7,982</strong></td>
</tr>
</tbody>
</table>

64% of all searches (12,395)

### TABLE 4. Use of OCLC Proprietary Databases

<table>
<thead>
<tr>
<th>Database Name</th>
<th>1993 Rank</th>
<th>1994 Rank</th>
<th>1995 Rank</th>
<th>1996 Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>ArticleFirst</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>ContentsFirst</td>
<td>12</td>
<td>8</td>
<td>14</td>
<td>18</td>
</tr>
<tr>
<td>FastDoc</td>
<td>--</td>
<td>--</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>NetFirst</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>16</td>
</tr>
<tr>
<td>PapersFirst</td>
<td>--</td>
<td>--</td>
<td>33</td>
<td>27</td>
</tr>
<tr>
<td>ProceedingsFirst</td>
<td>--</td>
<td>--</td>
<td>44</td>
<td>37</td>
</tr>
<tr>
<td>WorldCat</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

In 1993 ArticleFirst ranked second and WorldCat third among the most heavily used databases. All proprietary databases used 5078 searches or 18% of all searches used that year.

In 1994 ArticleFirst ranked first and WorldCat was second among the most heavily used databases. All proprietary databases used 4473 searches or 34% of all searches used that year.

In 1995 ArticleFirst once again ranked first and WorldCat was third among the most heavily used databases. All proprietary databases used 2727 searches or 29% of all searches used that year.

In 1996 ArticleFirst ranked second, FastDoc was first, and WorldCat was third among the most heavily used databases. All proprietary databases used 5543 searches or 45% of all searches used that year.
<table>
<thead>
<tr>
<th>Top 5 Databases</th>
<th>Searches</th>
<th>Time Online</th>
<th>Time/Search Ratio</th>
<th>Ratio Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ERIC</td>
<td>13143</td>
<td>1922.46</td>
<td>0.1462750</td>
<td>11</td>
</tr>
<tr>
<td>ArticleFirst</td>
<td>3409</td>
<td>359.68</td>
<td>0.1055089</td>
<td>22</td>
</tr>
<tr>
<td>WorldCat</td>
<td>1669</td>
<td>911.03</td>
<td>0.5458538</td>
<td>1</td>
</tr>
<tr>
<td>PsycFirst</td>
<td>1648</td>
<td>235.00</td>
<td>0.1425970</td>
<td>12</td>
</tr>
<tr>
<td>Business Abstracts</td>
<td>762</td>
<td>112.61</td>
<td>0.1477821</td>
<td>10</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>20631</td>
<td>3540.78</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Year Total</strong></td>
<td>26916</td>
<td>4241.41</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1994</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ArticleFirst</td>
<td>2821</td>
<td>294.94</td>
<td>0.1045515</td>
<td>18</td>
</tr>
<tr>
<td>WorldCat</td>
<td>1652</td>
<td>430.45</td>
<td>0.2605629</td>
<td>1</td>
</tr>
<tr>
<td>ERIC</td>
<td>983</td>
<td>126.72</td>
<td>0.1289114</td>
<td>13</td>
</tr>
<tr>
<td>Education Index</td>
<td>893</td>
<td>104.80</td>
<td>0.1173572</td>
<td>17</td>
</tr>
<tr>
<td>Medline</td>
<td>850</td>
<td>107.42</td>
<td>0.1263764</td>
<td>14</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>7199</td>
<td>1064.33</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Year Total</strong></td>
<td>13199</td>
<td>1644.66</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1995</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ArticleFirst</td>
<td>1877</td>
<td>190.08</td>
<td>0.1012680</td>
<td>16</td>
</tr>
<tr>
<td>Medline</td>
<td>1225</td>
<td>145.16</td>
<td>0.1184796</td>
<td>11</td>
</tr>
<tr>
<td>WorldCat</td>
<td>850</td>
<td>307.49</td>
<td>0.3617529</td>
<td>2</td>
</tr>
<tr>
<td>Education Index</td>
<td>555</td>
<td>50.96</td>
<td>0.0918198</td>
<td>20</td>
</tr>
<tr>
<td>Periodical Abstracts</td>
<td>543</td>
<td>68.67</td>
<td>0.1264641</td>
<td>8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>5050</td>
<td>762.36</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Year Total</strong></td>
<td>9443</td>
<td>1111.70</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1996</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FastDoc</td>
<td>2051</td>
<td>216.05</td>
<td>0.1053389</td>
<td>29</td>
</tr>
<tr>
<td>ArticleFirst</td>
<td>2008</td>
<td>254.92</td>
<td>0.1269522</td>
<td>18</td>
</tr>
<tr>
<td>WorldCat</td>
<td>1484</td>
<td>549.19</td>
<td>0.3700741</td>
<td>4</td>
</tr>
<tr>
<td>Ebsco</td>
<td>1470</td>
<td>208.36</td>
<td>0.1417415</td>
<td>14</td>
</tr>
<tr>
<td>Medline</td>
<td>969</td>
<td>131.20</td>
<td>0.1353973</td>
<td>16</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>7982</td>
<td>1359.72</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Year Total</strong></td>
<td>12395</td>
<td>1881.95</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note.** Databases in the Top 5 are based on the number of Searches used by that database during that year. Time Online is given in hours. The Time/Search Ratio indicates the length of time spent online for each search. The Year Total includes all searching in all databases. The Ratio Rank places an individual ratio among those of all databases.
| TABLE 5 (continued) |
|---------------------------------|----------------|---------------------------------|----------------|
| **Ten Slowest Databases**       | **Usage Rank** | **Ten Fastest Databases**       | **Usage Rank** |
| 1993                            |                |                                 |                |
| WorldCat                        | 3              | Biological & Agricultural Index  | 39             |
| Biography Index                 | 38             | Inspec                          | 41             |
| Biology Digest                  | 33             | Art Index                       | 29             |
| Encyclopedia                    | 37             | WorldScope                      | 40             |
| FactSearch                      | 20             | PAIS                            | 16             |
| MLA                             | 23             | Humanities Abstracts            | 27             |
| Engineering Index               | 22             | Disclosure                      | 19             |
| Arts & Humanities               | 32             | Consumer Index                  | 28             |
| Sociological Abstracts          | 6              | EventLine                       | 26             |
| Business Abstracts              | 5              | Agricola                        | 30             |
| **Average Rank**                | **21.9**       | **Average Rank**                | **29.5**       |

| 1994                            |                |                                 |                |
| WorldCat                        | 2              | ESPM                            | 43             |
| Biography Index                 | 37             | Biosis                          | 33             |
| Humanities Abstracts            | 31             | ArtIndex                        | 36             |
| Geobase                         | 45             | ASTI                            | 16             |
| Sociological Abstracts          | 11             | Business News                   | 25             |
| Business Organizations          | 22             | Agricola                        | 38             |
| Microcomputer Abstracts         | 27             | Readers Guide                   | 17             |
| PAIS                            | 35             | Biology Digest                  | 42             |
| MDX Health Digest               | 30             | Business Dateline               | 39             |
| Newspaper Abstracts             | 10             | Arts & Humanities               | 32             |
| **Average Rank**                | **25.0**       | **Average Rank**                | **32.1**       |

| 1995                            |                |                                 |                |
| ABI Inform                      | 53             | General Science Index           | 47             |
| WorldCat                        | 3              | Humanities                      | 50             |
| Books In Print                  | 39             | Ebsco                           | 10             |
| FactSearch                      | 33             | PapersFirst                     | 34             |
| Inspec                          | 41             | Consumer Index                  | 28             |
| PsycFirst                       | 8              | EventLine                       | 49             |
| Wilson Business Abstracts       | 27             | Arts & Humanities               | 31             |
| Periodical Abstracts            | 5              | USA TelSel                      | 25             |
| Readers Guide Abstracts         | 29             | Legal Periodicals Index         | 32             |
| Business Dateline               | 18             | ProceedingsFirst                | 46             |
| **Average Rank**                | **25.6**       | **Average Rank**                | **35.2**       |
Note. Speed (fast or slow) is based on the average time spent online per search. Usage Rank places each database within the context of the total number of searches used by each database during that year. The Average Rank is the mathematical average of the ten ranks listed above that number.

TABLE 5 (continued)

<table>
<thead>
<tr>
<th>Ten Slowest Databases</th>
<th>Usage Rank</th>
<th>Ten Fastest Databases</th>
<th>Usage Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EventLine</td>
<td>60</td>
<td>General Science Index</td>
<td>53</td>
</tr>
<tr>
<td>Microcomputer Abstracts</td>
<td>41</td>
<td>Biology Digest</td>
<td>59</td>
</tr>
<tr>
<td>ESPM</td>
<td>52</td>
<td>Biological &amp; Agricultural Index</td>
<td>55</td>
</tr>
<tr>
<td>WorldCat</td>
<td>3</td>
<td>Encyclopedia</td>
<td>58</td>
</tr>
<tr>
<td>Wilson Business Abstracts</td>
<td>48</td>
<td>Business Organizations</td>
<td>44</td>
</tr>
<tr>
<td>Education Index</td>
<td>8</td>
<td>ProceedingsFirst</td>
<td>39</td>
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<tr>
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<tr>
<td>Average Rank</td>
<td>34.3</td>
<td>Average Rank</td>
<td>46.2</td>
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Note. Speed (fast or slow) is based on the average time spent online per search. Usage rank places each database within the context of the total number of searches used by each database during that year. The Average Rank is the mathematical average of the ten ranks list above that number.

TABLE 6. Use of FirstSearch Full-Text vs. Searching

<table>
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<tr>
<th>Month</th>
<th>Full-text searches</th>
<th>Searching</th>
<th>Total Searches</th>
<th>Full-text as % of Total</th>
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</tr>
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</tr>
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<td>1281</td>
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<td>April</td>
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<td>17.6%</td>
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<tr>
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<td>185</td>
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</tr>
<tr>
<td>June</td>
<td>205</td>
<td>686</td>
<td>891</td>
<td>23.0%</td>
</tr>
<tr>
<td>July</td>
<td>225</td>
<td>569</td>
<td>794</td>
<td>28.3%</td>
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<td>10</td>
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<tr>
<td>September</td>
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<tr>
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<td>210</td>
<td>787</td>
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<td>21.1%</td>
</tr>
<tr>
<td>Total</td>
<td>1745</td>
<td>9443</td>
<td>11188</td>
<td>average 15.6%</td>
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TABLE 6 (continued)
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<tr>
<th>Month</th>
<th>Full-text searches</th>
<th>Searching</th>
<th>Total Searches</th>
<th>Full-text as % of Total</th>
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<tr>
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<td>16915</td>
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<td>29310</td>
<td>average 57.7%</td>
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Notes. Each full-text journal article costs 5 searches. To determine the number of articles ordered, take the "full-text searches" total and divide by 5. By February 1995 the second highest use was for PeriodicalAbstracts Full-text. By December 1996 three of the top five databases used provided full-text articles: Ebsco FT, FastDoc FT, and PeriodicalAbstracts FT. The other two databases in the top five were for searching Ebsco and FastDoc.

**TABLE 7. Document Delivery Costs FY 1997**

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<th>SOURCE</th>
<th>FY97 VALUE</th>
<th>SPENT TO 6/19</th>
<th>FUNDING SOURCES</th>
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</table>
| FirstSearch | $21,687 est. | $21,274.40    | RCL = $9,213.00  
|           |            |               | Other = $12,474.00          |
| UnCover   | $ 4,500 est. | $ 4,232.00    | RCL = $2,000.00  
|           |            |               | Other = $4,000.00          |
| ProQuest Direct | $10,500 est. | $ 3,788.15    | RCL = $3,788.15  
|           |            |               | PQD Trial = $6,461.85       |
| EbscoHost | $13,248 est. | Trial, no cost | Ebsco Trial = $13,248.00    |

TOTAL $49,935 $29,294.55 RCL = $15,001.15  
|           |            |               | Other KU = $17,324.00       |

Note. The average increase in the use of FirstSearch searches for the first 9 months of FY97 was +200.78%. Both ProQuest Direct and EbscoHost were on trial for part of the year. A subscription for ProQuest Direct was instituted at the conclusion of the trial.
### TABLE 8. Program Enrollment and Database Use

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<td>7836/938</td>
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<td>na</td>
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**Note.** E/D is enrollment in student credit hours divided by database use in number of searches. Years are calendar years. Ratios, which represent the number of searches per student credit hour, have been rounded up.
## Appendix B
### Table 1

WSU Tri-Cities Numbers of Searches on FirstSearch Databases, 1993

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Distance Education at the University of Rhode Island - Providence Center: Picture-Tel, E-mail and Library Support

Joanna M. Burkhardt
University of Rhode Island-Providence Center

Abstract: The University of Rhode Island-Providence Campus has recently begun to use both e-mail and Picture-Tel (slow scan video) as a means of providing courses for distance learners. The library is accessible via the World Wide Web, Telnet, and the State Free Net. We are admirably situated therefore, to provide coursework and library support to distance learners.

This paper is a case study of our first attempts to work in this new arena, providing library support to students who are not physically on site. Successes and failures result in adjustments and fine tuning. We hope to continue our efforts as new technologies become available.

The University of Rhode Island College of Continuing Education was established in 1942 on Promenade Street in Providence Rhode Island, in what had previously been the Rhode Island Normal School, built in the 1840’s. This campus, though part of the University, is independent of the main campus in Kingston. The College of Continuing Education (CCE) supports a wide and varied curriculum, and caters to older students. The average age of the 6,000 students who attend courses at CCE is 40. Most students have families and full time jobs.

Courses and degrees range from college readiness to MBA and include special programs and training sessions as well. Adults attending college for the first time, finishing degrees, earning advanced degrees, and attending training sessions all mingle in the exceptional blend that makes CCE a diverse and exciting campus.

The library for this college was established in 1964. As the collections grew, the library was located in several different places: the basement, the stage, the balcony of the auditorium. In 1992, the library was located in the basement of the Promenade Street building for the second time. The library occupied about half of the available space on that level. The computer center was directly across the hall.

The collections of the CCE library are small: 26,000 monographs, 300 journals. The collections are meant to be lean and mean. The library strives to provide a starting place for research at all levels, in all areas of the curriculum. We do not attempt to supply everything a researcher might need. Students are frequently referred to other libraries with larger collections.

In 1992 the monograph collection reached the limits of the space available. Only the current five years of journals could be retained due to space shortages. Older business materials for the MBA program were kept only by squeezing into the byways and back corners of the library. Due to budget reductions, very few new monographs were purchased between 1987 and 1994. The monograph collection, therefore, remained at 26,000 volumes, gaining in age, and becoming less and less useful.

The college and the library struggled with the need for computer access to information. In 1992 the library had one OPAC for access to the newly organized HELIN (Higher Education Library Information Network
of Rhode Island) consortium to which it belongs. The computer center contained 10 IBM PS/2-30 PC’s, 5 Macintosh color computers, 18 terminals with access to an IBM 4381-3 main frame computer running CMS, a VAX 8600 running VMS, 5 Epson printers, one HP laser printer, and a Printronix line printer attached to the main frame IBM. Patching, pulling wires and power strips kept the electronics in the building running most of the time, but the limits of what extension cords and the Fire Marshall would allow had almost been reached.

In 1994 a grant from the Champlin Foundation was used to provide a small network of 5 computers for the library. These computers were so important to the delivery of improved library service that twelve valuable seats (out of a total of 50) were removed to make room for them. For the first time, the CCE Library could share in the wealth of computer resources enjoyed at the Kingston campus. We used our own CD tower. When licensing allowed, we loaded outdated disks for journal indexes owned at Kingston onto our system. Growth could occur electronically with out further straining our space limits. Our collection became much more current as the LAN computers were switched on.

In the same year an additional OPAC was added, as were computers for the permanent staff. The computer center added the last computers which could be squeezed into their space at about the same time, and thoughts turned to how this technology could best be used to serve our unique student body. The e-mail system was upgraded in the early 1990’s and every URI student was entitled to a free e-mail account. It seems inevitable now, that this technology could and would be used for instruction and information.

The first CCE E-mail course was offered in the Fall semester of 1995. The course on The Short Story (English 243) met face-to-face three times during the semester, while the rest of the classes, discussions and writings were conducted via e-mail. Students could access the URI mainframe computer and their e-mail accounts from the Library, the Computer Center, and from home. It was not surprising that this course was successful, given the busy lives of CCE students, the distance many travel to get to class, and the difficult parking situation in Providence. This trial course was followed by others. During the Spring semester Writing 101 for freshmen was offered with a section for e-mail. This was also a success. Course offerings were somewhat limited, however, by the aged electrical services in the Promenade Street building.

The entire College moved in January 1996, from Promenade Street to the historic Shepard Building, in the heart of downtown Providence. Built in the 1880’s as a department store of high quality, the Shepard Building has long been a Rhode Island landmark. Shoppers met under the Shepard’s clock. Children came from all over the state to see the Christmas decorations in the show windows. Ladies frequented the Tea Room in hats and gloves, and young men and women bought the apparel necessary for dances, confirmations, weddings and so on. Every long-time resident of Rhode Island has memories involving the Shepard Building. The Shepard’s Department Store closed in 1970, and though occupied briefly after that, the building stood vacant for more than a decade.

Using the Shepard Building as a new home for CCE seemed unlikely, but that is, eventually, what happened. The Shepard building required extensive renovation. A giant steel “cage” was inserted into the central core of the building, allowing the many support columns in that core to be removed. In other areas, the columns remain. New spaces were carved from the old and offices, classrooms, labs and the library emerged. State-of-the-art wiring with fiber optics was installed. T-1 lines offered excellent communications capabilities. A good deal of planning was done to insure that the building would be capable of integrating new technology well into the future. Computers, scanners, networks and WAN connections to the main campus began to appear as people settled into the new space.

Since then, opportunities for distance education have slowly infiltrated the course catalogs. In the fall of 1996 e-mail courses included: The Short Story, International Business Communications Exchange, Toward Self Understanding, Business Communications, and Advanced Portfolio Theory and Security Analysis.
Introduction to Literature, The Female Experience, and Gender and Communication were added in the following semesters.

Picture-tel, a trade name for one variety of slow scan, or compressed video, is a relatively new addition to our distance education offerings. This type of technology allows teleconferencing among sites almost anywhere. It has been used in business for a number of years, but as the price of the components dropped, it has become affordable in academic settings as well.

Using slow scan video, images travel over voice telephone lines (specifically IDSN or integrated digital synchronous network lines), to and from television-like monitors with large screens. These monitors are portable and can be moved to any location having the appropriate wiring. The monitors show what is happening at another location. An additional option offers a split screen, so participants can see their own classroom as well as the distant classroom. Multiple sites can be linked. There are options for zooming in on individual speakers, for transmitting video, and for transmitting images, in addition to the audio and video views of the classroom. A PC can be hooked into the system to convey information, Power Point presentations, and other computer based data.

In the last ten years this technology has become remarkably affordable. The price of a monitor has dropped from more than $100,000 to approximately $12,000. Businesses use slow scan video for interviewing candidates, taking legal depositions, delivering sales information, and training staff. It allows viewers to read body language and to hear the nuances of voice which are not available in something like e-mail technology.

Academic uses for this technology are many. Schools, colleges and universities are using slow scan video to share teachers and expertise. This keeps esoteric courses alive and affordable. It also allows the upper limits for the number of students in a class to increase, a plus for students who must have certain courses to finish their degrees in a timely fashion. Students and teachers can travel to sites close to their homes rather than traveling greater distances to the site where the class is offered. Meetings can be held in multiple locations, saving the money spent on time and travel for busy administrators. Classes can be offered in places where it was never before possible.

CCE began using this technology by holding joint meetings of the Administrations at the Providence and Kingston campuses. This saved a good deal of travel time for administrators and others on both campuses. It was this experiment which really sold the idea to the administrators.

When French 412 did not have enough registrations to run the course in Kingston, or in Providence, it was decided to combine the enrollments via Picture-Tel. Students in Kingston “attend” the class by going to a classroom in Kingston. Students in Providence attend class in the “studio” at CCE. In addition, students from nearby Rhode Island College were able to join the class by traveling the short distance to CCE to take the course.

In the coming year, the URI Graduate School of Library and Information Science will be broadcasting some of its courses from Providence to their regional sites in Durham, NH, Boston, MA, and Kingston, RI where classes are also offered. The Departments of Pharmacy and Nursing will offer courses in Vermont and Maine. Special programs such as Real Estate, and Food Certification will be offered on Block Island via Picture-Tel. It took faculty and students no time at all to assess the benefits of taking a Picture-Tel course. A few enterprising students have used the technology for other academic purposes. For example, a graduate student with a job in another city has defended her Master’s Thesis via slow scan video.

How does the library support these fledgling distance learning programs? How will it do so in the future? Things at the CCE library are changing quickly, almost keeping pace with changes in the curriculum. Supporting a distance education program is a new assignment for the library. Some of the library systems
which already exist can accommodate the distance learner. Some systems need a little tweaking, but with minor changes, can also be made useful for distance education. We appear to have the support, the energy, and the technical options to add other systems to serve the distance student as they are invented.

Prior to our move from Promenade Street to the Shepard Building the library offered distance learners the following: 1) access to the Academic Computer Center on networked terminals in the library. This enabled students to access their University E-mail accounts, and through them, their e-mail courses. 2) CD-ROM databases on a WAN from the Kingston library in a few subject areas in 1995. However, most of the services offered could not be reached from remote sites. Since our move to the Shepard Building, change and advancement in electronic possibilities is experienced on a daily basis.

The HELIN Consortium

URI belongs to a consortium of six academic institutions' libraries with a total of eleven sites. The consortium shares an electronic catalog, using the Innovative Interfaces system. A reciprocal borrowing agreement exists among the Consortium members. Students may locate a book anywhere in the consortium, place a request via the computer, and have the book delivered to any other library in the consortium. The catalog is available in text-based characters via dumb terminals. In addition, World Wide Web access allows off-site use of the catalog. This allows requests for books to be made from off-site locations by several different generations of computer technology. The Rhode Island Office of Library and Information Services provides a state-wide library delivery service whereby books from one institution to be delivered to another. This “door to door” service gets library materials to Rhode Island libraries. It may be possible in the future to devise a means of delivering materials to libraries in other states as well.

Off campus users who cannot travel to a consortium library must use Interlibrary Loan through their local library to receive HELIN materials. However, one upgrade to the system being considered is an Interlibrary Loan module which would allow users to input an Interlibrary Loan request while visiting the HELIN catalog. The request would then be handled in the Interlibrary Loan office, saving time by delivering the request electronically and directly from the patron to the ILL Office.

Currently HELIN catalog users may access Reserve lists for courses, both by instructors name and by course code. Again, the Reserve materials themselves are in the libraries, and not accessible electronically. However, electronic reserves is another option being considered. This would allow many Reserve items to be scanned into the HELIN database, making them available in full-text to authorized users. The demand for access to these materials even when the library is closed is not a small consideration for the distance learner. The HELIN consortium is considering this option to accommodate all library users both local and distant.

On-line Journals

A number of the HELIN libraries subscribe to on-line journals. These journals are available on the WWW in full text and can be accessed by any authorized user. This Spring URI plans to add 40 electronic journal titles from Project Muse at Johns Hopkins University, improving the ability of all authorized users to use the journal literature from remote sites. As more journals become available in electronic format, their numbers are likely to increase in the Consortium. The interest of Faculty and students in having access to journals in electronic format will certainly work to the benefit of URI’s distance education population.

Electronic Indexes

The HELIN system also offers access to a large number of journal indexes on-line. Expanded Academic Index covers approximately 700 journals, newspapers and magazines, about 30% of which are available on-line in full text. Many of the citations not linked to the full text do provide abstracts along with
citations. This allows research to go forward at a great rate, no matter what the day, the time, or the location. A variety of printing and downloading options make this a very flexible research tool. It is available from the HELIN main menu in both text-based and Web formats.

The HELIN consortium subscribes to a number of First Search databases in the following disciplines: Arts and Humanities, Business and Economics, Conferences and Proceedings, Education, Engineering and Technology, General and Reference, Medicine and Health, and Public Affairs and Law. These OCLC databases offer a wide range of book and journal citations, many with abstracts. The indexes are subject specific, and cover professional journals in a wide variety of disciplines. An e-mail option allows citations to be sent to the users e-mail account. One option supplies the full text version of an article for a fee.

URI also subscribes to CARL UNCOVER SUMO (subsidized ordering). This subscription offers library patrons access to the CARL database. It also allows patrons to select articles which can be sent to them via FAX at any location. The cost of delivering these articles is reduced by virtue of the URI subscription to the system. In addition, the University Library subsidizes the use of the system by any URI faculty or graduate student, paying for any article costing less than $25.00. This means that fewer dollars are invested in the paper journal collection, but access to journals for scholars involved in serious research access is not undermined.

The URI Serials list is available on the HELIN main menu as is the serials list for the CRIARL (Consortium of Rhode Island Academic and Research Libraries), which includes other Rhode Island institutions outside the HELIN group: Brown University, Naval War College, Salve Regina, Providence Public Library, Rhode Island Historic Society, Rhode Island State Library, Rhode Island School of Design, Bryant College. There are also links from the HELIN main menu to other college, university and public libraries in Rhode Island.

Other links

Other databases are also linked to the HELIN catalog: Thomas, the electronic link to the U.S. Congress is available as is GPO (the Government Printing Office) catalog and other electronic government publications. The ERIC Clearinghouses, the local newspaper in Providence, Engineering Information Village, Cambridge Abstracts, and many web sites are linked to HELIN. Access to the many indexes and abstracts in electronic version levels the playing field for research and offers expanded resources for the distance learner.

Reference Works

General reference works are currently available via the Web. EB-online, the electronic version of Encyclopedia Britannica offers full text access to the entire encyclopedia, with hot links to other sites, bibliographies, more information, related information and so on. In the next version, we may have EB Online with links directly to the HELIN catalog. A dictionary, thesaurus, and several style manuals are available in electronic format.

URI still supports a WAN which includes the Providence Campus. All databases on the WAN are in CD format. Again, these databases are not currently available off-site, but future versions will be shifted to Web access. This will further extend the research tools available to distance learners.

Reference Service

Reference service is still provided in the "traditional" manner at CCE. Staff at a Reference Desk answer questions in person as they are delivered. The HELIN system does allow users to make suggestions and
requests on the III system. The Reference staff distributes these requests to the appropriate departments, including the CCE library, for action. At CCE we have always answered telephone reference questions, but we hope to expand to e-mail in the near future. The Reference Desk at the main campus has an e-mail address to which queries can be directed. Answers are returned to the user, but the process is not instantaneous. CCE will build on the process already in place in Kingston, and add services as needed by distance students.

**Bibliographic Instruction**

The traditional Bibliographic Instruction class is also due to change this year. BI will be offered to those students taking a Picture-Tel course from a remote location. Using the attached computer to demonstrate the various databases makes BI effortless. The librarian is available to answer questions and provide additional information. Assignments can be transmitted, overheads projected, videos played. Power Point presentations could be used if it was impossible for the librarian to be on hand. With the appropriate equipment at the distance campus, BI could be a hands-on experience.

**Tutorials**

Tutorials for BI are not available as an electronic option through the HELIN consortium as yet. However, some of the HELIN institutions have provided links to tutorials, information sheets and guidelines which have been developed at other institutions. For example, a HELIN member library has a link to a Purdue site offering advise about evaluating Internet sites.

Much more could be done, and will be done, in the coming year. With limited time and staff at the CCE Library an endless reassessment of priorities is necessary. At the CCE Library, we hope to direct some time and energy toward making the URI Libraries and the HELIN consortium more accessible, more useful and more interesting for the distance user. New technology and related course offerings up to this point have been added at a rate which allows library support services to catch up in a relatively short time frame. It remains to be seen whether this pattern will continue in the future. It is clear that the see-saw addition of technology and library support will move both forward, to the benefit of the distance learner.

At CCE Library we consider ourselves to be in the fledgling stages of providing support to our distance learning community. The tide of educational trends in college and university libraries in Rhode Island seems to be carrying us in the right direction, allowing us to take advantage of technology while only bearing a small portion of the cost. We hope to continue to add services which will benefit all the users of the URI Libraries, but especially that special group with physical and/or virtual links to the College of Continuing Education.
Instructional Support to a Rural Graduate Population:
An Assessment of Library Services

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University of Nebraska-Lincoln

Kate Adams
University of Nebraska-Lincoln

Abstract: A survey was conducted to assess instructional support by the University of Nebraska-Lincoln Libraries to a specialized group of students. Faculty who had taught extended education courses were also surveyed as to the use of library services in support of course delivery to students. Findings provide direction for improving library services to the distant student.

Introduction

The University of Nebraska-Lincoln (UNL) is a land-grant institution serving a state that is primarily rural in nature. A significant portion of the population lives, and is employed, in areas distant from a postsecondary institution. The University Libraries have been an integral partner in planning for, and delivering, instructional support to distance education graduate students since 1990 (Adams, Berntahl, Bicknell, & Pearson, 1991), following the guidelines as set forth in the “ACRL Guidelines for Extended Campus Library Services” (1990).

In 1992, the University’s College of Human Resources and Family Sciences (HRFS) determined that there was an unmet need for advanced education for home economics teachers and for extension educators in the state. Early in the planning stages, the Libraries’ Distance Education Coordinator and the Liaison Librarian for HRFS participated in discussions regarding provision of library support for the distance education program. The College began an interdepartmental Master’s Degree in Human Resources and Family Sciences via distance education in 1994. This degree program consists of twelve 3-credit hour classes for a total of 36 credit hours. The interdepartmental nature of the degree includes classes taught in three diverse departments within the College: Nutritional Sciences and Dietetics, Consumer and Family Sciences, and Textiles, Clothing, and Design (Laughlin, 1997).

Beginning in fall semester 1994, the College of Human Resources and Family Sciences (HRFS) offered one course per semester for extended education graduate students. With two dozen downlink sites throughout Nebraska, class enrollment exceeded expectations. Over 90 students enrolled in Contemporary Nutrition 800 during fall 1994, while 92 enrolled in Family and Consumer Sciences 987 during spring semester 1995. Enrollments exceeded 50 students in each of the two five-week summer session courses held during 1995.

Because of great demand for this degree program, a second cohort was begun in 1995, only one year after the start of the initial class. The second group also included students beyond the state’s borders. Plans are underway for a third cycle to begin in fall 1998. However, it should be noted that only 38% of the students who have taken HRFS classes through distance education are working toward, or have completed Master’s
Degrees in the program. Some students take classes for enrichment, teacher re-certification, or for various other reasons (Laughlin, 1997).

Courses have been delivered through a variety of technological methods: live satellite feeds, videotaped lectures, email, World Wide Web, and phone bridge. When the program began, courses were delivered to 26 downlink sites throughout Nebraska with some satellite delivery directly to students' homes. Currently, however, most classes are videotape delivery with a trend toward web-based.

Library services are provided to students enrolled in any of the seven graduate degree programs offered by UNL via distance education. The Distance Education Coordinator for the Libraries serves on a .5 FTE basis. Liaison, or Subject Specialist, Librarians provide instructional support. For the initial HRFS cohort in 1994/95, the Liaison Librarian conducted two live satellite presentations and one videotaped presentation. Among the topics covered were strategies for searching the Libraries’ online catalog as well as databases such as UnCover. The Liaison Librarian also conducted mediated online searches for the HRFS students, and answered reference queries by phone, email, and fax.

Access to electronic resources is a key service for distant students who have the opportunity to access the UNL Libraries online catalog remotely, or in person, to search for monographs, journal articles, and other resources. When the HRFS extended education program began, students dialed into the campus-wide information system using a password distance education login. In February 1995 the Libraries changed access to University computer accounts, and access through an Internet Service Provider began in 1997. HRFS students could search a half dozen specialized databases as well as the online catalog. Currently distance students have remote access to more than three dozen databases.

Delivery of materials is handled through Interlibrary Loan. Students may request materials electronically, by fax, or by mail. Journal articles, books, and other materials are sent directly to the students' homes. However, books and other returnables were sent to downlink sites, rather than homes, previous to fall 1997.

The purpose of this survey is to determine the extent to which the Libraries have served the information needs of students enrolled in the HRFS extended education interdepartmental masters program. The HRFS student enrollment is the largest of the University’s seven extended education graduate programs. As the first HRFS cohort progressed through the degree sequence, a number of library services expanded in scope and ease of access. User expectations have changed as well. The graduation of the initial HRFS cohort seemed an opportune time to assess the Libraries' instructional support. It is anticipated that the survey findings can benefit all students enrolled in distance education graduate programs offered by the University. This paper will include the findings of our study as well as recommendations for other institutions who provide instructional support for rural graduate students distant from the campus at which they are enrolled.

A review of the distance education literature reveals a variety of discussion describing models of provision of library service to extended education students. Kascus and Aguilar (1988) describe four models, focusing on problems as well as solutions encountered with each model. Lebowitz (1997) discusses the three most common organizational models. Kascus and Aguilar (1988), as well as Lebowitz (1997), also describe support services for students. However, relatively few articles address assessment of specific library services provided to rural students (Gilson, 1995; West, 1992). Miller (1995) noted that agricultural distant learners found lack of access to library facilities to an obstacle for the majority of the population surveyed. As Shouse (1995) notes, some students live a significant distance from a major university, sites where courses are delivered, or a town of any size. Rural libraries are likely to have limited hours and non-academic collections, and access to the Internet is only a recent phenomenon.
Method

Data for the study were collected by a self-administered survey or questionnaire sent in fall 1997. A cover letter, a questionnaire, and a stamped return envelope were sent to all 184 students who had completed one or more classes in the HRFS interdepartmental extended education program. Approximately two weeks after the initial package was sent, a second complete package was mailed to all non-respondents. Envelopes for two students were returned by the Post Office as having no forwarding address, while another individual reported that she had never taken a class in the program. Of the remaining pool of 181 students, 110 students, or 61%, completed and returned the questionnaires.

The majority of survey questions were partially close-ended. Although suggested answer choices were provided, respondents had the option of adding their own replies. A five point Likert-type scale with response categories was used for a number of the questions. Questions on the survey focused on the use of the library online catalog, full-text databases, the World Wide Web and the Internet; reference assistance provided by liaison librarians; ease of requesting library materials; and delivery of materials. Information on the use of libraries other than UNL was also sought. Demographic or statistical questions included gender, status as degree seeking versus non-degree seeking, number of courses completed, and number of classes which required the use of library resources or services. Also asked was distance from the UNL campus and whether the respondent lived in Nebraska. Open-ended questions encouraged suggestions for improvement of library services delivered to remote users. Data were analyzed using a SPSS Release 4.0 program.

The thirteen faculty from the College who have taught distance learning graduate classes were canvassed as to the use of library services in support of course delivery to remote students. Faculty were also given the opportunity to respond to open-ended questions. Data from the faculty surveys were analyzed by hand. Seven of the thirteen faculty members, or 54%, returned completed questionnaires.

Results of Student Survey

Included below is the questionnaire mailed to HRFS distance education students. Survey questions are followed by the corresponding results, rounded off to the nearest whole number. Consequently, for those cases in which a single response is requested, figures may add up to slightly more, or slightly less, than 100%. The authors did not attempt to explain discrepancies in data responses.

University of Nebraska-Lincoln University Libraries
Survey of College of Human Resources and Family Sciences
Interdepartmental Masters Program Students

Q1. Which of the UNL Libraries' resources and services have you used while enrolled in the HRFS extended education program? (mark as many as apply)

- IRIS online catalog (to identify needed books) 37%
- Journal databases on IRIS and the Specialized Databases Network 41%
- (to identify needed journal articles) 12%
- Reference service at UNL Libraries 23%
- Consultation with Liaison (subject specialist) Librarian for HRFS 14%
- Consultation with the Distance Education Coordinator in the Libraries 34%
- Requested delivery of materials through the UNL Interlibrary Loan Office 37%
- None (no use of UNL Libraries' resources and services) 7%
- Other (services not listed above) 0%
Q2. How frequently have you used the following resources for course-related research for HRFS extended education classes?

<table>
<thead>
<tr>
<th>Resource</th>
<th>very often</th>
<th>often</th>
<th>sometimes</th>
<th>not often</th>
<th>not at all</th>
<th>no response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Books (printed)</td>
<td>19%</td>
<td>14%</td>
<td>25%</td>
<td>18%</td>
<td>20%</td>
<td>5%</td>
</tr>
<tr>
<td>Journals (printed)</td>
<td>16%</td>
<td>7%</td>
<td>20%</td>
<td>18%</td>
<td>34%</td>
<td>6%</td>
</tr>
<tr>
<td>Print indexes for journal articles</td>
<td>30%</td>
<td>16%</td>
<td>25%</td>
<td>11%</td>
<td>13%</td>
<td>6%</td>
</tr>
<tr>
<td>Electronic (online) databases for journal articles</td>
<td>39%</td>
<td>8%</td>
<td>9%</td>
<td>16%</td>
<td>21%</td>
<td>6%</td>
</tr>
<tr>
<td>(e.g., Expanded Academic Index or PsycLit)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E-mail or listservs</td>
<td>42%</td>
<td>14%</td>
<td>9%</td>
<td>8%</td>
<td>19%</td>
<td>8%</td>
</tr>
<tr>
<td>World Wide Web</td>
<td>39%</td>
<td>11%</td>
<td>19%</td>
<td>10%</td>
<td>15%</td>
<td>6%</td>
</tr>
<tr>
<td>Other (resources not listed above)</td>
<td>17%</td>
<td>2%</td>
<td>0%</td>
<td>1%</td>
<td>5%</td>
<td>76%</td>
</tr>
</tbody>
</table>

Q3. How frequently have you obtained books, journal articles, and other resources that you need for research for the extended education classes? (mark as many as apply)

<table>
<thead>
<tr>
<th>Resource</th>
<th>very often</th>
<th>often</th>
<th>sometimes</th>
<th>not often</th>
<th>not at all</th>
<th>no response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Requested materials via UNL Libraries’ Interlibrary Loan Office</td>
<td>50%</td>
<td>11%</td>
<td>12%</td>
<td>6%</td>
<td>14%</td>
<td>8%</td>
</tr>
<tr>
<td>Borrowed from colleague or instructor</td>
<td>38%</td>
<td>17%</td>
<td>26%</td>
<td>7%</td>
<td>4%</td>
<td>7%</td>
</tr>
<tr>
<td>Personal visit to a nearby library</td>
<td>11%</td>
<td>6%</td>
<td>30%</td>
<td>23%</td>
<td>26%</td>
<td>5%</td>
</tr>
<tr>
<td>Printed from screen (e.g., Netscape or full-text materials)</td>
<td>37%</td>
<td>12%</td>
<td>18%</td>
<td>15%</td>
<td>10%</td>
<td>8%</td>
</tr>
<tr>
<td>Downloaded from computer to disk</td>
<td>64%</td>
<td>14%</td>
<td>6%</td>
<td>4%</td>
<td>4%</td>
<td>9%</td>
</tr>
<tr>
<td>Other resources (not listed above)</td>
<td>16%</td>
<td>1%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>83%</td>
</tr>
</tbody>
</table>

Q4. If you have submitted requests for library materials to the UNL Libraries’ Interlibrary Loan Office, which methods have you used? (mark as many as apply) (if none, skip to question #8)

- E-mail (electronic mail) 12%
- Fax 11%
- Federal mail 19%
- None (have not used the service) 35%
Q5. If you have requested materials for your extended education classes, were the materials delivered in a timely manner?

<table>
<thead>
<tr>
<th></th>
<th>very often</th>
<th>often</th>
<th>sometimes</th>
<th>not often</th>
<th>not at all</th>
<th>no response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Books</td>
<td>4%</td>
<td>1%</td>
<td>9%</td>
<td>14%</td>
<td>10%</td>
<td>63%</td>
</tr>
<tr>
<td>Journal article photocopies</td>
<td>4%</td>
<td>3%</td>
<td>7%</td>
<td>16%</td>
<td>15%</td>
<td>56%</td>
</tr>
<tr>
<td>Other (materials not listed above)</td>
<td>6%</td>
<td>0%</td>
<td>1%</td>
<td>3%</td>
<td>1%</td>
<td>90%</td>
</tr>
</tbody>
</table>

Q6. Have you received library materials via fax?
Yes
No
No response to question

<p>| | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>74%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No response to question</td>
<td>23%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Q7. If you answered yes to question #6, how frequently were the test and graphics clear and legible? (mark as many as apply)

<table>
<thead>
<tr>
<th></th>
<th>very often</th>
<th>often</th>
<th>sometimes</th>
<th>not often</th>
<th>not at all</th>
<th>no response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Text</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>4%</td>
<td>1%</td>
<td>96%</td>
</tr>
<tr>
<td>Pictures</td>
<td>0%</td>
<td>0%</td>
<td>3%</td>
<td>1%</td>
<td>0%</td>
<td>96%</td>
</tr>
<tr>
<td>Charts/tables</td>
<td>0%</td>
<td>0%</td>
<td>1%</td>
<td>3%</td>
<td>0%</td>
<td>96%</td>
</tr>
</tbody>
</table>

Q8. When you have contacted library staff, please rate your satisfaction with the service you received.

<table>
<thead>
<tr>
<th></th>
<th>very satisfied</th>
<th>satisfied</th>
<th>neutral</th>
<th>dissatisfied</th>
<th>very disappointed</th>
<th>no response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liaison Librarian</td>
<td>17%</td>
<td>6%</td>
<td>9%</td>
<td>1%</td>
<td>0%</td>
<td>67%</td>
</tr>
<tr>
<td>Distance Education Coordinator</td>
<td>17%</td>
<td>9%</td>
<td>9%</td>
<td>0%</td>
<td>0%</td>
<td>65%</td>
</tr>
<tr>
<td>Reference Desk Staff</td>
<td>16%</td>
<td>12%</td>
<td>8%</td>
<td>2%</td>
<td>0%</td>
<td>62%</td>
</tr>
<tr>
<td>Interlibrary Loan Office Staff</td>
<td>13%</td>
<td>12%</td>
<td>10%</td>
<td>0%</td>
<td>0%</td>
<td>66%</td>
</tr>
<tr>
<td>Other (library staff not listed above)</td>
<td>2%</td>
<td>0%</td>
<td>1%</td>
<td>0%</td>
<td>1%</td>
<td>96%</td>
</tr>
</tbody>
</table>

No contacts with library staff - 70%
Q9. How frequently do the following factors affect your choice of a library in terms of your extended education classes? (Mark as many as apply)

<table>
<thead>
<tr>
<th>Factor</th>
<th>very often</th>
<th>often</th>
<th>sometimes</th>
<th>not often</th>
<th>not at all</th>
<th>no response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Convenient hours</td>
<td>6%</td>
<td>6%</td>
<td>6%</td>
<td>21%</td>
<td>50%</td>
<td>12%</td>
</tr>
<tr>
<td>Close to home</td>
<td>6%</td>
<td>5%</td>
<td>8%</td>
<td>23%</td>
<td>46%</td>
<td>12%</td>
</tr>
<tr>
<td>Library owns books I need</td>
<td>7%</td>
<td>6%</td>
<td>11%</td>
<td>26%</td>
<td>36%</td>
<td>15%</td>
</tr>
<tr>
<td>Library owns journals I need</td>
<td>6%</td>
<td>3%</td>
<td>5%</td>
<td>26%</td>
<td>56%</td>
<td>14%</td>
</tr>
<tr>
<td>Staff expertise</td>
<td>8%</td>
<td>8%</td>
<td>12%</td>
<td>27%</td>
<td>29%</td>
<td>16%</td>
</tr>
<tr>
<td>Other (factors not listed above)</td>
<td>3%</td>
<td>0%</td>
<td>0%</td>
<td>2%</td>
<td>4%</td>
<td>92%</td>
</tr>
</tbody>
</table>

Q10. Please rate the frequency with which you have used the resources and services at the following libraries in support of your extended education classes.

<table>
<thead>
<tr>
<th>Library</th>
<th>very often</th>
<th>often</th>
<th>sometimes</th>
<th>not often</th>
<th>not at all</th>
<th>no response</th>
</tr>
</thead>
<tbody>
<tr>
<td>University of Nebraska-Lincoln</td>
<td>26%</td>
<td>12%</td>
<td>11%</td>
<td>20%</td>
<td>16%</td>
<td>15%</td>
</tr>
<tr>
<td>University of Nebraska at Omaha</td>
<td>60%</td>
<td>4%</td>
<td>8%</td>
<td>3%</td>
<td>7%</td>
<td>18%</td>
</tr>
<tr>
<td>University of Nebraska at Kearney</td>
<td>61%</td>
<td>3%</td>
<td>7%</td>
<td>4%</td>
<td>7%</td>
<td>18%</td>
</tr>
<tr>
<td>University of Nebraska Medical Center</td>
<td>66%</td>
<td>2%</td>
<td>6%</td>
<td>2%</td>
<td>4%</td>
<td>22%</td>
</tr>
<tr>
<td>Other 4-year college or university</td>
<td>43%</td>
<td>6%</td>
<td>16%</td>
<td>6%</td>
<td>12%</td>
<td>17%</td>
</tr>
<tr>
<td>Community college</td>
<td>55%</td>
<td>7%</td>
<td>4%</td>
<td>6%</td>
<td>6%</td>
<td>22%</td>
</tr>
<tr>
<td>Public library</td>
<td>12%</td>
<td>12%</td>
<td>28%</td>
<td>20%</td>
<td>12%</td>
<td>16%</td>
</tr>
<tr>
<td>Other library (not listed above)</td>
<td>16%</td>
<td>1%</td>
<td>1%</td>
<td>3%</td>
<td>6%</td>
<td>74%</td>
</tr>
</tbody>
</table>

Q11. If you did not use any of the UNL Libraries' resources or services, what was the reason? (mark as many as apply)

- Course-related research did not require use of library resources or services: 17%
- Found materials elsewhere: 41%
- Did not have access to a computer: 14%
- Did not know how to access UNL Libraries' online resources (catalog, databases, etc.): 26%
- Did not know how to request delivery of materials: 11%
- Other (reasons not mentioned above): 12%
Q12. Where is the location of the computer you have used *most frequently* for the majority of your extended education course-related research?

<table>
<thead>
<tr>
<th>Location</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home</td>
<td>38%</td>
</tr>
<tr>
<td>Place of employment</td>
<td>18%</td>
</tr>
<tr>
<td>Home of friend of relative</td>
<td>0%</td>
</tr>
<tr>
<td>Library</td>
<td>10%</td>
</tr>
<tr>
<td>Computer lab</td>
<td>0%</td>
</tr>
<tr>
<td>Other (locations not listed above)</td>
<td>7%</td>
</tr>
<tr>
<td>No response</td>
<td>26%</td>
</tr>
</tbody>
</table>

Q13. Which of the following electronic tools have you used for your extended education course-related research and assignments? (mark all that apply)

- Word processing: 86%
- E-mail: 58%
- Spreadsheet: 32%
- Databases: 31%
- World Wide Web: 50%
- Other (electronic tools not listed above): 11%

Q14. When preparing your research papers for your extended education classes, do you feel the need for additional training in searching for materials?

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very often</td>
<td>6%</td>
</tr>
<tr>
<td>Often</td>
<td>14%</td>
</tr>
<tr>
<td>Sometimes</td>
<td>37%</td>
</tr>
<tr>
<td>Not often</td>
<td>24%</td>
</tr>
<tr>
<td>Not at all</td>
<td>14%</td>
</tr>
<tr>
<td>No response</td>
<td>6%</td>
</tr>
</tbody>
</table>

Q15. How often do you feel the need for additional training in using Netscape or other World Wide Web browsers?

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very often</td>
<td>9%</td>
</tr>
<tr>
<td>Often</td>
<td>16%</td>
</tr>
<tr>
<td>Sometimes</td>
<td>28%</td>
</tr>
<tr>
<td>Not often</td>
<td>25%</td>
</tr>
<tr>
<td>Not at all</td>
<td>16%</td>
</tr>
<tr>
<td>No response</td>
<td>6%</td>
</tr>
</tbody>
</table>

Q16. Do you have an account with an Internet Service Provider (such as Navix or AOL?)

- Yes: 49%
- No: 49%
- No response: 2%

Q17. Are you currently pursuing a degree in the HRFS extended education program?

- Yes: 19%
- No: 56%
- Have graduated from the program: 19%
- No response: 6%
Q18. How many classes have you taken in the HRFS extended education program? Including any courses you may be taking during the current semester, please specify a number.

<table>
<thead>
<tr>
<th>Number of Courses</th>
<th>Percentage of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>29%</td>
</tr>
<tr>
<td>2</td>
<td>13%</td>
</tr>
<tr>
<td>3</td>
<td>7%</td>
</tr>
<tr>
<td>4</td>
<td>5%</td>
</tr>
<tr>
<td>5</td>
<td>3%</td>
</tr>
<tr>
<td>6</td>
<td>5%</td>
</tr>
<tr>
<td>7</td>
<td>1%</td>
</tr>
<tr>
<td>8</td>
<td>3%</td>
</tr>
<tr>
<td>9</td>
<td>4%</td>
</tr>
<tr>
<td>10</td>
<td>5%</td>
</tr>
<tr>
<td>11</td>
<td>3%</td>
</tr>
<tr>
<td>12</td>
<td>18%</td>
</tr>
<tr>
<td>15</td>
<td>1%</td>
</tr>
<tr>
<td>No response to question</td>
<td>6%</td>
</tr>
</tbody>
</table>

Q19. Please specify how many of the extended education courses required the use of library resources and services?

<table>
<thead>
<tr>
<th>Number of Courses</th>
<th>Percentage of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>16%</td>
</tr>
<tr>
<td>1</td>
<td>20%</td>
</tr>
<tr>
<td>2</td>
<td>9%</td>
</tr>
<tr>
<td>3</td>
<td>6%</td>
</tr>
<tr>
<td>4</td>
<td>5%</td>
</tr>
<tr>
<td>5</td>
<td>5%</td>
</tr>
<tr>
<td>6</td>
<td>3%</td>
</tr>
<tr>
<td>7</td>
<td>3%</td>
</tr>
<tr>
<td>8</td>
<td>3%</td>
</tr>
<tr>
<td>9</td>
<td>2%</td>
</tr>
<tr>
<td>10</td>
<td>11%</td>
</tr>
<tr>
<td>11</td>
<td>3%</td>
</tr>
<tr>
<td>12</td>
<td>4%</td>
</tr>
<tr>
<td>No response to question</td>
<td>14%</td>
</tr>
</tbody>
</table>

Q20. What is your age category?

Under 30 11%
30 - 39 23%
40 - 49 52%
50 - 59 12%
60 + 1%
No response to question 2%

Q21. What is your gender?

Female 94%
Male 3%
No response to question 4%

Q22. Do you reside in Nebraska?

Yes 84%
No 15%
No response to question 2%

Q23. How close to Lincoln do you live?

In Lincoln 1%
Within 50 miles 9%
51 - 150 miles 33%
151 - 300 miles 25%
300 + miles 31%
No response to question 2%

Q24. Please add comments for improving resources and services for you as an HRFS extended education Interdepartmental Masters Program student.

Thirty-seven respondents offered suggestions relevant to the Libraries. Seventeen respondents commented on curricular and HRFS program administration issues.

Discussion of Student Survey

The first ten questions in the survey were designed to seek input about instructional support, electronic access, and delivery of materials. Subsequent questions asked for reasons UNL resources were not used, queried need for additional training, and posed demographic or statistical questions. In addition, the survey was designed to seek additional commentary, with a number of open-ended "other" questions.

In Q1, 37% of the students reported no use of the UNL Libraries’ services and resources. That finding helps to explain the number of subsequent questions that showed high responses in the “no response” and “not at all” categories. Q11 also showed that course-related research did not require use of library services or resources for 17% of the respondents.

Only 14% of the respondents indicated they had consulted with the Distance Education Coordinator (Q1), while 12% of the respondents reported consulting with the Liaison Librarian assigned to HRFS (Q1). Respondents were fairly satisfied with those contacts (Q8). A greater response (23%) was reported for the use of reference service from the Libraries (Q1).

Q2 asked respondents about their use of remote electronic access to indicate use of books, journal articles, online databases, and the World Wide Web. Combining the categories “very often,” “often,” and “sometimes,” 58% of the respondents used books, 43% used journal articles, 71% used print indexes, 56% searched online databases for journal articles, and 69% used the World Wide Web. However, a sizable number of respondents indicated infrequent or no use of those resources.

Q16 asked whether the respondents have an Internet Service Provider (ISP). Approximately half indicated they had this service. As the Libraries increasingly move toward web-based access for collections, remote students will have need for an ISP. In terms of access, open-ended answers revealed that seven respondents reported using a computer located in an extension office for remote access, while another used the local pharmacy’s computer. One student commented about the cost of using an ISP.
One-third (34%) of the respondents requested delivery of materials, as noted in Q1. In Q3, 50% of the respondents reported requesting materials from the UNL Interlibrary Loan very often and 11% often. This discrepancy between the two responses could not be accounted for. Timely delivery of materials appears to be problematic for some students (Q5). Open-ended comments indicated concern about turnaround time for receiving requested material, both in terms of staff processing as well as postal "wait time." One respondent reported response time was faster if a request was faxed rather than if submitted electronically.

Several questions were designed to gauge use of other libraries. Q9 asked respondents to identify factors affecting their choice of library. Some of these factors included convenient hours, proximity to home, and whether the library owned the books or journals needed. The majority of responses fell in the "not often," "not at all," and "no response" categories. This grouping of responses was not anticipated.

Q10 asked for use of specific libraries and provided some interesting responses. Nearly two-thirds of the respondents indicated they used the following libraries very often: University of Nebraska at Omaha (60%), University of Nebraska at Kearney (61%), and University of Nebraska Medical Center (66%). This compares to use of UNL at 26% in Q10. Respondents indicated use "very often" of other 4-year academic libraries (43%) and community college libraries 55%. Interestingly, the use of public libraries garnered only a 12% rating for "very often," with 12% for "often" and 28% for "sometimes." This was an unexpected finding, and is dissimilar to Gilson's findings in rural Kansas (Gilson, 1995).

Open-ended answers for Q10 provided additional detail about use of other libraries. Several respondents use Extension offices, one reported using an art museum, three used high schools, and two others used "school."

Q11 asked respondents to give reasons they did not use the Libraries' resources and services. Forty-one percent of the respondents reported finding materials elsewhere. Q10 and various open-ended comments identified the other libraries that were used. In Q11, 26% of the respondents reported they did not know how to access the UNL Libraries' online catalog and databases, while 11% indicated they did not know how to request delivery of materials. Fourteen percent of respondents indicated they did not have access to a computer. Open-ended comments to the question of non-use of UNL Libraries' resources or services provided some explanations, such as "did not have time to learn the system," "did not completely understand" how to access the online resources, and "was not online at time of taking my classes."

Q17 and Q18 asked the student to indicate degree seeking status and the number of courses taken in the interdepartmental Master’s program. Demographic data found in Q20-Q23 are fairly straightforward and reflect anticipated responses. K. Craig (1996) provided a brief profile of the HRFS student population.

Q24 sought respondents’ input as to how to improve resources and services. One student asked for more full-text materials. Several students asked for more training in how to access the online resources and request delivery of materials; one suggested "a week of using the library and computers before taking courses would have helped me a lot." Several students reported that having a computer would have been "invaluable." Seven HRFS extended education students reported personal visits to UNL campus. Two of these respondents indicated they did not know how to remotely access the electronic databases or electronically request delivery of materials.

Results of Faculty Survey

Included below is the questionnaire mailed to faculty who have taught one or more HRFS distance education courses. Survey questions are followed by the results rounded off to the nearest whole number. Consequently, when only a single response is asked for, figures may add up to slightly more, or slightly less, than 100%. 
Q1. In comparison to the classes you teach on campus (not through extended education), would you say you require:

- More extensive use of library resources for extended education students: 14%
- Less extensive use of library resources for extended education students: 29%
- Approximately the same use of library resources for extended education students: 57%

Q2. How frequently have you required the use of the following resources for course-related research for HRFS extended education classes?

<table>
<thead>
<tr>
<th>Resource</th>
<th>very often</th>
<th>often</th>
<th>sometimes</th>
<th>not often</th>
<th>not at all</th>
<th>no response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Books</td>
<td>29%</td>
<td>14%</td>
<td>43%</td>
<td>0%</td>
<td>0%</td>
<td>14%</td>
</tr>
<tr>
<td>Journals</td>
<td>43%</td>
<td>14%</td>
<td>29%</td>
<td>0%</td>
<td>0%</td>
<td>14%</td>
</tr>
<tr>
<td>E-mail or listservs</td>
<td>29%</td>
<td>0%</td>
<td>14%</td>
<td>0%</td>
<td>43%</td>
<td>14%</td>
</tr>
<tr>
<td>World Wide Web</td>
<td>29%</td>
<td>0%</td>
<td>43%</td>
<td>0%</td>
<td>29%</td>
<td>0%</td>
</tr>
</tbody>
</table>

Q3. How frequently have you contacted UNL library staff for matters concerning the HRFS extended education classes?

<table>
<thead>
<tr>
<th>Staff</th>
<th>very often</th>
<th>often</th>
<th>sometimes</th>
<th>not often</th>
<th>not at all</th>
<th>no response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liaison Librarian</td>
<td>0%</td>
<td>0%</td>
<td>14%</td>
<td>0%</td>
<td>86%</td>
<td>0%</td>
</tr>
<tr>
<td>Libraries Distance Education Coordinator</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>29%</td>
<td>71%</td>
<td>0%</td>
</tr>
<tr>
<td>Reference Desk Staff</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>14%</td>
<td>86%</td>
<td>0%</td>
</tr>
<tr>
<td>Interlibrary Loan Office Staff</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>14%</td>
<td>86%</td>
<td>0%</td>
</tr>
</tbody>
</table>

Q4. When you have contacted library staff regarding your extended education students, please rate your satisfactions with the service you received.

<table>
<thead>
<tr>
<th>Library</th>
<th>very satisfied</th>
<th>satisfied</th>
<th>neutral</th>
<th>dissatisfied</th>
<th>very dissatisfied</th>
<th>no response</th>
</tr>
</thead>
<tbody>
<tr>
<td>University of Nebraska-Lincoln</td>
<td>26%</td>
<td>12%</td>
<td>11%</td>
<td>20%</td>
<td>16%</td>
<td>15%</td>
</tr>
<tr>
<td>Community college</td>
<td>55%</td>
<td>7%</td>
<td>4%</td>
<td>6%</td>
<td>6%</td>
<td>22%</td>
</tr>
<tr>
<td>Public library</td>
<td>12%</td>
<td>12%</td>
<td>28%</td>
<td>20%</td>
<td>12%</td>
<td>16%</td>
</tr>
<tr>
<td>Other library (not listed above)</td>
<td>16%</td>
<td>1%</td>
<td>1%</td>
<td>3%</td>
<td>6%</td>
<td>74%</td>
</tr>
</tbody>
</table>
Q5. If you did not use any of the UNL Libraries' resources or services for extended education, what were the reasons?

(Response) 1. "Students may have accessed materials and resources through their local libraries. Although students were given suggested references to use for projects, many found ways around using these. Also, each time the course has been taught, it has been during a 5 week time period. Students seemed to believe they would not receive materials in time for their projects."

(Response) 2. "Services were available at the University of Nebraska at Omaha or the University of Nebraska Medical Center." [This comment may have come from a faculty member housed at the University of Nebraska at Omaha.]

(Response) 3. "Access WEB - I downloaded journal articles, etc. for them."

Q6. Please add comments for improving resources and services for you as a faculty member teaching extended education classes.

No comments were suggested.

Q7. Please add comments for improving resources and services for students in HRFS extended education classes.

(Response) 1. "Need more access (or knowledge of access) in other parts of the state or other states."

(Response) 2. "More experienced students seem to learn 'the system'; less experienced students seem to need additional help with how to access resources. Handouts provided by the library have always been helpful."

Discussion of Faculty Survey

While this is a small sample and may not be representative of HRFS faculty who teach extended education courses, the survey findings are useful. Faculty respondents appear to have the same expectations of library use for on-campus and extended education students. Students are expected to utilize books, journals, and the World Wide Web. Teaching faculty report limited contact with the Liaison Librarian, Distance Education Coordinator, reference staff, and Interlibrary Loan staff. This finding corresponds with the weak library-faculty interaction and an awareness gap of library services noted by Butler (1997) in a survey of Minnesota distant learners.

Discussion Summary

The student survey and the faculty survey both confirm that UNL library services and resources are not being utilized to their full potential. Many students choose to use other academic or community college libraries. A number did not have access to a computer or did not know how to use the UNL Libraries' online resources or request delivery of materials. Although most faculty required approximately the same use of library resources for distance education classes as for on-campus classes, very few had contacted UNL library staff regarding support for extended education courses.

The findings of these surveys provide direction for adapting services to better meet the needs of UNL distance education graduate students. Areas of primary emphasis include improving the turnaround time for delivery of materials to students; increasing student and faculty awareness and use of library resources
and services; and improving students’ skills in accessing the Libraries’ online catalog and databases. Increasing the communication between librarians and faculty is vital. As Butler (1997) noted, faculty awareness and involvement are critical factors in the delivery of library services for distance learners.

Assessing both the distant student and faculty populations provide feedback on the use of library services and resources. This can be a foundation for enhancing current services and planning for new ones in the future. Survey findings should be relevant to other postsecondary institutions in Nebraska offering library services to distance education students. Likewise, the results may prove useful to other colleges and universities seeking to provide instructional support to an extended education graduate population.
References


Bibliography


Service Challenges of a Virtual Library Clientele

Ann Coder
former Virginia Campus Librarian
George Washington University

Abstract: Providing library services for a graduate campus where students are predominantly middle or upper level executives who fly in from all over the country for weekend programs requires matching student and campus characteristics with a comprehensive program of research support. Rapid document delivery, Web-based research techniques instruction, and technology (e-mail, fax, telephone) for communication and delivery, and personalized service are key.

Types of Off-Campus Programs

With universities serving increasing numbers of older, working adults, enrollment in and the number of off-campus programs continue to increase. These programs provide convenient schedules (evenings, weekends, intensive short-term courses) and locations closer than the main campus to where students live or work.

The nature of these off-campus locations vary. Technology-based programs are increasing: interactive television enables the university to teach cost effectively a small number of students in several locations simultaneously. Asynchronous instruction via computer or television is used as the cost of technology decreases and more and more students have Internet access. The Mind Extension University at George Washington University, for example, provides video instruction for personnel aboard Navy ships at sea.

Entrepreneurial in nature, programs are offered as markets are identified. Locations include rented classroom and administrative space in office buildings, evening courses offered in high schools, and space in a corporation where programs are offered for a company's employees. These programs may be conducted as a contract for a specific company or governmental agency, such as George Washington University's telecommunications program for the National Security Agency, or open to other participants as well.

In addition to the temporary locations and programs, universities establish more permanent centers and satellite campuses.

Initially, off-campus programs were viewed as "cash cows," because they had less administrative overhead and minimal student and library services. However, accreditation associations have instituted more stringent guidelines requiring that the quality of education and services be comparable to that on the main campus.

Library Services for Off-Campus Programs

In order to meet accreditation standards, universities have begun to pay more attention to library services offered to off-campus programs. The delivery of these services takes many forms:

The most common and least expensive form of library service is agreements with local libraries near the sites of the off-campus programs. Although pulling out a file of signed agreements may satisfy visiting
accrediting teams, frequently the service is no more substantial than that sheaf of papers. Often public services librarians at these local libraries view the university's off-campus students as a nuisance taking time away from their primary clientele and the university as a free-loader. Services and collections tailored to the off-campus program needs is almost non-existent.

Many universities have small on-site library collections, usually of reserve materials, in the off-campus centers. As useful as these might be, students seldom take them seriously or make use of them. A few shelves of books does not "look" like a library, so students opt for convenience and use the library closest to them, even if it is a branch of a public or community college library, unsuitable as that might be to support graduate and even doctoral programs.

Peripatetic librarians, offering on-site bibliographic instruction and reference services from a central location, attempt to tailor library services to the program needs of the off-campus students. However, the "invisible man," they fight an endless battle to publicize available library services to students, faculty, and center administrative staff.

Technology has made remote electronic access to the main campus' databases a viable method of providing bibliographic resources to off-campus students. When coupled with rapid document delivery, this is approach can meet students' needs conveniently.

George Washington University Virginia Campus

Located in the high technology Dulles corridor, the Virginia Campus of George Washington University is a graduate campus focusing on high tech programs, such as telecommunications, information systems, engineering, UNIX certificates, business, and human resources development.

The Virginia Campus offers the high tech courses in a high tech environment, with cutting edge equipment and facilities, including the library. The students in these programs are technologically savvy, having microcomputers, modems, fax machines, and commercial Internet service providers. They are comfortable with using Windows and the Web to access the library's OPAC and database subscriptions. For example, when conducting a library research orientation workshop, the author said that the University had not yet installed its proxy server; one of the new telecommunications students from the National Security Agency quipped that he would do it for us.

Because most programs are offered in an executive mode with cohorts of students taking their courses one or more weekends per month, students fly in from all over the country (Florida, New York, Colorado, California, even two employees of a Saudi airline -- the library delivers requested documents to them by overnight mail to Dulles Airport, where their airline flies it to them in Saudi Arabia on their next flight). Courses are intensive and research assignments have short deadlines. Students are middle level managers, many of whom are receiving tuition support from employers.

Half of the campus revenue comes from research institutes that receive external funding. For example, the National Crash Analysis Center does computer simulations of automobile crashes. The federal transportation agencies and major automobile manufacturers are funding a new campus building which will house the world's most advanced facility for conducting actual car crashes. The computer graphics laboratory devises medical simulations which permit surgeons wearing 3-D goggles to practice delicate operations before conducting them on actual patients. The Center for Structural Dynamics tests fatigue on weldings of ship hulls to determine how long they will withstand stress before bursting.
The library is the jewel of the campus recruitment program. In exit surveys of graduates, students rank the library as number one in satisfaction with their George Washington University experience. In contrast with many off-campus programs where the library services are not well used or understood, the Virginia Campus Library has no marketing problems, because academic program coordinators educate students and faculty about the library research and document delivery services. The services are so successful that students rely upon the Virginia Campus Library rather than local libraries. Even a student who works at Harvard uses the library for her research.

The print collection, not the essence of the library, consists of approximately 2000 volumes, mostly seminal works in the disciplines taught on campus and subscriptions to 100 journals. Journal titles are the core, professional literature, provided for current awareness and the titles most frequently requested for document delivery. Neither an archival or research collection, the library cancels and adds journal subscriptions each year based upon usage and program changes.

The library considers itself a virtual library, relying upon the technologies to provide access to information in such a fashion that students are not disadvantaged by the lack of a million volume collection on campus.

Since the surrounding Virginia Campus culture is committed to state-of-the-art technology and innovation, the library is expected to incorporate the latest electronic innovations. The technologies allow it to advertise itself as a 24-hour a day library. Because students come to the campus from geographically diverse locations and only for intensive courses, they search databases remotely rather than in the library and do so at any time. They also communicate with the library electronically via fax, telephone, and e-mail.

The library’s service paradigm is that of a corporate or special library. The librarians role is to be an information guide and mediator providing the neural links among information resources. Subject specialists conduct extensive research for students and screen and analyze information resources for appropriateness to the topic, in contrast to the five-minutes of assistance students typically stand in line to receive at a traditional academic library reference desk. Librarians identify citations and e-mail to students, who then select the books and articles they want and in turn e-mail back their requests. When students telephone for assistance in using the databases, librarians go online, and both student and librarian will simultaneously conduct a search and discuss the search techniques and results that both are viewing at geographically different locations.

An ingredient in providing quality resources in an environment with a tiny collection is rapid document delivery service. Requests for books and articles are faxed to the Virginia Campus staff located in the main campus library. A daily courier returns items for overnight mailing to students. To provide even more rapid delivery than overnight mail, the library is planning to send copies of articles to students’ e-mail via Ariel and have UnCover fax articles directly to students.

The availability of full-text databases, such as Lexis/Nexis, Investext, Disclosure, and Business and Industry Database, and ProQuest articles, enables students taking weekend classes to stop by the library during their morning coffee break and submit their research requests, then pick up many of the articles they or the librarians have identified for them before they leave campus at the end of the day.

Library instruction is also technologically based. In addition to traditional printed guides, librarians create Web sites for individual disciplines with links to library and Internet resources. In addition to the links, advantages include continuous updating and convenience for students who may not have the printed guide ready at hand when they are working at home.
The library creates separate aliases for cohorts of each discipline taught at the Virginia Campus. Then the subject specialists send messages about new databases or services or notify students of resources and search techniques especially useful for a current course assignment. Messages are brief and sent infrequently, no more than once a month, in order to avoid being greeted with an automatic delete key.

General orientation workshops are conducted for new cohorts as part of their general campus orientation. Their purpose is primarily to explain the unusual service model. This is especially important, since a 2000 volume library is not an imposing facility and could easily be dismissed as useless.

Proper timing for instruction is essential. Until students have research assignments, library information is of little value to them. Program coordinators stress the importance of the library and send letters to students to encourage them to make appointments with subject specialists, who then meet with individuals and small groups of students from new cohorts when they begin their first research assignment to provide two to three hour intensive hands-on research consultations. The small group environment encourages questions and permits the librarian to tailor the information to participants' individual needs and knowledge base.

**Elements of a Successful Library Program**

It is essential to develop an approach to providing library services that is consistent with the organizational culture and students needs. A careful analysis of these characteristics becomes the starting point for designing a library services approach. One must clear away the cobwebs of how libraries traditionally operate and take a fresh look at both student and campus characteristics.

Among the student characteristics that shape Virginia Campus Library services are that they are working adults with limited time to commit to research and are thus reluctant to spend hours in the library researching their topics. They are geographically dispersed and only on campus for intensive courses. Even those who live in the Washington metro area may be one to two hours away from the campus. They do not have convenient access to an academic library. They are executives who are accustomed to having their staff supply what they want immediately. They are technologically savvy; thus, the library can supply information and services electronically to students who are comfortable with using technology.

Campus characteristics that guide library services include the high tech environment and expectation that the library will also be high tech. Because George Washington University is an expensive private university (the Executive MBA costs approximately $52,000), the campus' marketing edge is executive style service for the students, including providing meals, books, and student services that do not require students to interact with the main campus bureaucracy.

From this analysis, the library has developed strategies to provide client-centered services. In contrast to the interlibrary loan model of a traditional academic library, where the student has to come into the library to pick up materials requested or off-campus programs which use the Post Office, the Virginia Campus Library sends items to students via overnight mail. It also personalizes service by mailing to hotels when students are traveling.

Library services are designed to be convenient and non-bureaucratic. Just as the Virginia Campus academic programs handle interactions with main campus registration, financial aid, etc., the library makes obtaining services as easy as possible. No requirement of one request form per item, as the main campus does, but the library accepts xeroxed bibliographies, e-mailed citations and faxed copies of database printouts.

Because of tight assignment deadlines, the library focuses on rapid document delivery. In contrast to traditional interlibrary loan offices which go to the cheapest rather than the fastest source, the library
delivers no "three day old fish." The goal is 24-hour delivery and rapid research turnaround. For example, a MBA student called and left a voice mail message that he wanted to know everything about a company in Hungary and needed the information faxed to him today, since he was taking off the next day with his cohort for their international component, which was visiting Hungary. Fast research, full-text databases, and the fax machine got him the information.

Just as the tuition covers all costs of meals and books, the library provides "free" document delivery, in contrast to other programs which charge for photocopying and mailing. While libraries impose charges to control or discourage excessive requests, at the Virginia Campus Library, when students request "too many" articles or items that are inappropriate (Readers Digest articles for a dissertation), librarians call them to discuss their assignments, offer to refine their search strategy, and suggest more appropriate sources. The attitude is supportive and helpful, rather than a "traffic cop" making sure students do not get away with anything.

One of the more heretical violations of the bibliographic instruction canon, is that the librarians perform research for the students in many of the programs. Recognizing that students are busy, working executives who will have staff doing their research, the library does not require them to learn the intricacies of the ever changing search techniques and databases. Neither does it require them to stand in line at the photocopy machine or understand how call numbers are arranged in a million volume collection. Not only do they not have to spend hours in an academic library, but they need not worry about where the books or articles actually reside, since the library gets them from the main campus, commercial document delivery sources, and other libraries.

Conclusion

The library offers services as if students mattered, rather than organized for the convenience of the library and its staff. Key ingredients are services customized to students needs, determined by a careful analysis of the individual campus environment. Rapid, personalized response to research and document delivery requests and emphasis upon convenience rather than hurter contributes to high quality service.
Outreach Information Services Partnership
An Academic Health Science Center and a Rural Satellite Campus

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Abstract: Developing an outreach information services partnership in Southwest Virginia is a work in progress shared by the University of Virginia Health Sciences Library and Clinch Valley College. This paper describes the design of the Outreach Program, the contributions of both institutions, and program implementation by the Outreach Librarian.

Prior to hiring the first Outreach Librarian in 1994, the University of Virginia (UVA) Health Sciences Library had received two grants to extend outreach information services to health professionals. In 1991 a contract from the National Library of Medicine was awarded to support teaching Grateful Med to rural health professionals in Central and Southwest Virginia by Health Science Library Staff. Training was provided for eighty seven health professionals during the one year period (Watson, Arnold, Banner, Robinson, & Self, 1996).

The following year, the Health Science Library and the Northwest Area Health Education Center (AHEC) worked jointly to determine the information needs of a small group of rural primary care practitioners serving as preceptors for UVA School of Medicine students. From a survey of preceptors’ information needs and preferences, it was determined that an Electronic Primary Care Library with clinically related, easily accessible information, would be developed with funding from the AHEC to assist in meeting those needs (Watson et al., 1996).

The first Outreach Librarian was hired in 1994 to serve as the Outreach Services Coordinator for the Central Virginia area. The position has developed into one of Assistant Director as the program has grown. The librarian in this position coordinates the program and provides outreach services such as site visits, consultations, demonstrations and instructional sessions. She also works with the AHEC activities and develops partnerships with regional and state libraries. Her base is at the UVA Health Sciences Library where she participates in Library activities such as teaching classes, staffing the reference desk, and performing on-line searches.

During the 1994-95 UVA budget process a second outreach position was approved to provide information services to health care professionals in Southwest Virginia. This area of the state is considered geographically isolated and includes areas six or more hours from Charlottesville. Clinch Valley College (CVC), the only branch campus of UVA, is a small, 1200 student, liberal arts college located in Wise, Virginia about four and one half hours from Charlottesville in the far southwest region. It was decided that the new outreach position would be designed cooperatively with CVC college and library administration to enhance library services and to provide a base for the Outreach Librarian.

Recommendations for the position as Outreach Librarian included health science library experience, academic library experience, reference experience, on-line searching and database familiarity, ability to work independently, and of course, a drivers license. My professional background included all of the above, plus I had grown up in rural Missouri, enjoyed rural living, and had always wanted to live in Virginia. I was selected for the position in May 1995 and began working as the UVA Health Science Outreach Librarian for Southwest Virginia in August, 1995.
During an initial period of orientation at Clinch Valley College I was introduced personally to nearly everyone in campus offices. I participated in the general faculty fall orientation, where I met the faculty and gained an overview of the college's direction and goals. The following two weeks were filled with intense orientation and training in Charlottesville at the Health Sciences Library.

Assistance in finding a residence in a lovely townhouse in Wise Virginia, was given by the Library Director at CVC and the actual move to Wise was accomplished over Labor Day. The Library Director personally retrieved keys from the townhouse owner, aired out the townhouse, and put water in the ice cube trays. The Assistant Director for Public Services left orange juice in the fridge and fresh bakery rolls and flowers on the kitchen counter. All of the CVC Library staff were welcoming and held a small library party the first week of my arrival.

Twenty five percent of my time is dedicated to the library at CVC to support the nursing and science programs, provide general reference services, and LAN database and Internet instruction. In return the CVC library provides office space and clerical and technical support. I am a member of general faculty both at UVA Health Sciences Library and the Clinch Valley College Library.

CVC has a nursing program which provides the final two years of the Bachelor of Science in Nursing to students with Associate Degree or diploma and with RN licensure. I work closely with the faculty and students to provide basic and advanced information resource instruction as the students progress through the program. Classes are also provided for nursing students at a campus fifty miles from the Wise campus in Abingdon, Virginia. Information instruction and assistance are also provided to those students in cooperation with staff and facilities at a local community college in Abingdon.

The CVC Nursing faculty is expanding coverage of nursing informatics, and I am involved with this effort. As courses are redesigned to enhance the informatics component of nursing study, I will assist the faculty with each course segment that requires print resources, electronic databases and/or Internet resource access and utilization. It is expected that this role will continue to evolve in the clinical area of several courses and allow interaction with community health care facilities’ databases to expose students to the informatics resources in clinical care.

Science programs at CVC include biology, chemistry, environmental science, and medical technology/clinical laboratory science. The students in these programs are provided special instruction mainly by the outreach librarian in the information resources of the sciences using on-line access to science and science related databases. The VIVA (Virtual Library of Virginia) databases provide the majority of this access. VIVA access is provided to all state colleges and universities and is supported by direct funding from the Commonwealth of Virginia General Assembly. Academic Press full text journals are now available through IDEAL as a part of VIVA as are Cambridge Scientific Abstract databases. Special classes are provided for Chem Search access and demonstration through Dialog. Increased access for chemistry information is being explored through STN.

For the nursing, premedical, and prepharmacy students health care information is available through CINAHL and PsychLit, in-library database copies. There is a CD-ROM copy of SAM (Scientific American Medicine) provided from the outreach budget as a resource for the librarian to locate basic medical information and is made available to students and faculty. Medline, Psych Abstracts, CINAHL, Health Reference Center and other science databases are also available through VIVA. CVC students also have access to the UVA Health Sciences Library on-line catalog and databases. The Ovid databases available from UVA include Medline, Aidsline, Cancerlit, HealthSTAR, PsychLit, CINAHL and the Core Biomedical Journal full text databases. Instruction in the utilization of all these databases is made available to students and faculty.
The outreach librarian position reports to the Assistant Director of Public Services at the CVC campus. In previous years all reference service had been provided by the professional library staff including the Library Director, Assistant Director for Public Services, Assistant Director for Technical Services and the Head of Cataloging. There were no professional reference services for weekend hours, but evening shifts were covered by this professional group, Monday through Thursday until 10:00 PM as well as day time hours Monday through Friday. Since offices were near the reference and circulation area, the on-duty librarians frequently worked in their offices but were easily accessible for reference assistance.

In the fall of 1995 a full time reference librarian was hired by CVC. With this new person in place, reference services became available Sunday through Thursday evening and library instruction was shared among the professional staff with the majority of classes taught by the new Reference Librarian, the Assistant Director for Public Services and the Outreach Librarian. Reference services became more formalized with the on-duty librarian remaining at the reference desk.

My reference duties are limited to Monday and Tuesday hours and my instructional classes are organized around my outreach schedule. The librarians and staff are all very flexible, positive and supportive of each other and library services. The high level of amicability, effort and cooperation is exceptional, making it an excellent group with which to work.

Office space has been moved several times due to arrival of new staff, building renovation and new construction. Since October 1996 the library offices have been in a classroom building next to the library with renovation and construction occurring concurrently. While it has been very stressful for staff and students there has been a concerted effort to provide library services in a business as usual fashion. The library has remained open except for the Summer of ’97 when the circulation department moved out to the classroom building also. Student assistants and staff continued to retrieve library materials throughout the summer, albeit with hard hats. Construction and renovation will be completed in January, 1998.

It is also amazing that from the fall of 1995 through fall of 1996 the library was in transition to their first OPAC using the SIRSI Unicorn System. The main UVA Campus Library and the Health Sciences Library at Charlottesville replaced their existing OPACs at the same time with SIRSI. CVC also, during this time, took their stand alone PCs with databases such as Newsbank, InfoTrac, and CINAHL and networked them within the Library. It was planned to connect them to the Campus LAN, but that has not yet occurred. However, with VIVA databases available campus wide through the Web as well as Web access to the OPAC, the lack of library LAN database access campus wide has not been problematic.

For the Outreach Librarian’s activities working with the science and nursing students, these major information access transitions have been momentous. Not only have our basically rural students, few with in-depth computer skills, been able to access the technology, they have learned to utilize a broad range of electronic databases and other information resources.

In an effort to provide a concentrated exposure to print, electronic in-house and World Wide Web resources to the nursing and science students, I developed a one hour course, Information Resources in the Natural and Health Sciences. There are plans to offer it again and also to provide segments of the course to science seminar students who prepare and give research papers and presentations as part of their major requirement.

Working closely with the Library Public Services faculty and staff, I have assisted in redesigning the bibliographic instruction classes and provided a significant number of them. When the SIRSI OPAC transition was underway, I was included in many phases of preparation and training. As a member of the library faculty, I attend all faculty meetings and am included in the decision making of the team. I also participated in the book moving, shelf moving, office pack up and moving and all the phase completion celebrations.
The CVC Library budget has provided support for the Outreach Librarian to attend local and state Academic Library meetings. Clerical support has been generously and graciously provided in an always positive manner. Computer technical support has been more problematic partially due to a very small department caught in swiftly escalating demands for service and major changes and upgrades of equipment campus wide. Network problems still remain, but service was tremendously improved when a computer tech was hired half time for the library.

Outreach services for Southwest Virginia are guided and supported by the University of Virginia Health Science Library Assistant Director for Outreach, the Assistant Director for Public Services and the Director of the Library. The projects and services of Outreach are a definite priority in promoting information services to support quality health care in Virginia. These administrative directors are actively involved at the University, regional and state levels to promote and enhance information access both for the academic center and the region which it serves. Their constant support and guidance have provided energy and momentum in developing and carrying the Southwest Virginia program forward. Contact is ongoing via e-mail, phone, conference phone access to Health Science Library Management Group Meetings and travel to Charlottesville for training and updates. There is also considerable funding each year for attendance of local, state and regional Health Science Library meetings, the National Medical Library Association meeting and one or two other conferences for presentations. There is also constant support for the Outreach Librarian to develop new contacts and projects within outreach parameters. Flexibility and support make this a rewarding and energizing approach to information service and program design.

The Outreach Model has been developed along four basic lines: working with information services already available in the communities, including hospital, public and academic libraries; promoting and enhancing information, resources, services and training for UVA preceptors and all other health professionals in Southwest Virginia; working closely with the Southwest Virginia Area Health Education Center (AHEC); and developing regional network relations to support health care information and health care services for the people of Southwest Virginia.

Outreach accomplishments through the Model Guidelines have been varied and productive. Several of them are described in this final segment.

A VAMIS (Virginia Medical Information System) subcontract from the Southeastern/Atlantic Regional Library to the Virginia Council of Health Sciences Librarians, 1992-96, provided funding for a survey of information resource needs and equipment, software, and training to meet those needs. Hospitals, clinics and institutes in medically under served rural areas of Virginia were targeted sites. Depending upon their needs, grant recipients were given some or all of the following: computers, modems, communication software, fax machines and Grateful Med software. For Central and Southwest Virginia, the equipment was received and configured in Charlottesville, then distributed by outreach librarians and the VAMIS Coordinator. In Southwest Virginia I provided training in the use of the equipment, software, e-mail and Internet access through the Virginia Library Information Network (VLIN) utilizing a training manual developed by the Outreach and VAMIS coordinators in Charlottesville. The manual also contained general information about library services and procedures since most of the staff trained were not professional librarians. These training sessions for the Southwest Virginia territory including nine sites was completed over a nine month period. This project made possible the initial contacts with community health providers throughout the region, some of whom already had information services, which were often minimal. Return to, follow up and continued contact with these sources has established an ongoing relationship for outreach services and the Outreach Librarian.

UVA preceptors in Southwest Virginia include approximately fifteen physicians at any given time. All of them were notified of my arrival by the Outreach Coordinator via personal letters. Their requests for assistance and document delivery have received priority treatment and special charges to reflect their
directly related status giving them similar privileges to those of the Health Sciences Center academic faculty.

All health professionals in Southwest Virginia are eligible for phone reference service and on-line literature searches (with charges). Search training (including Grateful Med, Internet Grateful Med, PubMed, Internet resources) is available as are site visits and consultations with only charges for mileage. Document delivery is available through direct or Loansome Doc requests (also with charges) to the UVA Health Sciences Library.

Presentations describing the Outreach Program and services have been given to medical and nursing staffs of several hospitals, the AHEC Board and to a regional group of librarians at the Southwest Virginia Health Information Libraries Meeting. Other presentations have included a joint program with the Outreach Coordinator on The Medical Information Puzzle: Putting the Pieces Together. This program, discussing the importance of information in clinical decision making and how to access and utilize print and electronic resources, was given to the medical, nursing and administrative staff of a psychiatric facility in Southwest Virginia. CE credits were awarded through the UVA Office of Medical Education. A consultation and review of information services at the same facility were completed during the two day visit to the site, with recommendations for information services improvements and enhancements being made in a follow up report.

Classes have been given in Grateful Med and Internet Grateful Med at several sites. Most recently classes in Internet Resources for Health Professionals have been provided with partial funding form the National Library of Medicine under a contract with the University of Maryland, Baltimore.

The Southwest Virginia AHEC is a major factor in the success of this Outreach Model and its programs. The AHEC Executive Director has welcomed the Outreach Program and has extended assistance in numerous ways. She has made referrals of individual and group requests for information and services, written articles in the AHEC newsletter about classes and services and made the newsletter available as a forum for articles I have written. She and her staff have assisted with class and demonstration set up, promotion and registration. Funding for two Electronic Libraries has been provided with AHEC Board approval. Assistance was given in writing a funding proposal to the National Network of Libraries of Medicine Southeastern Atlantic Region. The AHEC also agreed to provide the administrative support for the classes to be given if the funding were received. The funding was received and the classes are underway with AHEC assistance. And with the inception of an Outreach newsletter, the SWVA AHEC has covered the printing and postage costs and the clerical assistance for mailing 500 copies each quarter.

During 1996-97 the Office of Medical Education of the University of Virginia worked cooperatively with the Virginia Public Health Department to support a Southwest Virginia Pilot Project to connect UVA preceptors to the Internet. Software was developed by the Instructional Designer in the Office of Medical Education and 800 number access to the Internet was provided by the Health Department. Training materials were developed and classes and individual instruction were given by the Instructional Designer and myself to the preceptors. Closely following this project the UVA Health Sciences Library provided Web access to Ovid databases through the UVA Website to UVA preceptors and Public Health Department health professionals. I then provided training to SWVA preceptors and Public Health Department staff for utilization of these databases.

Regional networks have also provided tremendous opportunities for involvement with health care service education and awareness. The Health Services committee of the Appalachian Consortium provides a regional (Tennessee, North Carolina, Virginia) forum to develop educational conferences addressing specific regional needs. Serving on the committee has allowed interaction with a wide range of health professionals, participation in developing and attending health issues meetings and conferences and opportunity to contribute with information access and resources.
On a more local level, the Lee, Norton(city), Wise and Scott Counties comprise the Lenowisco Health District. The LENOWISCO Health District Diabetes Control Project and the Diabetes Coalition are working to improve consumer knowledge about diabetes, its diagnosis and treatment and to provide educational updates for local health professionals who work with this population. Being a member of the Coalition and working with the Professional Education Committee has allowed me to become aware of information needs, provide information resources and expand my interaction with health care providers in the area.

The UVA and CVC partnership has established a strong and successful outreach program. Our successes are measured in part by continued relationships, positive evaluations and increasing demands for information services.
Bibliography

Administrative Structures for Extended Campus Library Services: 
A Survey of Institutional Operations

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Abstract: This paper examines the library organizational structure designed to support extended campus educational programming. The study focused on the organizational structure under which library services are provided to distant students and/or locations. The authors paid particular attention to administrative aspects of library operations rather than operational issues.

Distance or off-campus learning is rapidly becoming the way of doing business for many academic institutions. As the traditional student population has declined, and as business and industry have begun to expect a greater level of education from employees, academic institutions have had to recognize the changing market for their services. The successful institutions are the ones that can adapt to change and deliver a quality product without sacrificing quality. In many ways, academic institutions are finding it necessary to adopt practices and behaviors previously only seen in the corporate world. As such institutions have moved into the field of distance learning, curricula and programs have undergone many changes. The needs of the students now need to be taken into consideration along with the expectations of the academic programs. Among the many changes that have grown from the move into distance education, one of the most important for delivery of education has been the shift from classroom and time-bound programming to programs delivered to the students at the times and locations most accessible to them.

John Sperling, the founder and chairman of the University of Phoenix, said:

In order to meet the academic, professional and personal needs of an increasing number of working adults in a society which has come to value lifelong education, a university must extend beyond place and embrace process. The University of Phoenix is not campus bound; rather, its borders are defined by the lives of its adult students. (Garten & Hartwell)

A variety of changes in library service must accompany the changes in program delivery, academic expectations, student needs and access. Many researchers have looked at the impact of such change on library instruction, delivery of materials, and library services. This paper will examine how academic libraries deal with these changes by looking at how academic libraries administer library services to distant students? This paper is a preliminary report on an ongoing project.

The ACRL Guidelines for Extended Campus Library Services (1990) say the following about the management of such library services:

It is the responsibility of library management to identify, plan, and oversee library services and resources in support of extended campus programs. The library administration should:

1. assess the needs of its extended campus community for library resources, services and facilities;
2. prepare a written profile of the extended community’s information needs;
3. develop a written statement of immediate and long range goals and objectives which address the needs and outline the methods by which progress can be measured;
4. involve academic community representatives, including the extended campus faculty and students, in the formation of the objectives and the regular evaluation of their achievement;
5. assess the existing library support, its availability and appropriateness;
6. participate with administrators and teaching faculty in the curriculum development process and in course planning to insure appropriate library resources and services are available;
7. promote library support services to the extended campus community. (pgs.354-55)

In many ways, these expectations are not dissimilar to the expectations for traditional library services. The major difference lies in ensuring that those services are made available and known to the distant student. George & Love define the role of the distance education librarian as that of “interpreter of library culture”, and they further state:

...libraries play a fundamental role in the processes of tertiary education and need to be central in the consideration of design and delivery of courses. In order to meet the overall educational purpose of autonomy, the services of distance education libraries should focus on inducting students into the information system and in particular the processes involved in searching. These processes of identifying and locating resources are always embedded in particular fields of study and need to be taught in conjunction with substantive content. (1995, p. 125)

The role of the librarian continues to evolve parallel to the development of technology. Librarians make use of all available resources to provide library services to their patron bases, so, as information technology develops, librarians identify ways to use the technology to deliver resources and services within the context of equipping those patrons to be lifelong, independent learners.

Many institutions that moved into distance education over the past twenty years did so without consideration of the information needs of their students. More recently, academic institutions have recognized the needs in those areas and have begun to include librarians in the planning and development of distance education programs. In 1991, Lessin presented a review of five library models that supported the delivery of service to distant students. Since that time, many other institutions have begun to formalize library support as an integral part of their distance education programs. Some of this recent progress has been occasioned by the regional accrediting agencies, which have begun to take greater notice of distance education programs. Some agencies, including the Southern Association of Colleges and Schools, have developed specific criteria for library services to distant students, and the visiting teams apply those standards to the institutional reviews. Those institutions that seem to have the most successful distance education programs also seem to be the ones that have made the libraries active partners in the process.

This project, which looks at the organizational structure under which library services are provided to distant students, builds on earlier studies which focused on individual institutions or selected groups of institutions. For example, Burich (1986) described the administrative structure of the University of Kansas Regents Center Library, and discussed the linkages between the remote center and the main library as well as the linkage between the center librarian and the center administration. This split reporting role occurs in many instances if a library staff member serves as part of a remote structure. This type of structure requires strong efforts at communication in both directions in order to facilitate the needs of the center personnel and students while maintaining the librarian’s sense of membership in the library’s structure. Frequently the librarian at a remote site is not regularly included in library activities or meetings, which fosters a sense of alienation and separation. The effort to maintain good, open communication channels will ultimately enhance the level of service provided by the distant librarian. It can also help to avoid problems caused by the distant librarian’s lack of knowledge of the library’s culture. Involvement of a distant librarian in planning activities can also result in a stronger program of library service and support for the remote students.
This preliminary phase of the author’s study of organizational structures used a simple survey instrument (Appendix A) consisting of eleven questions designed to begin developing a framework of structures. As this project continues, the initial survey will be expanded, based in part on responses from the first set of respondents. The goal is to develop a comprehensive directory of distance education library services structures while identifying commonalities among institutions in terms of structure, staffing or services.

A request for participation was sent to the OFFCAMP Discussion List asking for volunteers to answer questions about their administrative structures. Approximately 35 respondents expressed a willingness to participate. Nineteen of those responded to the survey questions. (Appendix B) The nineteen respondents provided a total of seventeen unique position titles. The only titles shared by more than one library were Director of Off-Campus Library Services and Extended Campus Services Librarian. Six of the titles did not identify the holder as having any direct involvement in off-campus library services. These titles included Coordinator of Public Services; Document Delivery Librarian; Head, Document Supply Services; Head of Information Services; Head, Public Services Division; and Library Instruction Coordinator. In these instances, the off-campus role was generally more limited due to other local responsibilities.

Five of the respondents held multiply titled positions. These were Coordinator, Distance Education Library Services/Reference Librarian; Coordinator, Off-Campus Library Services/Coordinator, Wheeling Campus Library; Distance Education/Social Sciences Librarian; ILL/Extended Campus Librarian; Instructional and Continuing Education Librarian; and Training/Instruction Coordinator and Distance Education Librarian. It is obvious that in many cases, the librarians responsible for off-campus library services are also responsible for other duties on campus. Estimates from the respondents showed that in some cases the off-campus portion of their positions was allocated only 5 to 15% of their total workload. In such cases, it might be appropriate to question the level of service being provided to distant students or the institution’s commitment to library service for such students.

Generally the respondents work through the public services side of their libraries, although there are some instances in which the distance library services are administered through non-library departments within the institution or in which the respondents hold joint appointments between the library and other administrative units.

Only three of the respondents’ positions were strictly dedicated to extended campus library services. The others held a variety of other responsibilities including reference, bibliographic instruction and liaison duties with faculty or administrative units. Most respondents also shared responsibilities for collection development in specific subject areas.

In the area of library involvement in curriculum development or planning for distance education, the results were also mixed. Six reported no involvement in curriculum planning, and four reported some involvement at a minimal level, such as an after the fact evaluation of a plan to identify any necessary library support. Other responses ranged from participation on advisory groups to full participation in the program development process. In one case, the library director was directly involved in program planning activities, but was fairly distant in reporting structure from the librarian serving the distant population.

The responses to the question about courses, programs and degrees offered generated a great deal of information. It is clearly possible to earn nearly any degree in almost any subject area through distance education programs at this time. An additional breakdown of responses into delivery method will be included in the next version of the survey, in order to distinguish among computer-based courses (synchronous and asynchronous), local delivery of courses, video-based courses, and other types of course delivery.

The nineteen responses to the survey have provided much useful information for the development of further steps in this process. As the survey itself is refined, additional questions will address financial
issues, local access to materials, contracts, and consortial agreements in relation to the administrative functions of library services. The next step will be to establish a mailing list of libraries involved in distance or off-campus education in order to collect a wider sample of information, which will be organized and made available for informational purposes. The author hopes that the next phase of this project will be a collaborative process with the active participation of other researchers who share an interest in this topic.
Appendix A

QUESTIONNAIRE

1. Your name and title.

2. The name of your institution, its home location, the number and locations of distant sites.

3. What degrees or programs are offered to distant students?

4. Does your institution provide library support/services to distant students?

5. Please describe the support/services provided.

6. How are these services administered?

7. What is the library’s organizational structure?

8. Is there a designated person responsible for distant library services?

9. What is that person’s title, and what other library responsibilities does that person hold?

10. How does the library fit into the institution’s distance education planning process?

11. How is the library’s distance education person involved in institutional curriculum planning and delivery?

12. Please add any additional comments.
Appendix B

Respondents

Gary L. Austin
ILL/Extended Campus Librarian
Camden-Carroll Library
Morehead State University
Morehead, KY

Kitti Canepi
Extended Campus Services Librarian
Sherrod Library
East Tennessee State University
Kingsport, TN

Jean Caspers
Distance Education/Social Sciences Librarian
Oregon State University
Corvallis, OR

Tony Cavanaugh
Document Delivery Librarian
Deakin University
Geelong, Victoria, Australia

Laura Davidson
Head of Information Services
Henderson Library
Georgia Southern University
Statesboro, GA

Ulrike Dieterle
Training/Instruction Coordinator and Distance Education Librarian
University of Wisconsin – Platteville
Platteville, WI

Christine Inkster
Library Instruction Coordinator
St. Cloud State University
St. Cloud, MN

Karen Jaggers
Head, Statewide Library Services
Northern Arizona University
Flagstaff, AZ

Elaine Jayne
Instructional and Continuing Education Librarian
Western Michigan University
Kalamazoo, MI

Maryhelen Jones
Director, Off-Campus Library Services
Central Michigan University
Mt. Pleasant, MI

Jule. L. Kind
Director of Off-Campus Library Services
Indiana Wesleyan University
Marion, IN

Ann Klavano
Reference Librarian for External Services
Buena Vista University
Storm Lake, IA

Lucy Marsden
Head, Distance Library Services
Massey University
Palmerston North, New Zealand

Paula Mochida
Head, Public Services Division
University of Hawaii
Honolulu, HI

Rob Morrison
Coordinator, Distance Education Library Services/Reference Librarian
Utah State University
Logan, UT

Carol M. Moulden
Coordinator, Off-Campus Library Services/Coordinator, Wheeling Campus Library
National-Louis University
Wheeling, IL
Beth Orgeron
Extended Campus Services Librarian
Southeastern Louisiana University
Hammond, LA

Sr. Margaret Ruddy
Coordinator of Public Services
Cardinal Stritch University
Milwaukee, WI

Alexander Slade
Head, Document Supply Services
University of Victoria
Victoria, B.C.


Library Catalogs, the World Wide Web, and Serving the Off-Campus User:
Boon or Bust?

Kevin A. Furniss
Winthrop University

Doug Kariel
Athabasca University

Abstract: The purpose of this paper is to outline some ways in which library catalogs can be enriched to meet the needs of the off-site searcher, and to suggest some ways in which an off-campus library services librarian can work with catalog librarians to enhance the catalog for their particular patrons.

Introduction

With the explosion of the Internet and the ubiquitouslyness of personal computers more and more library users are remotely accessing library catalogs. As these users are not able to physically access the collection they depend even more greatly on the information contained within the catalog itself to satisfy their information needs. The purpose of this paper is to outline some ways in which catalogs can be enriched in order to meet the needs of the off-site searcher and to suggest some ways by which the off-campus library services librarian can work with catalog librarians to enhance the catalog for their particular patrons.

Enriching Bibliographic Description

Each library needs to decide which types of material they want to have more accessible to its patrons. Librarians responsible for distance education services should have input to this decision as this decision will affect the ability of students to locate materials when searching the catalog. One of the best ways to enhance access to material through the library online catalog is to enhance the description of certain types of records. Including the table of contents of material such as readers or conference proceedings provides the user with direct access to individual papers, and allows users to find more items written by prominent authors. This is especially useful in disciplines such as distance education where much of the literature is in conference proceedings or collections of articles in a book. Sometimes conference papers and chapters of books not readily accessible when searching bibliographic databases such as ERIC or ICDL.

Tables of contents are added by entering contents notes to a catalog record, or by creating analytic records which are linked to the original record. The authors suggest that adding contents notes is faster and just as effective in terms of finding the original material. Contents notes are part of the original record, whereas analytical records are separate records which refer back to a parent record. Analytic records also add to the number of record in a system which may result in the necessity of paying for indexing and storage of more records than a library really needs. The authors suggest that adding contents notes is a faster and just as effective means of finding the original material.

Contents notes can be entered fairly quickly with a minimum of staff time. This is done by entering the table of contents into MARC field 505 of the main record. For ease of viewing by users, a library may wish to have several contents fields, so that sections of a conference can be easily identified.
Enriching Bibliographic Access

The enrichment of bibliographic access involves adding subject headings to bibliographic records and adding cross-references (SE and SEE ALSO references) to authority records in the catalog. Catalog searches are much more efficient when the controlled vocabulary of Library of Congress subject headings is used. Items that may be spread about the collection with a variety of classification numbers will be grouped together in the catalog under a subject heading. This is particularly important for off-site users, as they typically will be unable to physically browse the shelves. Off-campus library services librarians can work with catalogers to help add additional appropriate subject headings to existing bibliographic records. Also, they may recommend additional cross-references to subject authority records in order to guide catalog users from key words to subject headings. By using subject searching reports generated within an OPAC, the Library of Congress Subject Heading Weekly Lists, and the Subject Headings of Current Interest section of the Library of Congress Service Bulletin, librarians can examine the subject searching patterns of off-site users and suggest supplementary subject headings for bibliographic records and cross-references for authority records.

A. Using subject search logs

Among the statistics reported in OPAC search logs is the collection and transcription of unsuccessful subject searches, i.e., searches entered into the subject field of the OPAC that yield no direct hits. The primary reason for these failed subject searches is that catalog users have entered the subjects of their inquiries as uncontrolled keywords rather than Library of Congress subject headings. Many OPACs can generate alphabetical lists of failed subject searches and indicate the dates, times, and terminal numbers in which the failed searches occurred. By looking specifically at those inquiries that were generated off-site the librarian can see how off-site users are searching the catalog. Types of failed searches include searches written in sentence form, personal names in direct order, and searches that contain misspellings and typographical errors. By consulting with public service librarians catalogers can enrich access by adding additional cross references directed toward the catalog inquiries of the off-campus user. The public services librarian can examine this list for “plausible” searches that look as though they should have retrieved bibliographical records. Once these searches have been identified the off-campus library services librarian can consult with the catalog department to determine whether the collection contains material that would be covered by these search terms, and, if so, suggest additional cross-references within the authority records of existing subject headings to guide the searcher to appropriate headings; or to suggest subject headings new to the catalog that reflect the subject content of the failed search.

Logs of failed searches can be helpful to the off-campus library service librarian in other ways. The failed searches can help to identify gaps in the collection, and as such can aid in the collection development. Examples of failed searches can be incorporated into OPAC help screens and used as examples of key word searches. Further, these searches can enhance bibliographic instruction, as they can show catalog users how they can move from a key word search to a controlled vocabulary search.

B. Using Library of Congress Tools

Each week the Cataloging Policy and Support Office at the Library of Congress issues a subject heading list. This detailed list reports changes the Library of Congress has made to its subject headings during that week. These changes include contains changes in cross-references to existing headings, headings that have

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been canceled (and if replaces, new headings and cross-references), new authorized subject headings and changes to free-floating subdivisions. This list is used to keep authority records up-to-date, particularly as many new cross-references have been composed in more "naturalistic" language. It also announces major changes in geographical headings, such as the change from Zaire to Congo (Democratic Republic). Referring to this list is the best way to keep current with additions and changes in subject headings. The list is posted to the Cataloging Policy and Support Office's home page at the following address: http://ieweb.loe.gov/catdir/wls.html

For a synopsis of the subject heading changes you can look at the Cataloging Service Bulletin, which is issued quarterly. It provides an overview report of the subject heading changes and revisions made since the previous issue. It also includes a list of subject headings of current interest. This section will be of particular interest to the off-campus library services librarian, as it notes new subject areas and acknowledges current terms. One of the best uses of the subjects of current interest is to perform a key word search in the catalog for those terms. Once bibliographic records are found the off-campus library services librarian can work with the cataloger to determine if the new subject heading can be added to appropriate bibliographic records. These new subject headings are also helpful in collections work and bibliographic instruction, as they identify new and current subject areas.

Accessing Internet Resources

Today's World Wide Web based library catalogs often have links to various resources that are accessible through the Internet. These can be very helpful to off-campus students as they can access material that the Library has already determined is likely to be helpful. If students can access full text, the student may be able to obtain the information they require, or acquire information that supplements the materials that the library provides. In library circles there is much discussion as to what is the best way to provide access to these resources. Some of the usual ways of doing this are:

- connecting via a URL (Uniform Resource Locator) imbedded in the catalog record,
- having a separate list of resources on the Library's web site, or
- connecting to various databases using a Z39.50 gateway. Sometimes the URL for these databases is included in a catalog record.

Since the purpose of this paper is to discuss how "virtual" catalogs can enhance the Off-Campus user's ability to access resources, we will focus on the first option. While there are needs for all three methods, the authors prefer to have Internet resources which are actual publications as a bibliographic records within the catalog. This is especially useful when providing access to electronic journals or various government reports. If possible databases should be searched using a Z39.50 process, as this allows the user to use the interface that they accustomed to for searching other databases.

Obviously, what must be done first is to determine which resources the Library wants to include in the catalog. The Off-Campus Librarian should have input into these decisions. The authors suggest that Internet resources be chosen carefully so that they either complement strengths of the collection, or provide access to information which will supplement a discipline in which there are a limited loadings in the home collection. In addition, for publications that are issued in multiple formats it is useful to include the Internet sit for those publications that are accessible in electronic form as well as the format that the library holds.

The challenge with adding URLs in the catalog is that they do not necessarily remain the same; therefore the library should have a plan for maintaining them. Libraries with many URLs in their database often have some method in place to check the validity of these on a regular basis. Karen Schneider presents a synopsis of some of the ways that are in use for dealing with changes to URLs in her column in the March
1997 issue of *American Libraries*. One method to which she refers, and which the authors think is particularly good, is to use the PURL (Persistent Resource Locator) software developed by OCLC. (See [http://purl.oclc.org](http://purl.oclc.org)) In this case, the PURL will connect to the resource even if it has changed location, as the PURL is solely a representation of the actual URL. The PURL software is available without charge on the PURL web page mentioned above.

**Collaborating with Technical Services and Systems Staff**

Librarians responsible for distance education services or off-campus programs need to work closely with the staff who direct Technical Services in a library. In particular, they need to work with the person in charge of cataloging. The distance education librarian often aware of how students need to search for in a catalog or what they need to find for their program. The Off-Campus librarian should check the catalog regularly to ensure that new material is readily found. If the required items do not come up as a result of searching a catalog record may be available so that the material can be found. In addition, it is vital that the distance education librarian understands how records are created so that they can provide input to the catalogers about what might be able to be done to enable access to the material.

It is important for all librarians to understand the basic record field that are indexed in the OPAC that is used in their library, and determine whether each index is a keyword or an exact match index. It is vital that one understands which fields of the catalog record are included in each searchable index. Questions that can be asked include:

- Are contents notes annotated? In other words, are the titles included in the title index and authors included in the author index, or are all words included in the title index?

- How are series indexed? Is there a separate series index or is these included in the title index?

- What fields are part of the author index? Does this include corporate and personal authors, and are MARC 7xx fields (author added entries) included?

**Conclusion**

The distance education librarian who understands how the catalog works can be much more effective in assisting users to find material in the catalog. In addition, if one understands the structure of one catalog, one is more likely to suspect the structure of other catalogs when they are searched. Often distance education librarians need to search other catalogs to help students find material that is closer to where they live. Further, distance education librarians have an important role to play in organizing information for retrieval by off-site users. Their knowledge of their patrons can add significant value to the cataloging process. Even as library catalogs, the media being cataloged, and the users themselves become increasingly virtual the need for standardized rules for bibliographic description, structured access points, and indexing systems remain. However, the special needs of distance education users requires an added investment and advocacy by distance education librarians to ensure their patrons get a level of catalog access fully appropriate to their needs.

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Writing Formal Documents for Program Planning and Development

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Abstract: Program planning and development should include written agreements to avoid misunderstandings between educational partners providing off-campus instruction and library services. This paper presents a case study of the process used to complete a formal memorandum of understanding between a community college and a university in Florida.

Introduction

The formation of any partnership requires lengthy discussions, planning, and the development of operational guidelines. The guidelines may be formal or informal.

Off-campus instruction and/or library service is often provided by partners who assume different roles in the relationship. While a "gentleman's agreement" may work, at least for a while, long-term program planning and development should include written agreements to avoid misunderstandings when policies or procedures must change due to a different set of circumstances or due to a change in personnel.

This paper presents a case-study of a long-term educational partnership between a community college and a university. The Fort Walton Beach Campus, located in Fort Walton Beach, Florida, is a branch campus jointly operated by Okaloosa-Walton Community College and the University of West Florida. Presently it is the only Florida campus totally dedicated to a partnership between a community college and a university. In this 2+2 relationship, off-campus postsecondary education is offered from adult general education through the doctoral program.

Historical Background

The cooperative degree program between the community college and the university began in the Fall of 1981 in response to a need for closer coordination between the lower division courses offered by the community college and the degree programs offered by the university in the Fort Walton Beach area. By the Fall of 1982, area students were able to complete course work for 13 cooperative degrees, with the hours required for graduation divided almost equally between the two institutions. The off-campus center for this cooperative program was located at Eglin Air Force Base.

The impact of this base and Hurlburt Field, another air force base located only a few miles away, on the small city of Fort Walton Beach is tremendous. Steadily increasing enrollment from military personnel and their dependents, as well as from the general public, quickly made this the largest off-campus site at which either institution offered classes.

In response to a 1982-1983 State University System Board of Regents study of educational needs in the area, the Florida Legislature, in 1983, established the Okaloosa-Walton Junior College (as it was then called)/University of West Florida Center in the city of Fort Walton Beach. It was located in an elementary school building leased from the Okaloosa County School Board, and it became the administrative and public relations site for the Fort Walton Beach/Eglin area. This joint venture was funded initially from the State University System budget, and administrative guidance was provided by the University of West Florida. Operating funds were then contributed through each institution's budget. Based on a formal
memorandum of understanding, both institutions remained mutually exclusive, with policies and procedures of both institutions modified to facilitate coordination. Academic and technical support were the responsibility of each institution. The University of West Florida, however, assumed responsibility for the administration of the library and audiovisual program for both institutions and for the buildings and grounds operations.

Postsecondary opportunities continued to expand, and the population of the area increased, with projections indicating that growth would continue through the year 2000 at a faster rate than the state average. A needs assessment conducted in 1987 by the Florida Postsecondary Education Planning Commission in consultation with the State Board of Community Colleges and the State University System Board of Regents revealed that additional courses and programs were warranted.

The Fort Walton Beach Campus Today

In the Fall of 1988 the Higher Education Task Force of the Greater Fort Walton Beach Chamber of Commerce and officials from the community college and the university worked with U. S. senators and congressmen from Florida to gain congressional approval of a land exchange between the State of Florida and the Federal Government which would provide 156 acres located in Fort Walton Beach between Eglin Air Force Base and Hurlburt Field on which to build a new campus. Planning funds were appropriated by the Florida Legislature in 1988, and construction began in 1990. Fall 1992 classes were held on the new campus with over 7,000 students enrolled.

With the completion of the new campus came many changes. Not only were permanent faculty and additional support staff added, but the administration of the facility changed from the university to the community college. The Ad Hoc Task Force of the Greater Fort Walton Beach Chamber of Commerce Higher Education Task Force that was dedicated to acquiring the land was led by the community college president. The campus is also located closer to the community college than it is to the university.

In the new administrative arrangement, the community college assumed the responsibility for the audiovisual program, but the university remained in charge of the library. Obviously, some changes in policies and procedures were to take place. Whereas a short position paper, which was little more than a “gentlemen’s agreement,” had existed between the two institutions in the provision of audiovisual services and library services, it was necessary to draft a new document. Actually, three documents have been written to serve as guidelines for administration of the library and to help meet the goal of providing as seamless an operation as possible for the two institutions. The documents have all been merged into one memorandum of understanding.

Reciprocal Borrowing Agreement

The first document that was written enables all Fort Walton Beach based faculty, staff, students, and administrators, regardless of institutional affiliation, to have access to the book materials from each of the parent campus libraries, in addition to the materials held in the Fort Walton Beach Campus Library. Policies and procedures for providing this service were spelled out by the Fort Walton Beach Campus library director and the circulation department heads from both parent campuses in a 1995 proposal for reciprocal borrowing.

The purpose of the proposal was to provide guidelines for a year long (from May 1, 1995 through April 30, 1996) pilot project. In this project, faculty, students, administration and staff of either campus, who are teaching or taking at least one course on the Fort Walton Beach Campus, or who have Fort Walton Beach Campus responsibilities, may request books held by either parent library through the Fort Walton Beach Campus Library. Through the pilot project we expected to determine the demand for resources and the impact that would have on staff, as well as resources. It would also serve as a test of the policies,
procedures, and reporting guidelines written into the proposal. In a joint memorandum, the chief administrators of the Fort Walton Beach Campus wrote, "This year-long intercampus loan project should significantly improve information access for the FWB clientele, especially the OWCC students and faculty, and will serve as a basis for determining what future service enhancements or agreements may be appropriate."

The project was initiated with the symbolic gesture of presenting library cards to the presidents of the two institutions. In a brief, formal ceremony, the library directors of the parent campuses presented the cards to the "other" institution's president.

An Evaluation Team composed of the Fort Walton Beach Campus library director and the circulation department heads from the parent campuses met on a quarterly basis to monitor the project's activity. Difficulties encountered were quickly addressed by both parent institutions. At the end of the year, a summary report was written by the Fort Walton Beach library director, which included statistics on the number of requests sent to and filled by each institution, the number and status of borrowers, the percentage of requests filled, and the average turnaround times. Observations and recommendations were also made. Recommendations included continuation of the project on a permanent basis and retention of the policies and procedures as written in the proposal.

The proposal - and what became the official document - includes the philosophy behind reciprocal borrowing, identification of eligible borrowers, protocol for borrowing (reciprocal borrowing would take place only after resources were exhausted on the Fort Walton Beach Campus and the parent campus), materials available for loan, method of delivery, circulation guidelines, overdue/lost books, and authorities governing reciprocal borrowing (director of the branch campus library and heads of circulation on the parent campuses). The Reciprocal Borrowing Agreement is being used in tandem with the intercampus loan guidelines. It was agreed by the Evaluation Committee that the agreement would be revisited as needed, with need being determined by the Fort Walton Beach Campus library director.

Agreement to Exchange Library Cards

During the latter part of 1996, a meeting of the Evaluation Committee was called to discuss the possibility of interchanging community college and university library cards to enhance the Reciprocal Borrowing Agreement. Some initial testing was done to determine if the different computer systems used by the community college and the university would accept each other's cards. Some modification of the community college card was necessary, but it was not a major hurdle.

Using the rationale that if reciprocal borrowing is to continue, as all have agreed, it should be extended to whatever lengths are possible and comfortable for the three libraries involved in the project, the Fort Walton Beach Campus library director wrote a proposal that the interchange of library cards take place on a trial basis during the Spring 1997 term. It was agreed that there would be no reissuing of cards to ensure oneness, but that Fort Walton Beach Campus students who activated cards during the term would be able to use them on all three campuses.

Interchanging library cards has proved to be effective for several reasons. It reduces the number of cards a student must keep in his possession, allowing him to use the one issued by his parent campus. It also saves money on supplies used to make the second library card at Fort Walton Beach. Further, with the expected joining together of the community colleges and the institutions of the State University System in a statewide distance learning network, widespread collaboration is essential and will soon become commonplace. It is even possible that our experiment may become the model for the State.
Memorandum of Understanding

This document, the most comprehensive one agreed upon by the two institutions sharing the joint campus, incorporates the Reciprocal Borrowing Agreement and the Agreement to Interchange Library Cards described earlier in this paper. It was drafted by the director of the Fort Walton Beach Campus Library based on current management practice. Having served before and during the transition period of the campus, she was able to see clearly the areas where guidelines were needed.

Several drafts of the document preceded the one that was signed in February, 1997 by the presidents of the two institutions, the branch campus administrators for the two institutions, the library directors for the two institutions, and the branch campus library director, as input was sought from the different administrators who would be affected by the memorandum of understanding.

The Memorandum of Understanding Between The University of West Florida and Okaloosa-Walton Community College Relating to Operation of the Fort Walton Beach Campus Library, as the document was formally titled, is so succinct that it is confined to five pages, including the signature page. It is divided into three major sections: Introduction/Background; Mission/Philosophy; and Policies/Operational Guidelines.

The Introduction/Background section explains the rationale for the agreement and gives a brief history of the partnership of Okaloosa-Walton Community College and the University of West Florida in the Fort Walton Beach area. The Mission/Philosophy section indicates that the Fort Walton Beach Campus Library reflects Florida’s approach to the two-plus-two approach to higher education. Further, it identifies the library as a satellite dependent upon the parent campus libraries for more complete resources and services, according to the mission statements of both parent campus libraries. Each parent institution assumes responsibility for providing the same type of support of the information needs of its branch campus programs as it provides for on-campus programs.

The Policies/Operational Guidelines section is by far the longest section in the Memorandum of Understanding... Operation of the Fort Walton Beach Campus Library, based on the ACRL’s Guidelines for Branch Libraries in Colleges and Universities, accommodates the different missions of the community college and the university, relying heavily on the documents Guidelines for Two-Year College Learning Resources Programs and Guidelines for Extended Campus Library Services.

The Memorandum of Understanding... includes the elements prominently outlined in the Guidelines for Extended Campus Library Services. It addresses in the Policies/Operational Guidelines section the issues of management, personnel, resources, services, finances, and facilities/equipment.

Management of the branch campus library is provided by the university. The director of the library must act as liaison with both parent libraries, the Fort Walton Beach Campus administrative officers for both institutions, and the University of West Florida faculty. She/He is the chief public relations official for the branch library.

Support staff is provided for the library by both institutions. Classification, status, salary, and professional considerations for all staff members are equivalent to those provided to employees on the parent campuses. Staff are cross-trained on each institution’s operational methods and procedures, as appropriate, and provide assistance to all library constituents.

Materials added to the Fort Walton Beach Campus Library collections by either parent institution to support their academic programs are shared. They are cataloged and added to the database by the University of West Florida. Selections are made based on the collection development policies of both institutions.
Library services are designed to meet a wide range of informational and bibliographic needs comparable to services offered on the parent campuses. Access to the holdings of both parent libraries, as well as the branch library, is made possible through computer-based bibliographic and information services. Daily van service from both campuses provides document delivery from both campuses, reciprocal borrowing, and intercampus/interlibrary loan. On site circulation, reserve, reference service, and bibliographic instruction are also available.

Each institution allocates funds to support the Fort Walton Beach Campus Library and its staff. Day-to-day operating expenses are provided by the university.

The facility and most of its furnishings and equipment are owned by the community college. OWCC provides telephones and other utilities and public copier service. As it becomes necessary to replace or upgrade public access computers, both institutions have the responsibility of paying a proportionate share of the costs based on student FTE of the previous year, unless the upgrade or replacement is related to one institution's automation software. In that case, the institution requiring the change will bear the entire cost.

The Memorandum... concludes with statements relative to amending the document and/or terminating the partnership. It may be amended by written agreement of the original signatories or their replacements. If the partnership should cease to exist, the collections, computers, and furnishings placed in the joint-use library will be reclaimed by the supplying institution.
Towards the Virtual Library: Meeting Remote Business Students' Library and Information Needs

Lorraine Grobler
University of South Africa

Abstract: Continuous improvements in technology provides distance learning institutions and libraries with many applications to overcome geographical boundaries to bring learning and the world of libraries and information to the personal desktop of the remote student. This paper describes a pilot project in computer-based distance education using Lotus Notes at the University of South Africa’s Graduate School of Business Leadership. The pilot project has necessitated a reconceptualization of existing library information support. Topics covered in this paper include library collaboration with faculty in the learning process, copyright awareness, the necessity for value-added services and staff and end-user training.

Introduction

Technology continues to transform the learning process in distance education. The traditional roles of tutor, student, librarian and administrator are disappearing as all are becoming participants in the learning process. Technology is freeing the remote student from institutional, physical and time constraints, permitting both personal and collaborative learning. Libraries at most distance learning institutions are making the transition to adapt services to the remote end-user workstation with the electronic delivery of bibliographic services and electronic full-text information. Continuous technological improvements and enhancements provide distance learning institutions with a variety of applications to overcome geographical boundaries bringing libraries and information to the desktop of the remote student.

This paper describes a pilot-project in computer-based business education and training at the University of South Africa’s Graduate School of Business Leadership and the implications of this project for a reconceptualisation of existing library and information support towards that of the “virtual library”.

Background

The University of South Africa (Unisa) currently dominates the local distance tertiary educational scene in Africa. Its Graduate School of Business Leadership (referred to as the SBL), is South Africa’s largest business school offering distance education from its own campus, approximately 16 miles from the main Unisa Campus in Pretoria. The SBL offers two postgraduate courses, namely the 4 year Master of Business Leadership (MBL) which is the equivalent of the MBA degree, and a doctoral programme in business leadership, the DBL. In addition to these graduate degree courses, the SBL offers a variety of shorter, non-graduate managerial programmes aimed at the needs of the Southern African business sector.

As there was no overall technology-based tuition policy catering for distance business education in place at the university at the time, the SBL investigated the viability of using Lotus Notes. During 1995 a consultant from Athabasca University, Alberta, Canada was contracted to the SBL to investigate the use of Lotus Notes in distance tuition support. Athabasca was already using Lotus Notes in its MBA programme. A “groupware” product, Notes provides a teamwork environment that allows people to share information and ideas without requiring them to be in the same place at the same time. It was the ideal solution to
improve and facilitate communication between the SBL faculty and its student corps. The introduction of Notes also cut down on the overall production cost per student, diminished the need for a postal system and realigned the SBL in the highly competitive distance education market. Not only are the students exposed to the latest trends in business and management, a product like Notes exposes them to the latest computer technology, thus giving them a competitive edge after graduation. The use of Notes enriches the teaching and learning environment with additional enhancements, such as multimedia, access to WorldCom databases and eventual access to the Unisa library’s information networks. (Michalski, 1995).

At the beginning of 1996 an electronic distribution of courseware system was launched as a pilot project using 40 volunteers from the second and third year MBL programme. The system was named the Electronic Delivery System (EDS) and operated on the principle of a virtual Teaching and Learning Environment, referred to as TALE. This environment also included provision for a library database. (Michalski, 1995).

Although the library was not involved in the system at that stage, the library database on the system makes provision for requesting or downloading recommended reading material. Towards the end of 1996, the library was asked to supply articles through the system and receive requests for books, the latter being mailed to students in the conventional way. During the course of 1997, the SBL subject librarians together with a systems librarian from the main library examined ways of enhancing and adding value to the library database on Notes.

**Library Infrastructure Available to The Sbl And Its Students**

In addition to extensive library facilities at Unisa’s main campus in Pretoria, the SBL’s information needs are met by the Reference and Information Centre on the SBL campus. The Centre consists of a relatively small yet highly focused core collection of self-renewing print-based information sources covering business and management. The Centre is staffed by three subject librarians. Each subject librarian has a networked workstation with access to an Ethernet LAN running Novell software operating in a Windows environment. Lotus Notes 4.5 was added during the course of 1997. The centre has access to an electronic learning centre containing 30 integrated workstations. Information support provided by this team includes:

- retrospective literature searches and current awareness;
- training in library use and use of information resources;
- collection development and management;
- information skills training which includes CD-Rom and the Internet;
- advice on selecting a research topic;
- referencing.

The subject librarians began forming informal “learning partnerships” with regard to course design and development with faculty during 1996. As a result, print-based library subject and information guides were compiled for each course being offered on the MBL programme. During the pilot project, the guides from selected course areas were also made available on the library database of Lotus Notes.

These guides include:

- a short, full-text extract giving an overview of the subject;
- an OPAC listing of the latest books on the subject available in the Unisa Library with electronic request facilities for those guides on Notes;
- full-text copies of five “cutting edge” latest articles relevant to the course;
- abstracts of ten additional articles published in core journals during the last five years which the students can request from the Unisa library electronically and which are delivered electronically via Notes;
- list of articles and books of the experts or "gurus" in the field;
- list articles and books (if available) on South African or African applications of the theory;
- addresses of websites relevant to the particular course.

For those students who wish to use the SBL Reference and Information Centre or Unisa Library on-site, the
guide has sections which give simple, straight forward instructions on:

- how to search the business CD-Rom databases giving combinations of suggested terms or keywords
  or names of authors or experts in the field;
- how to search the OPAC giving suggested subject headings or keywords in the title.

The relevant Dewey number range is also given for visiting on-site students who simply wish to come in
and browse the relevant sections in the stacks.

The guides are compiled well in advance as collaboration with faculty is required. Copyright permission is
time-consuming and is becoming more problematic as the issues are fairly "grey". Students outside the
pilot group have the print-based guides mailed to them in the conventional way or they are distributed
during the first study school of the academic year when physically on-site at the SBL campus. The pilot
group testing Notes have their guides updated by means of a current awareness service during the course
of the year, whereas in principle, the remainder of the students using the print-based guides do not.

The guides have been well received by faculty and have been welcomed by those students who have
avoided using the library. However, there are drawbacks to the guides. They are labour-intensive,
copyright permission affects the finalisation of compilation and, in some cases, the relevance of the guides
as often key articles cannot be included. The print-based guides distributed to the students not forming part
of the pilot project date fairly quickly. However, for the first infant steps towards the virtual library, Notes
promises to be an effective route to follow once all the "kinks" in the system have been ironed out.

Towards The Virtual Library

It must be pointed out that the application of the term "virtual library" in this paper is by no means
synonymous with the electronic or digital library. Insofar as library and information support to the SBL is
concerned, the virtual library comprises of a number of combinations of conventional and digital
information resources to provide business students with the information they require. Under conventional
resources one would include print, microforms and audiovisual as well as information on analogue carriers
such as stand-alone CD-Roms and videodiscs. Conventional resources require physical handling and
processing, while information stored in digital form can be accessed directly form workstations in various
locations. The conventional resources are either owned by the library or made available when required via
inter-library loan. The digital resources contain information which is accessible on the local servers at the
SBL campus and the main Unisa campus respectively, as well as electronic publication and databases
which are stored remotely and can be accessed via the Internet and other networks. An addition to this so-
called" virtual environment" are the information facilities available on the library database of Lotus Notes.

The SBL subject librarian team and a systems librarian are presently investigating refinements to the Lotus
Notes library databases as the initial steps towards virtual library and information support to the remote
business student. In principle, it appears to be fairly straightforward to incorporate the subject and
information guides onto Notes' library database. Articles for a particular course are scanned in at the main
library by the periodicals section and then mailed electronically to the students using Notes. The electronic
version of the guides on Lotus Notes allows for books to be requested electronically. However, requested
books still have to be mailed to the student in the conventional way. The possibility of scanning in relevant
chapters onto Notes is currently being investigated.
Although it sounds like a walk through a "rose garden", experience has proved that it is what Berkman refers to as rather a walk through a "lotus garden". (Berkman, 1995, 206). As pointed out earlier in this paper, Lotus Notes is not used elsewhere in the University and is incompatible with the systems used by the library and the rest of the university. Snyman (1997) points out that "...software from different companies is not easily integrated into one system. Integration was done within the boundaries of the present environment, but future trends were kept in mind when procedures (often tedious) were established. Quick-fix solutions by introducing additional new software that might be compatible with the overall IT strategy of the library were avoided." (Grobler and Snyman, 1997). Adobe Acrobat 3.0 was acquired as it is considered as being the most suitable solution at present for viewing articles sent via the Lotus Notes e-mail facility. Adobe Acrobat allows users to create a document in any application and share it across platforms without any loss to its original style. It creates .PDF (Portable Document Format) files via a scanner from any printed page. The free Acrobat reader can be downloaded from Adobe's Website. It is possible for any MBL student who has e-mail facilities to receive an article in PDF format and view it with the Adobe Acrobat reader. The Adobe Acrobat capture makes it possible to assemble many images that belong to a single document in a single file. Students can browse the pages as a document using the Adobe Acrobat reader and print them all at the same time.

The main library's document delivery division did a feasibility study on the possibility of replacing the present manual systems used for storing recommended articles supplied to the rest of the university's student corps in the other faculties with a suitable electronic reserve type of system. With this system, articles are scanned into a database and stored on a file-server. Software for searching and processing of requests will be networked so that students visiting the library can select and print articles themselves. Searching for articles and processing of requests from remote stations to end-users is envisaged later for the rest of Unisa's student corps. The main library will, however, have to probably run a dual system - one for the SBL's Notes system as well as the web-based system for the rest of the university.

Lotus Notes is working well in the teaching/learning environment of the SBL and a new improved version of the EDS will be running on Lotus Notes 4.5 in 1998. In order for the library to play a meaningful future role in the learning function, library and information support services to the SBL must tailor their services to the Notes environment and exploit the applications and possibilities offered by Notes to the fullest extent.

The gradual transition from paper-based services towards virtual library and information support has necessitated a more focused approach to copyright issues, current awareness, value-added services and staff and end-user training.

An overview of these issues are given in the sections which follow.

Copyright Issues

Walsh (1996,253) points out that "... in the international context the mechanisms for dealing with copyright are well established. The Berne and Universal Copyright Conventions provide the model for the developing of national rules that govern the granting of these rights. But the development of new technologies is challenging the traditional controls applying to the 'old media'."

Seaman (1996) points out that librarians tend to think of "copyright" in terms of photocopying and focusing on the "how much" and "how many" issues, namely how much can be copied and how many copies can be reproduced, the end result being the photocopy. However, in a networked environment or a groupware environment like Notes, one has to think beyond the hardcopy product and in terms of transmission and display.
Walsh (1996, 253) further points out that "... as information is converted to, and increasingly created in, digital form the question of copyright protection has become vexed. We have seen in very recent times the emergence of polarised views. On the one hand there are those who propose that copyright is irrelevant. On the other hand there are those who propose new and broader rights, increased protection and greater control for the owners of copyright".

It is not within the scope of this paper to discuss the copyright issue in depth. Although the Unisa library works within a defined copyright policy, the legal position of material stored electronically is not in itself entirely clear. The copyright issues do restrict the amount of information that ultimately may be included in the library subject and information guides. Before the subject guides are finalized, copyright permission is requested from the publishers or authors. This means that the guides have to be planned well in advance. Articles brought to the attention of faculty by means of current awareness may not be hurriedly placed on the Notes system until copyright clearance has been obtained. Articles for urgent inclusion onto the library database of Notes, the subject librarians either e-mail or fax the relevant publishers or authors. Should this permission not be forthcoming, students are asked to submit individual requests for the article in question. Each guide contains an extract from the Copyright Act, 1978 pointing out that the photocopy or reproduction is not be used for any purposes other than study or personal or private use. Further, should a user make a request for, or later uses a photocopy or reproduction for purposes not permitted by the Act that user may be liable for copyright infringement.

Walsh (1996, 253) points out that the abundance of legal jargon, multiplicity of international bodies, economic repercussions and political interests distract one from the main issues. Distribution, communication and reproduction rights in the digital world require a concerted intellectual commitment on the part of librarians around the world. International library and information associations are important vehicles in an acceptable solution to the problem. Walsh (1996) further points out that copyright problems cannot be solved in a patchwork manner "...now that information flows are more than ever internationalised". She recommends that "... this is a shared issue for archivists and librarians and an area where co-operation between ICA and IFLA can create a powerful alliance in addressing the inadequacies of international treaties and conventions."

Campbell (1995, 22) proposes that "... to be successful, the copyright law must allow for the development of information systems that are quick, easy and computer based.

**Current Awareness**

Mountifield (1995) carried out an in-depth evaluation at the Unisa main library of a broad selection of electronic current awareness products on the market. The SBL subject librarians were asked to test some the products for coverage of business and management. A range of products were tested and evaluated - some of the services are aimed directly at the individual end-user while others are managed by information services on behalf of clients. The over-riding criteria which was applied in the testing and evaluation of the products was that the service should provide users with exactly what they want, when they want it, and how they want it. The conclusions drawn that to be successful an electronic current awareness service should ideally:

- use cost-effective products or databases sufficiently covering the subject field;
- be run at regular intervals using effective and easy to use software;
- design search profiles for individual needs;
- deliver relevant search results in a format required by the user for importing into a personal database or further manipulation;
provide information in a preferred format for reuse;

make provision for rapid and seamless document delivery. (Mountifield, 1995).

The field of business and management is dynamic and the subject librarian will need to use initiative and imagination when exploiting the variety of sources and options available for current awareness. It was found that not all the products give extensive coverage of business and management, especially in the South African and African context. It is, therefore, necessary to select the most appropriate information formats according to the content and usage of the information acquired.

As very few of the high-tech current awareness products give extensive coverage of business and management, a combination of basic "low-tech" methods are presently still used successfully. Webb (1995,23) in a thought provoking article on "frozen" collections points out that "low-tech" is not necessarily a liability in all cases. Experience of the information needs of the SBL and its students has shown that sometimes simple and basic is better. The SBL subject librarians have to make choices about what more traditional formats to use. Ideally, the subject librarian would pursue a current awareness policy to satisfy the needs of the SBL and its students, regardless of the cost of either the print or electronic medium. However, financial constraints and systems compatibility determines the policy and difficult choices and compromises have to be made.

Value-added Services

The virtual and digital library services will gradually replace many existing library services since they continuously add more value and enable full user participation. Developments in user-friendly and seamless information technology will enable users to get the right information, at the right time, in the right place, in the right format and at the right cost, freeing them to get on with their jobs and their lives.

According to Dan Atkins, Dean of the School of Library and Information Science at the University of Michigan, the fully-fledged digital library of the future will have four basic potentials:

- reducing the constraints of time and place;
- providing new more dynamic, integrated formats;
- supporting new forms of collaboration;
- customization and personalization. (Sweeny,1997, 32)

Sweeny (1997, 32) maintains that library users continually want more value by doing less work in "... obtaining, organizing, understanding, filtering, synthesizing, and assimilating information and documents into their decisions and into their thinking."

To a large extent, the introduction of a library component on Notes has raised user expectations of library service and information support. As pointed out earlier in this paper, the guides loaded onto Notes’s library database have attracted the attention of the non-library user. As one non-library user MBL student pointed out during the 1997 feedback session at the summer MBL study school "... I did not realise that reading additional material would improve my grade. Thank you, and I did not even have to go near the library. You saved me a lot of time which I could spend on the golf-course."

Notes has made it necessary for the SBL subject librarians to reappraise service delivery and information support. Where does the future lie? The answer to this question was provided by a SBL faculty member who pointed out that "... your future rests with the success you have in wooing back your users (and non-users), not only by offering them the services they expect, but also by offering services they have not even dreamed of." (Murphy, 1997).
On taking a closer, critical look at Notes, it was found that as Notes allows students to create their own mini databases, ensuring data integrity becomes a major problem. Furthermore, the pilot group of students using the system have commented that they have to deal with increasing information overload. The overflowing conventional in-tray is being replaced by overflowing e-mail messages, icons, online news clips and other electronic items that appear whenever the PC is switched on. Neither has the physical mailbox crammed with paper exactly disappeared. Add to this the busy work schedules of most business students, voice mail, fax transmissions and domestic commitments, it is clear that the biggest challenge to the student working in the virtual environment is managing and evaluating information. "Information overload presents a major opportunity for the SBL subject librarians as team players in the overall learning partnership to create customer value.

Albrecht (1994, 14) aptly sums it up:

What is customer value? It is the "mindware" created by the hardware and software you provide. It's the customer's perception of specific need fulfillment. It's the end condition that the customer considers worthy of his or her approval.

Staff And End-user Training

As with any sophisticated software, Notes requires more than a novice understanding of computers to be used effectively. The SBL subject librarians were initially hesitant to throw themselves wholeheartedly into the EDS project as Notes was yet another system to learn and was incompatible with the technological systems currently in place at the main Unisa library. It was soon realised, however, that the SBL was committed to Notes and that a heavy investment in training is required. Basic instruction in the use of Notes was given to the SBL subject librarians. A further intensive training course is envisaged for the beginning of 1998.

Training in the use of the library database on Notes is the responsibility of the SBL subject librarians in conjunction with the Notes' systems administrator. In addition to the hands-on workshops covering the Internet and electronic resources, one-on-one sessions are arranged with individual faculty member who have various levels of computer-literacy skills.

The computer-literacy skills of the MBL students varies considerably subject to exposure to technology in the workplace. The pilot group had considerable technological "know-how" and an interest in computers. However, their knowledge of manipulating and exploiting electronic information was lacking.

The electronic environment provides new capabilities for users. Whereas conventional print and analogue mediums offer content, digital mediums create content. Librarians and learners working in the virtual environment will need the ability to understand and use information in multiple formats from a wide range of sources. Learners need to be able to understand a problem and develop a set of questions that will solve a particular information need. Hypertext links enhance the learning process, creating information. Managing and evaluating information is an area that needs to be further investigated and incorporated in future information skills training programmes.

Concluding Remarks

South African business has emerged from its protective cocoon of the sanctions era into a highly competitive world. Global competitiveness facing South African business and industry has major implications for future job skills, requiring faster learning cycles. This is the reality for South African tertiary business education to provide focused and relevant education. There is a pressing need to learn
faster, to become more competitive involving more than the one-way delivery of a set of facts from an instructor towards virtual, interactive, self-directed learning.

In the face of global competitiveness the advantage will go to the fastest learners. The United States, Japan, Singapore and Malaysia are the foremost human resources-driven nations - it is their competitive advantage. There are lessons here for South Africa. Business education must support the fact that learning is central to performance and productivity. (Eager, 1996).

A new learning paradigm is emerging and these are the key trends:

- everyone is a teacher, everyone is a learner
- there is a strong competency focus
- emphasis on contextual, experiential learning while doing and doing while learning
- movement towards integrated learning system approaches. (Eager, 1996)

Quality distance education and collaborative library and faculty support must include first-rate tuition models, delivery systems that are easy to use and well organized instructional and information support. Each partner in the learning process has a unique and important role to play. These roles are interdependent and the success is highly dependent on the quality of the contributions of all the individual partners in the process as well as on an integrated approach towards the final goal of quality distance business education.

In my paper at the previous conference I pointed out that the African environment poses many challenges for us in finding means of bringing technology closer to our students. (Grobler, 1995).

We are almost there ...
Bibliography


Notes

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Critical Literacy: A Librarian and an English Professor Collaborate

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Penn State McKeesport

Abstract: Critical thinking and evaluation skills are needed as students working in an asynchronous learning environment turn to the Internet to fulfill information needs. Librarians should proactively redefine their role in the educational process by collaborating with teaching faculty to help students think critically about and evaluate Internet information sources.

Enhanced training in critical thinking and evaluation skills is needed as more and more students work in an asynchronous learning environment and turn to the Internet to fulfill their information needs. Although students seem motivated to do research when they can make use of the Internet, the plethora of unrefereed material encountered in World Wide Web searches has increased the need to emphasize proficiency in critical literacy skills. Relying on the Internet exacerbates the difficulty students have always had in selecting quality resources. Librarians can collaborate with teaching faculty to help students think critically about and evaluate Internet information sources.

Critical Literacy

Critical literacy can be defined as the "use of language in all of its forms, as in thinking, solving problems, or communicating" (Venezky, 1982). The term will refer to the evaluation of information in terms of its background, purposes, and presentation so that judgments can be made about its relevancy, validity, and credibility. The three most significant components of critical literacy are: a knowledge base, critical thinking, and evaluation tools.

Knowledge Base

The knowledge base is that body of knowledge which students bring with them when they come to our campuses. It will, of course, vary from student to student and be enhanced through the exposure to information presented in academic studies. It is reasonable to expect that this knowledge base will grow and develop throughout life.

Critical Thinking

We can define critical thinking, the second component of critical literacy, as the ability to apply logic and reason; make connections; and see interrelationships between facts, ideas, and concepts. "...all the Internet competencies invariably draw on it. It is the power of reason, the convergence of rationality and experience, that is the basis for critical thinking and evaluation." (Gilster, p.123). Although there are students who come to college with some exposure to the skills needed in critical thinking, there is still a need for improvement in their ability for independent critical analysis and thought (Macedo, p.188).

The ability to think critically requires fairness and a paradox of both open-mindedness and skepticism. The first step students must take is to pause and ask themselves such questions as:

* What are the assumptions? Are they valid?
* What viewpoint is being expressed? What viewpoint is missing?
* What evidence is given?
* Is there manipulation going on?

Evaluation Tools

Evaluative skills are needed to place World Wide Web pages in context. Therefore, the third component is the need for specific criteria to support appropriate filtering of information. Irrespective of where the material is located, students still need to determine whether a resource is scholarly or popular; how to identify the authority, currency, objectivity, and accuracy of the information they find; and what are some of the unique criteria for evaluating resources on the Internet.

Scholarly vs. popular

Many professors require students to confine their references to scholarly works. In order to distinguish between scholarly and popular works, the following kinds of questions should be asked (Whitmore, p. 14):

* Are the authors identified?
* Are the authors experts in the subject area or are they generalists?
* Is it published by a scholarly professional association, a university press, or a commercial publisher?
* Is there a bibliography or list of references?
* Is it written using a specialized vocabulary or is it written for anyone to understand?
* Is the intended audience researchers, professors, teachers, students or the general population?

Authority

It is important to "... realize that authorship should not be construed in too narrow a sense. A site mounted by a research organization may possess powerful credibility even if some or all of its materials lack individual attribution" (Gilster, p. 95). Scholarly publications and many popular works identify the person(s) or organization responsible for the content in the resource. However, determining authorship of resources found on the Internet can be frustrating, or even impossible, and students need to ascertain the answer to the following questions:

* What person(s), organization, or institution is responsible for the information?
* What are the author’s qualifications or credentials for writing on the subject?

Most print resources indicate the author on the title page, whereas authorship for an Internet site may be at the top or at the bottom of the Web page, or it may be necessary to page through various levels of hyperlinks to identify the author. Students should also be made aware that a research organization may have credible information on their site, but may not provide individual attribution for every resource. The organization or institution assumes the responsibility for the information on the site. However, it is common to find sites with no identifiable author. Gilster (p. 92) gives the example of a search on the Internet for materials about the Ashanti Gold Company. A search engine located numerous sites, including a breakdown of the company’s current financial condition. Unfortunately, the source of the information was missing, and there were no footnotes or hyperlinks which could point to the background of the document. Was the report written by a shareholder? a board member? a competitor? Information like this is basically useless, and students learn that if you can’t find out who or what organization is responsible for the information, YOU CAN’T USE IT. However, finding out who is responsible is only the first step.

If the material itself does not give an indication of the qualifications or credentials of the author, then students should use the search engines to obtain further information on the author. Of course, searching Contemporary Authors, Encyclopedia of Associations, or other such reference sources, such as indexes and
abstracts in the specific subject area, can also be utilized to find information about the author or to determine if s/he has done other work in this same subject.

**Currency**

Unlike print resources, Internet sites may be here today and gone tomorrow. Therefore students should include the date they retrieved the information as part of the citation so that it is clear how current the access to the site is. If currency of content is particularly relevant for a topic, then the following questions are required:

* What was the date the resource was produced?
* What was the date the resource was put on the Web page?
* What was the date the resource was updated?
* How current are the resources in the works cited section or the bibliography?

Frequently the Internet browser provides additional background information including the date the site was created and when it was last modified. This data is available in Microsoft Internet Explorer by: 1) putting the cursor on the web page, 2) clicking on the right mouse button which displays a pop-up menu, and 3) click on Properties. Netscape Navigator provides the data by: 1) pulling down the View menu, and 2) clicking on Document Info (for Navigator 2.0) or Page Info (for Navigator 4.02).

**Objectivity**

The criterion of objectivity requires establishing whether the resource material is biased and intended to sway, or whether it is neutral and gives both sides. Here it is important to help the students understand that just because a particular resource is *biased* does not mean that it should not be used. It is necessary to explain that being biased simply means that it has a *point of view*. We can find web pages defending everything from the "Oklahoma City bombing to the Holocaust on finely tuned Web pages" ( Gilster, p. 90). This is a perfect opportunity to point out that even if the assignment is to, for example, debate one side of an issue, you can only successfully accomplish this if you study both sides of the issue. Research on abortion may result in valid information from divergent sources such as the United States Catholic Conference and the National Organization for Women.

**Accuracy**

Critical thinking about accuracy of information content is essential in evaluating whether or not a resource is appropriate. Some of the kinds of questions that can be posed to establish accuracy are:

* Are the sources of facts clearly identified?
* Is the statistical data clearly labeled?

**Internet**

Three issues unique to searching the Internet for information to support research papers are: Uniform Resource Locators (URLs), hyperlinks, and stability. The URL is the Internet address and most begin with *http://*. Being able to read a URL will result in increased efficiency and effectiveness in identifying appropriate Internet sites. The first step is to understand the Internet naming scheme, called the Domain Name System (DNS), which consists of a sequence of alpha-numeric segments separated by periods (Comer, p. 314). These names are hierarchical, with the most significant part of the name on the right. The following chart lists the existing Top Level Domains (TLDs):
<table>
<thead>
<tr>
<th>Domain name</th>
<th>Assigned to</th>
</tr>
</thead>
<tbody>
<tr>
<td>.com</td>
<td>commercial site</td>
</tr>
<tr>
<td>.edu or .ac</td>
<td>educational institution</td>
</tr>
<tr>
<td>.gov</td>
<td>government organization</td>
</tr>
<tr>
<td>.mil</td>
<td>US military site</td>
</tr>
<tr>
<td>.net</td>
<td>network site</td>
</tr>
<tr>
<td>.org</td>
<td>private or nonprofit organization</td>
</tr>
<tr>
<td>two letter country code</td>
<td>country</td>
</tr>
<tr>
<td>Example: .fr</td>
<td>France</td>
</tr>
<tr>
<td>.nl</td>
<td>Netherlands</td>
</tr>
<tr>
<td>.uk</td>
<td>United Kingdom</td>
</tr>
</tbody>
</table>

In February 1997, the Internet International Ad Hoc Committee (IAHC) in its final report announced the creation of seven new generic Top Level Domains (gTLDs) (IAHC). The following chart lists the new gTLDs:

<table>
<thead>
<tr>
<th>Domain name</th>
<th>Assigned to</th>
</tr>
</thead>
<tbody>
<tr>
<td>.arts</td>
<td>cultural and entertainment activities</td>
</tr>
<tr>
<td>.firm</td>
<td>business or firm</td>
</tr>
<tr>
<td>.info</td>
<td>information services</td>
</tr>
<tr>
<td>.nom</td>
<td>individual or personal</td>
</tr>
<tr>
<td>.rec</td>
<td>recreation/entertainment activities</td>
</tr>
<tr>
<td>.store</td>
<td>businesses offering goods to purchase</td>
</tr>
<tr>
<td>.web</td>
<td>WWW related activities</td>
</tr>
</tbody>
</table>

Researchers will have a higher probability of finding scholarly resources in .edu sites, although there will be some found in .org sites and even some in .com sites. Obviously, .gov and .mil are most useful for topics that have a government or military relevance.

Other tips to watch for in URLs are: personal names and/or a "~" in the URL, sometimes indicates a personal home page with no official sanction; keywords in the URL which may give a clue as to the point of view of the site. For example, in a search for resources on a topic like abortion, finding the word NOW or feminist or Catholic in the URL would indicate that the site will probably have a bias. Once again, it is important to be aware that such sites may indeed have valid and useful information, but probably have a particular point of view. Students should also be aware that, at the present time, sites with FAQ in the URL
or in the title seldom are scholarly. FAQ stands for Frequently Asked Questions, and is usually a listing of questions concerning a topic of discussion for a newsgroup or mailing list (Gilster, p. 111).

The second unique issue in searching the Internet is that many sites have hyperlinks within the site. Links can contribute to the comprehensiveness of the coverage of the topic, and "the best sites will create a balance between outward-pointing links and their own materials" (Gilster, p. 113). It is important to keep in mind that the sites linked to may or may not have been created by the same entity that created the original site. These may lead to more information on the same subject, but it is necessary to evaluate the linked site using all of the above criteria over again.

Stability is a major issue for locating citations on the Internet. As mentioned under the issue of currency, students should include the date that they retrieved the information as part of their citation. The links within a Web Page, similarly, may not all be currently valid. If there is a link to a site that no longer exists, it is called a dead link. Quality Web sites have few dead links, and Web pages with numerous links that are dead ends should be viewed with suspicion (Gilster, p. 114).

A good knowledge base, combined with the ability to think critically and apply information evaluation tools, increases the student’s efficiency and effectiveness in identifying useful information to support his or her research objectives. "Collaborative instruction between faculty and librarians gives students the ability to judge the comparative quality of information, to know something of the characteristics of particular authors, reviewers and publishers; to be able to integrate what they learned through library research with what they already know; to develop a discriminating attitude toward the printed word; and to make critical comparisons of views and opinions." (Young, p. 18).

**Collaborating with Faculty**

Model organizational design of the 21st century will be premised on "teams surpassing individuals as the primary performance unit." (Katzenbach and Smith, p. 19). Collaboration can be defined as laboring with others, cooperating, working as part of a team with members who blend into a group that moves effectively together (Keohane, p. 4). It can also be defined as a process of functional interdependence in an attempt to coordinate skills, tools, and rewards (Patel, p. 78). Collaborative teaching can be thought of as faculty working together to design and deliver courses that make use of group learning (Robinson & Schaible, p 57).

As higher education moves toward new paradigms of active and collaborative learning, teaching will become more learner-centered and courses will no longer be developed and delivered by individual disciplinary specialists, but by teams working together on course content, identifying learning outcomes, and selecting teaching strategies. Courses developed in this way will be far more sophisticated than one individual could produce alone (Davis, p.20).

Both faculty and librarians may find that collaborating will require adjustments in attitudes and practice. It may even require some changes in our organizational structure, our use of time, and our allocation of resources. However, librarians have a history of collaborating and cooperating with each other, and can draw on our experiences, for example, in designing and operating cooperative resource sharing agreements. Now we have an opportunity to collaborate with teaching faculty, and faculty must be made aware that librarians are eager and willing to be partners in the new modes of teaching and learning.

The type of collaboration described here grew out of an experience that an English professor had when students in her class complained about the difficulty in finding and getting sufficient resources for their assigned research papers. The professor approved the request to use information from the Internet. When she began reading the papers, she was surprised to discover a disaster had occurred. Students had not been discriminating in selecting materials and did not know how to cite the sources they had used. Forbidding
use of the Internet as a resource was not an option, so she contacted the Head Librarian at her campus and explained the problem. Recognizing this as a window of opportunity for collaborating with faculty, the librarian suggested that the two of them review her syllabus and see how they could find an appropriate solution. The result of their efforts was redesigning the course to integrate critical literacy instruction into her curriculum. The librarian, who was now thoroughly familiar with the course content, provided the critical literacy instruction for the classes. An assessment tool was developed and added to measure the effectiveness of the module.

Assessment Tool and Preliminary Results

The majority of the students involved in the initial portion of the study were students taking freshmen and sophomore English classes. Prior to the Critical Literacy instruction session, students were given a questionnaire in which they were asked to describe their use of the Internet for research assignments in terms of: (1) their previous experience; (2) their attitude; (3) what benefits they felt it offered; and (4) what difficulties they found in using it.

Although almost all of the students believed that the Internet could fill most, if not all, of their research information needs, only 63% had actually used it for this purpose. Of these, over a third of the students valued the amount of information available on the Internet, 19% considered the ease of use to be the greatest benefit, 17% liked the fact that they could find information quickly; 14% felt that the kind of information that was available was the greatest benefit; and 6% valued the currency of the information.

On the question relating to difficulties that students found in using the Internet: 29% found it hard to find useful information; 14% found the Internet slow; 11% found it hard to use; 10% felt it was hard to find enough information; 10% found the information they located to be incomplete; 6% thought the Internet was hard to access; 3% said there was "too much selling;" and 3% said they didn't know how to cite the sources they found. Interestingly, no one mentioned credibility.

Immediately following the instruction session, students were asked two additional questions: (1) How do you now feel about using the Internet? and (2) Name one or two things you learned from the session that you did not know beforehand? Of the 37% who had indicated that they had not yet used the Internet for their research information needs, 75% were largely positive and felt more confident about trying it. The instruction had a sobering effect on the 63% who were already Internet users. Over half of this group felt that they needed to be more cautious. They indicated that although there was a lot of information available on the Internet, a lot of it might not be scholarly or credible.

An additional follow-up effort to ascertain retention was made a month later when students were asked to recall anything they had learned from the Critical Literacy instruction session. Of the students who used the Internet for their assignments, approximately 44% remembered that they needed to ascertain the credibility of the source of the information found on the Internet; 35% remembered the URL and Top Level Domain concepts; and 14% remembered to note the currency of the information, the Top Level Domain names, and issues with citing information taken from the Internet.

These preliminary results indicate that students were more selective in their choices of information sources; that they felt more confident, while retaining their newly learned cautiousness, in using the Internet for their research; and that they significantly improved their ability to cite Internet sources properly. These findings have been confirmed in the research papers that they produced during the remainder of the semester.

Word spread throughout the campus, and individual faculty members from a variety of disciplines began to inquire if the librarian would be willing to provide their class(es) with instruction in critical literacy. In each case, the librarian took the opportunity to work with the faculty member in reviewing the course
syllabus and deciding where and how the instruction would best fit. By faculty request, and in order to insure that our findings are statistically valid, we are now increasing the cohort of students in the study. The critical literacy instruction module has now been taught in a variety of courses at three different Penn State Campuses.

Conclusion

The interface is changing, and librarians are being challenged to prepare students for a variety of procedures, protocols, and upgrades. We have to help students use critical thinking in selecting information resources for their research, and help them look at the totality of resources, not just the Internet. We must proactively redefine our role in teaching critical literacy skills by taking the initiative and actively collaborate with faculty on instruction and orientation of students. This will reinforce the concept that the academic library is at the center of the teaching and learning process. Participating in the design of preparatory instruction to support the new learning paradigms and the new technologies will move librarians into positions of leadership in creating a more learner-centered instructional mode for 21st century education.
Bibliography


Library Instruction at a Distance:
The High Tech/High Touch Mix
Three Case Studies

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Abstract: Librarians in distance education can use technology to better assist students in understanding the electronic world of information. However, without instruction, technology in and of itself is not intrinsically a teaching tool. In this paper, three experienced librarians describe their teaching/learning approaches in three different models of extended campus library services.

Librarians in distance education can make good use of technology to better assist students in their forays into the electronic world of information. However, without instruction, technology in and of itself is not intrinsically a teaching tool. Technology can aid in creating a learning environment which suits students whether they be in a face-to-face classroom on campus or hundreds of miles away from the main campus.

In this paper, three experienced extended campus librarians offer their best thoughts on the challenges inherent in delivering instruction to students at a distance. We describe our approaches in three different models of extended academic library services:

- librarian at the branch campus of a university library which serves students in the state university system and the local community college
- librarian at the main campus with students scattered throughout the state with some affiliated community colleges
- librarian at the main campus with students in 15 states without official branch campuses.

In each scenario, the technology we use facilitates better communication with our students, but in and of itself does not make for a better teaching/learning environment. Creating the right mix of instructional delivery which melds with our institutional environment creates a climate of teaching and learning which fits our clients’ and our institutions’ goals.

To begin the discussion Mem Stahley presents a “high touch” information literacy program practiced at the University of Central Florida’s Brevard Campus. She presents a rationale for a programmatic shift from a tool-based library instruction program to an inquiry-based information literacy program. She describes the delivery of such a program situated within an online classroom fully equipped with hands-on work stations.

Susan Barnes then talks about working with faculty at Linfield College in order to maintain a vital role in reaching the adult students situated throughout the state. The Extended Services Librarian plays an active role in the requisite introduction to library resources at the semi-annual ReEntry Colloquium for all new
students; she teaches all seniors in the Humanities and Social Sciences majors and team-teaches a research/writing class with an English Department faculty member. This class is primarily delivered through computer mediated conferencing, a "high-tech" delivery method.

Katherine Holmes goes another level in "high tech" to describe her innovative program based at Lesley College which must speak to students in 15 states. Through Web Whacker, PowerPoint and a video, she has been able to connect with students so that they will develop a fundamental understanding of the ways of electronic searching. These three technologies enable her to present instructional sessions in places where Internet access is challenging at best.

University of Central Florida - Brevard Campus

The setting for this portion of the discussion is the University of Central Florida's (UCF) Brevard Campus, located in Cocoa. The main campus is approximately 40 miles west of Cocoa in Orlando. The campus shares facilities, services, and staff, with Brevard Community College (BCC) and offers a variety of upper division and graduate level programs in Business, Education, Engineering, and Health and Public Affairs. The BCC/UCF library contains a book collection of approximately one hundred fifty thousand volumes, and periodicals totaling nearly 800 titles. In addition, users have electronic catalog access to the Library Information Network for Community Colleges (LINCC) and the state universities through the Library User Information Service (LUIS). Our students also have access to a variety of CD-ROM resources on the library LAN and remote access, via Winframe, to ERIC and CINAHL. For Internet access, we have seven public terminals with Netscape browsers and four public terminals with direct dedicated access to all state university system catalogs, databases and online resources via WebLUIS on the Internet. Our library classroom includes an instructor station and 16 hands-on PC stations with access to most UCF and BCC information resources. All sessions are high-tech/high touch. Students must attend classes in person at the campus library where one of our librarians provides instruction, demonstrations and guidance in hands-on exploration of information through the World Wide Web and electronic access.

This year at Brevard, we began the shift from library instruction to information literacy (IL). Although the primary catalyst was a personal research project, in retrospect, there were four major reasons for the change: a) To present a resource based perspective on information, b) To develop enhanced inquiry skills, c) To promote lifelong learning, and d) To respond to the overwhelming influence of technology.

Many definitions of IL occur in the literature. "Information literacy is the term being applied to the skills of information problem-solving" (Wisconsin Educational Media Association, 1993, p. 1). "Information literacy is a set of skills and strategies which encompass the abilities to recognize a need for information, to retrieve the required information, and to evaluate and utilize it effectively" (Giguere, Galler and Locke, 1995, p. 75). "Information literacy may be defined as the ability to effectively access and evaluate information for problem solving and decision making" (Rader and Coons, 1992, p. 113). Most of the existing definitions echo the competencies enumerated in the final report issued by the American Library Association's Presidential Committee on IL.

To be information literate, a person must be able to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information. Ultimately, information literate people are those who have learned how to learn. They know how to learn because they know how knowledge is organized, how to find information and how to use information in such a way that others can learn from them. They are people prepared for lifelong learning, because they can always find the information needed for any task or decision at hand (American Library Association, 1988, p.1).

The literature of IL is quite broad and rich. It includes workplace perspective as well as national and international views from educational, library, government and employment associations. In addition,
position papers, articles and examples appear at a variety of Internet sites. For a very brief overview of the literature, a bibliography is included at the end of this paper.

Including IL skill into standard library instruction curriculum necessitated making additions to class content and extending the lecture portion of the session. Formerly, we focused on library literacy which examined resources, access points, command structures, search protocols and strategies. We began by plunging immediately into online catalog access for books, and CD-ROM indexes and electronic databases for current information. In 1996-97, with the advent of myriad online resources, we included electronic reference, full-text access and finally, remote access information sources. When we began reviewing class presentations this year, it became apparent that there were so many available resources from countless access points that we had to do something about helping students to sort out their information needs.

By using a modified version of the inquiry training of problem solving, we attempt to assist students to sort out their information needs by asking questions. The format of the model, cited by Joyce and Weil, promotes active, autonomous learning using the 5-step inquiry process to formulate questions and test ideas. Using the model and including it in our class presentations, our goal is to get students to reflect on what it is they are looking for. This is not just a restatement of an assignment or research topic. In a brief discussion, we try to get them to examine their approach, to recognize the distinction between broader and narrower terms, and the value of developing word lists to use in their searches. Will they need just books, or maybe only journal articles, how about web sites or hypertext in their documents? Will the delivery format be paper or electronic? Do they have a choice? Still looking at IL skills, we recommend they review their strategy or materials for usefulness. Once they have a viable collection of materials, they must organize, summarize and interpret it. Only then is it appropriate to weave it together into a project, assignment or paper. The IL component of the presentation takes about 15 minutes of a two-hour session. Its purpose is to provide a framework for the remainder of the presentation, when students are introduced to the library literacy and hands-on portions of the presentation. They are then guided with the use of questions through the protocols and strategies of searching the book catalogs, current literature, electronic reference, and full-text and remote access resources.

**Demonstration and Hands-on Practice**

Once students have been introduced to IL skills and to available library resources and access points, they are ready for hands-on access to the systems. Via live internet link we connect to the University homepage, the library homepage, then to the WebLUIS homepage. Here, instructor demonstration and hands-on exercises introduce students to the variety of resources available to them. We begin by briefly examining the LUIS User's Guide, proceed to the Library Catalogs and then to the A-Z Databases. The exercises begin with the introductory, help-type database, useful to remote and on-site users found in the guide. In the catalog, students apply their current knowledge and experience in searching databases and online catalogs, most often in a telnet environment, to a web-based, internet environment. They combine terms and examine result lists using the same thought processes as when they used the NOTIS system in the IBM DOS environment. Now, however, they use windows, pull-down menus, and hypertext to select and link to relevant information. In the A-Z Databases, students continue with the same search strategies and protocols to explore current information. Again, they use point and click motions to select desired information, view record displays, holdings, abstracts and even full-text of recent articles and publications. Throughout the session the instructor guides students by encouraging inquiry. The curricular content of this sequence is designed to illustrate help resources, to apply existing knowledge in an unfamiliar environment and to draw the learner progressively deeper into the process of information literacy with convenient accessible, relevant resources. The target ideal in essence is that the learner develops an appetite for learning how to learn.

The second part of the hands-on exercise takes students to UCF library instruction via the UCF homepage. From the Library page, we select Instruction and Training, then Internet Training for Faculty, Staff and
Students, to get to Untangle the Web. Here students choose between "The Basics" and "Beyond the Basics" sites for general and subject specific information links. The sites were organized and compiled by the University's librarians and include annotations. They range from online guides to APA style, to sites in education, the physical sciences, business and government documents. The third part of the hands-on exercise introduces students to Internet search skills, taking them directly to the net search page using the Netscape browser. Here they select a search engine, guide or directory to execute a search, examine results and explore sites. Again they are encouraged to use inquiry skills to determine choices and select terms.

Information literacy sessions are approximately two hours long and are modular in design. Terms, keywords and URLs vary from presentation to presentation. The general content of the sessions, as shown below however, remains consistent from class to class.

Information Literacy (Class name and number)

- General Session Overview
- Information Literacy Skills
- Library Literacy Skills
- Hands-on-Practice, WebLUIJS

Introduction to Internet (Subject Focus)

- Terminology
- Search Services
- Search Strategies
- Hands-on Practice, Untangle the Web, Netsearch

Evaluation and Recommendations

All students attending the sessions are asked to complete a library instruction evaluation form. The ten-question form solicits information on class rank, major area of study, frequency of library use and preferred facility. In addition, students are asked to evaluate the lecture using a Likert-type scale and to check off recommended areas for improvement. The final question solicits additional comments. In the classes taught in fall 1997, student experience levels ranged from neophyte to experienced user with a home Internet provider. Their response to the sessions was largely positive, with comments ranging from "some of the info was way over my head," to "too much lecture," and "too much information" to "very beneficial," and "I feel less lost than before."

As an instructor, my personal recommendations include using preparation and organization to make a clear, coherent, well-structured presentation. Also whenever possible, try to break the session into two or three meetings. There really is too much information for students to absorb in one two-hour session. In addition, limit class size to 15 students and recruit an assistant to help in the event that technical difficulties or inexperience require individual attention. Finally, expect that students will stray. Their curiosity gets the best of them and they just cannot help getting ahead, or launching off on their own path. Try not to squelch their natural desire to learn. Assure them that exploration is what this medium is about. During the hands-on portion of the session, this is not only appropriate, it is the essence of discovery and learning how to learn.

Linfield College

Linfield College, located in the Willamette Valley west of Portland, is a small comprehensive college with two campuses. Current enrollment on both the McMinnville Campus and the Portland campus is 1910 (head count - Fall 1997). Adult students in the Adult Degree Program number 841 (head count) and participate in this
participate in this degree completion program at one of seven sites in Oregon or one site in Washington. We are affiliated with local community colleges at these sites, so that our students have generally fulfilled the first two years before they enter our program.

Library instruction is integrated into much of the on-campus course offerings which served as a strong premise that the off-campus program would be equally served. The Extended Services Librarian position was approved and funded in FY 1990-91. Initially one-third of a reference/teaching position, within three years, the off-campus responsibilities became one-half of the position. That half is funded by the Adult Degree Program. The librarian hired came from a strong teaching background and quickly forged working relationships with faculty engaged in the delivery of off-campus courses. Out of this strong collaborative working engagement with faculty, several opportunities arose which provided for sound instruction with the adult students. It needs to be emphasized that the key to success in the teaching program for the adult students is centered in a working relationship with the faculty. If the faculty believe that library instruction is important, then the students will as well.

This portion of the paper will describe, briefly, several avenues to reach these students at a distance. Since our students often live 4 to 6 hours from our main campus, with the Cascade Mountain Range between some sites and the main campus, contact with these students needs to be meaningful and succinct. Access is certainly provided for all these students, but instruction continues to be the key to ensure that they can use the various systems.

At the local level, we have strong working relationships with the local community colleges and staffs in those sites farthest from our main campus: Astoria, Bend, and Coos Bay in Oregon and Longview, in Washington. Librarians in those sites do, on occasion, provide library instruction for select classes. The Extended Services Librarian provides copious handouts to on-site community college librarians as well as occasionally teaching on site. The library web pages also describe in detail library services available for Linfield students as well as provide links to the catalog, indexes, interlibrary loan request forms, and direct e-mail to the Extended Services Librarian (see References). Numerous conversations are held between the Extended Services Librarian and the teaching librarians at the local community colleges throughout the year. Maintaining these professional ties adds to the service rendered to our students.

For the past four years the Extended Services Librarian has been very involved in delivery of the ReEntry Colloquium, a required course for all first year students. One Saturday during the course, offered Fall and Spring semesters, involves spending a day on campus. The intent of this course is to foster a relationship between Linfield and its students who might not set foot upon campus again until graduation. The Extended Services Librarian participated in setting up the format for this day and participates on two levels during this day, which ranges from a welcome from the mayor of McMinnville, himself an Adult Degree Program student, to a lecture from a faculty member, to sessions with students in various majors, to the gamut of information sessions about registration, financial aid and other more administrative sessions.

The Extended Services Librarian participates first and foremost in speaking to all the new students during several sessions. The intent of these sessions, held in the reference room of the library, is to first of all introduce the students to "their" librarian, i.e., put a face to a name. The second purpose is to provide copious handouts, ranging from letters describing services at each site, to application forms for a Linfield computer id, to a quick, humorous demonstration of some basics: the web pac, a basic index to academic journals and a promise to be available. This session, though low tech, is a great opportunity to establish an initial contact, one that is often maintained throughout the years, through the high tech of e-mail and the web. Putting a face to high tech access establishes a rapport and a connection that libraries are not just access tools. The initial talk emphasizes the importance of thinking their way through the tools of high tech to the knowledge inside books, articles and web pages.
On this day, the Extended Services Librarian also speaks with all future majors in the social and behavioral sciences who will write an extensive thesis in their last course at Linfield. At this session the faculty member in sociology also speaks, as well as a local advisor and a recent graduate of this program. From the beginning, students can see a relationship amongst all three people in their program. Each of us, the sociology faculty member, the local advisor, the recent student and the librarian, gives a different piece of this puzzle. Again, this is low-tech, but it sets up an expectation for library instruction and services and it melds the library instruction into the entire educational experience of the students. Later, when they take this research course, they will spend a day with the librarian, either on campus or at another site library, where thorough instruction in social science tools is delivered.

Again, collaboration with faculty sets up the notion in students’ minds that library literacy is an integral part of their Linfield education. Hearing from a recent graduate underscores that importance. Hearing from the sociology professor that the Extended Services Librarian not only participates in the teaching/learning experience but also signs off on their bibliography, a literature review, also emphasizes the commitment to research literacy that Linfield’s Adult Degree Program has made. Without the backing of the faculty and the support of the director of the Adult Degree Program, the librarian’s role would be diminished.

So, where’s the “high tech”? The web pages are a start (Whyte, 1997). They both provide access to the catalog and various databases, but also describe the services and offer research tips as well as an e-mail or phone link to the Extended Services Librarian. On a smaller scale, one that reaches fewer students, the Extended Services Librarian has team taught once or twice a year a research writing class delivered primarily over a computer conferencing system since 1993. Again, please notice the collaboration with a faculty member, this time from the English Department.

Four years ago at the Sixth Off-Campus Library Services Conference in Kansas City (1993), my colleague Stephen Wolfe and I, wrote and presented a paper which presented the context and theory behind the course which we had just offered for the first time over a computer mediated conferencing (CMC) system. We spoke of the isolation of adult students in this course that met seldom face-to-face and where the students completed a complex research paper without having the opportunity to participate in a community of learners. We expressed confidence that CMC would afford just this opportunity, so that students would have feedback from their peers and their professors, that their words and texts would have timely response and that they would have an entry into a scholarly community and thereby have a broader understanding not only of research tools but of audience and the scholarly process.

Computer mediated conferencing is an online system which allows students to attend class electronically, upload assignments and receive feedback from faculty and their peers, and stay in touch with their class without traveling to campus. Once the computer conferencing software is loaded on a student’s computer either at home or at work, the student can communicate with the rest of the class at any time of day, maintaining an asynchronous link with classmates and the professor. Synchronous communication is also possible so that students can chat over real time. Computer conferencing software looks a lot like e-mail. Generally a class offered through computer conferencing consists of several large groups online where the student can read and respond to everyone’s else comments. It somewhat resembles participating in a listserv, only computer conferencing software “threads” conversations so that participants can track certain topics of conversation by topic over time. There are many innovative ways to set up conferences such as group students in smaller groups for brainstorming or group work; private e-mail for appropriate correspondence; or large, interactive groups where assignments are posted and commented upon. This medium generally affords a cost—effective method for delivering courses to students scattered over a distance who cannot attend a weekly class on a campus. See the attached bibliography for some recommended reading on computer mediated conferencing.
Having now team-taught this for at least 8 classes, with a number of English faculty, the rest of this part of the paper will address both the pros and the cons of delivering a class through this medium.

In its favor, the medium certainly enhances contact amongst students and between students and faculty. If the dialogue can be successfully maintained, then students can begin to appreciate the usefulness of having an audience to write to. Writing for an audience which is larger than a professor can enhance critical feedback, feedback which is often more timely in nature, given sometimes 10 minutes after being posted online. Moreover, students who live far apart can “talk” either synchronously or asynchronously over the system and can feel connected with each other in a way that weekend classes cannot simulate. Students are no longer passive learners in such a medium, if projects and assignments are well constructed and if the professors can coach from the sidelines when necessary.

Another plus is that this medium is all about writing. In a research/writing class this seems to be of particular benefit. Conferences can vary in tone from informal to formal writing. We have experimented with setting up different clusters of conferences so that students can write informally in some groups and submit formal writing assignments in another larger group. There is also e-mail for those messages that need to be private. Some students become very fluent in this text-based medium, online often, they respond quickly to their classmates' queries and opinions and often lively debates ensue online. Moreover students see that their peers are often experts on various topics. More often than not, a student will be stumped and another will make a very good suggestion to help solve that particular problem. Adults respond well to the flattening of authority that the CMC medium portrays. Moreover, often they are able to easily discern the difference between brainstorming or free-writes and formal writes.

The conferencing software is of course critical to the success of this class. Initially we used EIES, the Electronic Information Exchange System which was archaic when we started. For the past two years we have used FirstClass, an icon-based, cross-platform, system managed by Oregon EdNet, which provides many local phone numbers, an important issue to consider in Oregon where almost everyone resides at a distance. FirstClass is easy to manipulate, the basic commands which students must use are few, and it is manageable to upload and download text, a consideration when a text is multi-screened or if the phone connection costs money. Very quickly, especially with FirstClass, the medium becomes a mere tool and the learning centers on the content of the course. And, in each class, there is always at least one student who is very technically savvy who quickly becomes a mentor for the other students.

For some faculty, teaching through this medium is liberating; for others, it is beyond the pale. After an initial weekend class on campus, which is critical to bond the class and to teach the computer conferencing system, often the class does not meet again face-to-face. This works well for some students and faculty who find an easy fluidity in electronic, verbal context of the CMC. Others crave seeing people and find that words cannot convey enough praise or criticism without concomitant voice and eyes and the presence of a human being. Some faculty who are used to red-marking in the margins of papers, cannot figure out how to dialogue on-line with a group of students. Used to being the “sage of the stage”, faculty have difficulty surrendering that authority which is inherent in standing in front of the classroom and lecturing to faces in the audience. CMC cannot be a place of lectures nor of red ink (although the latest version of FirstClass allows some choice of color for the text). Some faculty are distinctly uncomfortable in acting as a facilitator or guide, which this medium demands.

Moreover, CMC often superimposes an expectation of instant feedback. If a student loads up an assignment or asks a question, she wants an answer soon, if not in 2 hours, then certainly within 12. Sometimes schedules do not permit such open office hours, as it were, and frustrations are expressed. Faculty when they first teach on CMC find themselves spending an inordinate amount of time responding to each and every student. The trick is to create assignments and work groups so that students truly collaborate and comment on each other’s work.
This brings up the challenge of course design. A class which works well face-to-face needs fundamental revamping when taught online. The time involved in rethinking course delivery through CMC is quite a lot. And then, often one has to teach it at least once to really understand the shifting nature of the teaching/learning process online. The role of the moderator, the faculty member, is crucial to the success of the course. Knowing how to structure assignments and discussions, how to ask open-ended questions, how to use the right words so that no offense is taken because there are no mitigating human gestures seen on the screen, these are all difficult for some faculty to learn, not to mention learning the system itself.

The benefits of CMC are many: time and place independent, students who live at a distance and who maintain otherwise busy lives, can successfully participate in a rigorous academic course and manage another medium which they can use in other courses as well. The range of communication via CMC is often greater than within a face-to-face classroom: student to faculty, student to student or students. The opportunity for collaboration is exceptional; student-centered learning is a real possibility in a well-thought out class. The high technology of this way of delivering a class can actually add to that low technology concept of community: hearing and responding to people’s ideas, albeit through words only.

Lesley College

Lesley College is moving along a continuum from “high touch” to “high tech” in services to off-campus students. New library resources are largely internet-based and a growing number of students have internet access through their home or work. Yet most of our off-campus classes meet in facilities where internet access is not available—or is not adequate—for a library instruction session. We have turned to technology, both computers and video, to provide the “connectivity” needed for instruction.

Lesley College offers Bachelor's and Master's programs in Education, Counseling Psychology, Human Services, and Management, and a Ph.D. in Education. The College enrollment is about 6200 students, with about 4,000 students meeting off-campus. Courses are delivered at about 150 sites in 14 states across the US and at two new branch campuses—a story for another time! In order to deliver library instruction at these isolated sites, librarians travel with a laptop computer and video/data projector. These devices enable us to teach students about information literacy concepts, library services and resources.

Over the past year, Lesley College has focused substantial time and money on the delivery of services via the college Web pages. Through these pages, the library offers full-text databases, computer indexes, the library catalog, subject guides, reference and other services for off-campus students. Like many librarians, I create web pages to support off-campus students with search tips, subject guides, and links to resources in their local area. An increasing number of our students search these web pages for information and contact me by e-mail for direct service.

Most of Lesley’s off-campus sites use rented facilities in schools, community centers, and hotel conference rooms. When classes meet in schools, internet access is often provided through computer labs. For groups meeting in hotels and community centers, internet access might be possible through a time-consuming and expensive sequence of special arrangements. Even when internet access is available, it is often slow or “down” just when it is most needed. Many librarians can identify with the experience of preparing a fabulous Web-based presentation only to be embarrassed by not getting into the necessary sites. On more than one such occasion, I could not even get into the local internet provider, much less get out to the world.

Because internet connections have been so difficult, I have explored a number of technologies for presentations that emulate the internet. This paper will share three of those technologies, WebWhacker, PowerPoint, and home-made videos.

WebWhacker software enables me to "fake" a session of surfing on the World Wide Web without so much as a phone line hook-up for the presentation. WebWhacker is a small shareware product that lives on my
laptop computer. When I want to "whack" some sites for presentation, I unplug my desktop computer from its network hookup, plug in the laptop, open WebWhacker and the Web browser (Netscape,) and start searching. I start navigating either from the Lesley College Home Page or from my own faculty web page, in order to model a pathway for students to follow. With a simple click of a toolbar icon, WebWhacker will download the text, graphics and links from any web page. It will either download all the links on a page, or whichever links I select. WebWhacker can either move down through several levels downloading all the way, or download one level at a time according to my preference. File management and updating sites is a little clumsy on the version I have, but newer versions have reportedly addressed these issues. The only Web pages WebWhacker cannot download are those that require the user to type into a form. This prevents the downloading of searches or passworded material. (For simulating searches, see below.)

To deliver the presentation, I open WebWhacker and the Web browser on my laptop, and select the desired opening Web page from the WebWhacker file list. Hereafter, every link I've "whacked" opens from the web screens. The presentation looks so real that Web-savvy students often accuse me of being secretly plugged-in to the internet. On Netscape, the comets move behind the Netscape logo, and the progress bar moves at the bottom of the screen. The only aspect that does not look real is the speed with which sites open--quickly!--with no tedious waiting for connect time. WebWhacker is a lifesaver for conference presentations as well as classes. I have attended national library conferences where the only successful Internet presentations were those that had been prepared with WebWhacker. No one else could "get in."

To replicate a database search, I have two options: use PowerPoint presentation software with screen captures of a search or create a video showing a live computer search.

PowerPoint is a presentation software by Microsoft. This powerful software enables users to create professional-looking computer presentations using built-in templates. Novices can create handsome results almost immediately; with practice and experimentation, users can customize templates or create their own. Because the software is expensive and takes lots of space on the hard-drive, Microsoft bundles a disk for PowerPoint Reader with the PowerPoint software package, so one can display the presentation on any computer without mounting the entire program.

In PowerPoint, I capture search screens from a live search and import them into my presentation slides. The computer screen fills the slide. I add a box of brightly colored text to each screen to prompt me as to what to do next--"Scroll down to the bottom of the page to find the Print button." With a simple click of the mouse, PowerPoint gives the appearance that I am scrolling.

Creating a video is another option for displaying a computer search. I had long believed that video would be a valuable tool for off-campus instruction. It could be viewed with a VCR and monitor, equipment which is available at all Lesley College sites. Videos could be used at sites where computer and projection equipment are unavailable. I had assumed it would take several thousand dollars and lots of staff time to produce a professional-quality video, with camera crews, storyboards, and extensive editing time. As Web-based library databases are constantly changing, it did not seem practical to create an expensive video that would soon be out-of-date.

My colleague Marie Gannon, director of the Kresge Center at Lesley College, discovered a solution in the Kresge media studio: we could record a presentation on video without ever using a camera--no camera crews, no elaborate editing, and no stage fright for camera-shy librarians. I sat at the computer, conducted a database search and gave an audio commentary much as if I were presenting before a class. We used an AV-equipped computer with a video card, allowing "video out" via cable direct to the "video in" plug on the VCR. A microphone on a stand in front of me recorded the audio track. By recording through a video editor, we were able to control the recording level of my audio commentary. I videotaped a database search presentation without ever going on-camera myself. The video captured everything shown on the
computer monitor as I searched. Once the recording was finished, Marie edited in the title screen and credits that I had created on PowerPoint.

Our first effort was an unqualified success. It was cost-effective and popular with student audiences. The whole process took only a day of my time to write the script, practice, record the video, and prepare the title slides. Marie spent half a day recording the search and editing the titles. The first take was good enough to keep. The little 17-minute video was well-received by students, who appreciated our efforts to create a "live" presentation. They could watch me search a database as if they were looking over my shoulder as I searched. Although the television monitor was too small for reading individual lines of text, students had a sense of how the computer screens would look when they attempted a search later from their home computers.

The single most important resource for creating even a simple video is a capable and helpful media center with personnel who understand the challenges of off-campus library instruction. Marie Gannon knows the media technology, the Web-based library resources, and the off-campus teaching environment. With her help, I intend to redo the video, creating title screens and credits with html and showing them through the Web browser. The associated Web pages will continue to be available to students for follow-up via the internet after the class. The video can also be duplicated inexpensively and given to teaching faculty for use in off-campus classes.

How do these technologies work together? Until something better comes along, I still need all three. WebWhacker allows the fluidity and spontaneity of the Web environment for presentations. As long as a site is "whacked" on the hard drive, it can be shown in a presentation. PowerPoint fills an essential void for displaying captured search screens from databases or the internet. The professional quality of graphics, fonts and colors sets a standard for effective presentations in any medium. Video offers a "live" demonstration of computer searching anywhere there is a VCR and monitor. One can use the same video process to record a PowerPoint presentation, html or hypertext screens, or an internet search. The three technologies respond to the contingencies of different settings and add diversity to a single presentation—without the panic of "Will we get into the internet today!?!"

Conclusion

Technological tools can positively impact the delivery of information literacy skills to students at a distance. The three programs discussed in this paper offer several ways of connecting with students so that they can better make use of library resources. Each of the three librarians in this paper is committed first and foremost to teaching the students; how we do this varies due to geographical and institutional restraints as well as opportunities. Extended campus library services offer a unique chance to think through not only the content of what we deliver but how to do it in a way or ways that best suit our varied audiences. Technology enhances this opportunity but never becomes the sole reason for these programs. Students continue to be the centerpiece of our thinking and of our work.
Bibliography


Information Literacy Bibliography


Selective Bibliography—Computer Mediated Conferencing


**Web Whacker Bibliography**


Casting a Broad Net:
The Use of Web-Based Tutorials for Library Instruction

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Abstract: This discussion will focus upon our experience planning, creating, and testing two Web-mounted tutorials for library instruction: a basic tutorial whose primary audience is continuing education students and a subject-specific tutorial for criminal justice majors. The session will include a demonstration of salient features of each tutorial.

Introduction

As the electronic library, which was predicted years ago, moves toward realization, it increases the need for user education in academic libraries. One major concern is that while access to electronic databases and information has greatly expanded, standardization of the multiple interfaces associated with these resources has lagged behind. Moreover, users are requesting more sophisticated electronic services than ever before at the same time that institutions are struggling to fund the positions necessary to provide assistance with these services (Woodsworth, 1988).

Western Michigan University Libraries also faced this situation—an ever-increasing number of electronic databases that require greater assistance and instruction (both at basic and advanced levels), and a small number of reference librarians and staff available to meet these demands. Attempting to provide such services to a large student body is daunting. WMU serves over 25,000 students, including 2,275 continuing education students. Even though the Libraries provided over 500 instruction sessions to about 34 percent of the total student body during 1996-97, over 65 percent of the students were still left without any type of formal instruction in how to find information or how to evaluate the information they find.

With a fixed number of personnel to serve increasing student populations, WMU Libraries, like many others, have turned to technology as an effective way to enhance or even replace basic instruction (Cooper, 1993; Dixon, Garrett, Smith, & Wallace, 1995). For example, to provide orientation to large numbers of WMU freshmen on campus, a video was created to accompany library tours led by student leaders, while in-person basic instruction for freshmen in University 101 was replaced by a hypermedia tutorial developed to fill this need. This tutorial has been used successfully for the last four years (Vander Meer & Rike, 1996). More recently, the technology of the World Wide Web has introduced the possibility of making library instruction available to all of our students, at any time and no matter where they may be located.

Two Web-based tutorials were chosen for initial development: 1) a basic tutorial whose primary audience is non-traditional adult students and 2) a subject-specific tutorial for upper division majors. The Basic
Tutorial covers finding books and articles and functions as an "anchor" for future subject-specific tutorials to link to when students need help with fundamental problems. The second tutorial was created out of a need to expand instruction given each year to advanced criminology classes. It also serves as a model for future discipline-based tutorials. The Criminal Justice Tutorial, the first to be completed, was created by a librarian experienced in multimedia tutorial development. This paper will discuss both tutorials and several aspects of creating a Web tutorial: planning, development, implementation, and evaluation.

The Basic Tutorial
Elaine Anderson Jayne and Judith M. Arnold

Preliminaries Leading to Project

Creative endeavors rarely follow a straight, logical path. Many preliminary activities influenced, advanced, and changed the direction of what is now the Basic Web Tutorial. For example, in the summer of 1995 four WMU public service librarians attended Technology in Learning and Teaching (TILT) at Northwestern University to learn how to incorporate the latest technology into instruction. The first attempt to create a basic tutorial for freshmen in English Composition (ENGL 105) began as a project for this week-long workshop. The tutorial started as a Web-based endeavor, since the workshop's technological focus had shifted from the previous year's emphasis on HyperCard to the more accessible technology of the rapidly expanding World Wide Web.

Following TILT, there was an ongoing effort to develop these fledgling pages into a full-blown tutorial, and three parts emerged: how to formulate a search strategy, how to search for books, and how to locate articles. Personnel from WMU's Instructional Technology Services were consulted. They recommended reorganizing the content, so a newly-hired librarian reviewed the existing tutorial with a "fresh eye," wrote additional content, and reconceptualized it as a process-based structure.

For lack of time the project lay dormant, and other experiences shaped our thinking. Probably the most important of these was the request to incorporate the World Wide Web into instruction for BIS 142, a basic writing class for freshmen business students. The Web turned out to be an entré into teaching students how to evaluate sources, and it promised to be an effective way to deliver instruction; students were enamored with its immediacy and graphics and preferred it to the boring task of using bibliographic databases to find articles and books. Using our teaching experiences and the instructional materials we developed, we gave an on-campus program for the Faculty Development Services' Enhancing Teaching with Technology series. A timely article by Gloria Leckie, "Desperately Seeking Citations: Uncovering Faculty Assumptions about the Undergraduate Research Process," influenced this presentation, and we incorporated some of Leckie's points about faculty misconceptions of students' research abilities (Leckie, 1996), especially as we were beginning to see Web-based assignments at the Reference Desk; some of them were well-designed, but others gave students absolutely no guidance. A portion of the presentation provided recommendations and examples of the effective use of Web resources. Based upon what we had learned from our teaching experience and a literature review, we wrote an article, "Dangling by a Slender Thread: The Lessons and Implications of Teaching the World Wide Web to Freshmen" (Arnold & Jayne, in press), in which we contributed some new ideas about using the Web.

At the 1997 LOEX Conference we encountered examples of Web-based tutorials and also one multimedia tutorial, CLUE, developed at the University of Wisconsin (Loomis & Konrad, 1997). The CLUE presentation provided us with a clearer understanding of the limitations of Web-based instruction, especially in regard to the Web's capability to utilize interactivity and multimedia. The presenters had gathered an impressive amount of data showing that traditional college age students prefer sound and animation. These preferences led the developers to choose a multimedia development software, Authorware, for their freshman tutorial rather than the Web because it offers greater interactive capability.
When we analyzed our own situation, we realized that we have two distinct audiences for basic instruction: non-traditional distance learners and younger on-campus students. We returned from the conference convinced of the need for both a Web-based tutorial to reach the broad-based adult audience and a glitzy multimedia tutorial to serve freshman composition courses and replace the soon-to-be outdated University 101 tutorial. Creating the Web-based tutorial first seemed more logical because we could use familiar software, we had written much of the content, and we had a colleague whose expertise we could draw upon already developing a Web-based tutorial.

In response to the Dean of the Libraries' invitation to propose innovative projects that would benefit the Libraries, we submitted a project description. His approval, in turn, encouraged us as members of the Libraries' Web Committee to volunteer to redesign the Libraries' home page. We felt that this task would provide us with the requisite hands-on experience developing Web pages before we undertook the larger and more complex tutorial project. In order to acquire the skills to create the Libraries' home page, we completed workshops in Netscape Gold, Photoshop, and Creating Graphics for the Web. We also attended the university's Enhancing Teaching with Technology Institute (ETTI). Having successfully created a new home page and secondary pages, we felt prepared to undertake the tutorial.

To make time for the project in our busy schedules, we submitted a request to the Dean asking for two semesters' release time from reference desk responsibilities and for new equipment. We were urged by colleagues to apply for a faculty research grant (FRACASF) to support additional release time, student assistance in the evaluation phase, and travel funds. We wasted many hours on drafting a proposal only to realize that since the grant would only support the evaluation phase, our timing was off by a year. One positive outgrowth of this experience was that the literature review led us to some important articles that stressed careful planning when working with the Web.

One of these articles provided a flowchart, a systems approach to planning and development that we have used as a checklist of crucial steps to take into account (Smith, Piette, & Dance, 1992). The same group of researchers also supplied some guidelines for design (Piette & Smith, 1991). We were mindful of the need to plan and the pitfalls of designing for the Web because we observed the difficulties that simple revisions and troubleshooting caused our colleague who was completing the Criminal Justice Tutorial. In ETTI we had been urged to plan a site structure carefully, and we were also encouraged to use a number of Web design resources. As we progress on the project, we continue to gather new design ideas from Web sites, from library literature, from technology journals, and from word-of-mouth recommendations.

**Planning: Needs Assessment and Instructional Goals**

We began formal planning by analyzing the needs of our primary audience for the Web-based tutorial, adult students who take classes at remote sites or through telecommunications delivery systems. Continuing education students are an important and growing component of WMU's student enrollment as they now constitute 43 percent of the University's total graduate headcount enrollment. Accrediting bodies and the ALA's Extended Campus Library Services Section (ECLSS) emphasize the importance of providing an equal education with equal services for these students (Guidelines, 1997). In 1996-97 two continuing education librarians taught 43 course-related instructional sessions to 689 students and assisted 172 students in Open Labs (drop-in help sessions), while over 800 students received Library Guides. Of the total number of off-campus students, 2,588 were unserved by any instructional services. The need for instruction for this significant student population was clear.

Like the more traditional age audience, continuing education students were in need of improved information literacy skills. WMU Libraries' Statement on Information Literacy affirms information literacy as an essential component in the educational development of all of its students and identifies continuing education students as a target audience. Information overload impacts all students and their response is often to pick the quickest and easiest—not the best and most appropriate—information. In this
electronic age, more than ever, students need to be aware of the range of print and electronic resources, they need help constructing a search strategy and mastering different searching systems, and they need to learn how to evaluate sources. Currently, when WMU students connect from remote sites, they are confronted with the online catalog as well as a choice from among over 60 databases available through the FirstSearch system. More changes (and the accompanying need for instruction) are anticipated, since a new OPAC system, which may be Web-based, will come online next year. Ironically, it is technology itself which offers the promise of delivering instruction to this underserved group.

Continuing Education students are often adults who have been away from the academic setting for some time. They may be more dramatically confronted with the need to learn new technologies than younger students, and their lack of computer skills may be one more barrier in an intimidating academic environment. Most lead busy lives, adding coursework to a full-time job and family responsibilities, and because of time constraints and economic pressures, they tend to be impatient with activities that they see as wasting time. Strongly motivated, these students have defined goals and accomplish what they set out to do. They are concrete and active learners who like to integrate new information with their life and work experience (Sheridan, 1986; Merriam & Caffarella, 1991; Lockerby, 1995). These learner characteristics were a major consideration in planning the design of our tutorial.

**Defining Learning Objectives**

To define learning objectives, we consulted two existing documents: the Libraries’ Statement on Information Literacy, which defines ideal skills and competencies, and a more practical-based worksheet created for ENGL 105 students which organizes basic skills that we feel students should possess into an information-seeking process. The learning objectives we derived from these documents clustered around six different abilities, “to be able to”: 1) distinguish types of information sources, 2) understand principles of the online catalog and databases, 3) master basic searching skills, 4) interpret and evaluate citations, and 5) identify services and locations in the Libraries. This inclusive list was then narrowed to the skills we considered essential, which we labeled "the bottom line," and recast into learner-centered statements (e.g., "The student will be able to perform simple subject and keyword searches in the online catalog").

We also invited student input. We met with reference student assistants, a mixture of traditional and non-traditional students, and asked them to list the ten most essential skills that students need in order to use the library effectively. Some of their responses overlapped with the categories that we had defined with our learning objectives: knowing how to find books and articles, knowing about services, and knowing locations in libraries. However, their jobs as reference assistants seemed to influence the other skills they listed, such as knowing how to ask questions, reading the library map, and managing the time needed to do research. A more formal survey was administered to continuing education students. In this survey students were asked about the learning environment they preferred, about their experience with computers, and about the skills they consider most important for using the Libraries’ databases effectively. Preliminary findings indicate that students felt that the two most important skills were how to search databases and the World Wide Web, that most study at home and prefer a quiet atmosphere, and that about sixty percent of continuing education students regularly use the Web.

**Beginning The Development of the Basic Tutorial**

**Performance Objectives and Test Items**

The learner objectives were reworded into performance objectives which in turn generate questions that are designed to measure successful mastery of each skill. For example, "The student will understand the difference between a popular magazine and a scholarly journal" became "The student will be able to list
three differences between a popular magazine and a scholarly journal." Colleagues reviewed copies of these performance objectives, and we incorporated their suggestions. Our next step in the development process will be to transform these performance objectives into test questions to be used in the tutorial.

**Tutorial Structure and Design**

Using a strategy learned in the ETTI workshop, we created a site structure. We recorded the topics we wanted to cover on post-it notes and placed these on a large posterboard, clustering them into related groups. The topic groupings suggested a natural structure for modules in the tutorial: how to identify information sources appropriate to the need, how to construct and refine an electronic search, how access and use the Libraries’ online catalog to find books and journal holdings, how to select and access bibliographic databases to identify periodical articles, how to interpret, evaluate, and cite sources, and how to access library services for off-campus students. Taking into account the learning styles and needs of continuing education students, we designed a home page that allows alternative ways of using the tutorial. Knowing that these students do not like to waste time, we offer four main access points. Three of these provide quick access to information on finding books, finding articles, and finding information on the Web. The fourth main category, "From Idea to Paper," presents the option of a more structured research sequence. In addition, we decided that navigational aids should allow students flexibility in seeking help on particular topics and should clearly indicate where they are in the tutorial.

While the planning and development stages of Web tutorials are important and time-consuming, implementation and evaluation are equally crucial to success. It is never too early to seek input and evaluation (Piette & Smith, 1991), as the development of the Criminal Justice Tutorial illustrates.

**A Subject Tutorial For Criminal Justice**

**Patricia Fravel Vander Meer**

**The Intent And Use of The Tutorial**

The Criminal Justice Tutorial, the result of a collaborative team effort, was created by a reference librarian, who is the library’s liaison to the Sociology Department, a World Wide Web and multimedia specialist in University Computing Services (UCS), and several of her staff. It was developed out of a need to expand the library instruction given each year to advanced criminology classes. Because of the growing complexity of finding electronic information and the expanding number of resources that the students need for their assignments, the amount of material to be taught began to exceed what could be covered in a single session. The self-instructional tutorial was intended to expand instruction by having students learn some basic concepts on their own before coming to the library for a group session.

Ideally, the instructor will assign the tutorial in class before the scheduled library presentation. The instruction session then centers on a brief discussion of what the students have learned in the tutorial, followed by a written assignment which the students complete at the terminals.

**An Overview of the Tutorial**

The tutorial can be accessed directly by URL (http://www.wmich.edu/library/discovery/cj/index.html) or from the Instruction and Information Literacy page under "tutorials" at the University Libraries’ site (http://www.wmich.edu/library). The tutorial’s introductory page offers an overview of the tutorial and directions for how to use it. If students are taking the tutorial for the first time, they are initially directed to an online survey which helps them assess their present knowledge and gives them feedback on what units might help them the most. Some demographic data is also collected here regarding who is taking the survey.
The main menu lists four instructional units and a follow-up assignment. When planning the content of the tutorial, I found it helpful to attend the initial session of an advanced criminology class and administer a skills survey to the students. I also met with two criminal justice faculty members to evaluate an outline of proposed content for the tutorial to make sure the needs of the students were going to be met.

In developing the tutorial, we tried to use graphics whenever possible to reinforce the text and to make the program multi-sensory. We also included practice exercises to encourage active learning and included a case study of a student conducting research to make it more interesting.

Most of the tutorial is discipline-specific to make the instruction more meaningful to the students. It would not be difficult, however, to use the same format and adapt it to other disciplines.

The tutorial is also designed to serve as a gateway, taking students directly to the indexes and databases they need for their assignments. It steers students toward Internet sources in a controlled way, given the fact that the quality of sources on the Internet varies so widely. In addition, there is information on searching the Internet, copyright, and citing electronic documents. Information on evaluating resources was also included for both print and Internet materials.

**Timetable and Resources Used**

The initial planning for the tutorial was begun in the winter of 1995-96. Serious work on the project began in the summer of 1996. The tutorial was more or less completed in the fall of 1997, although subject to revisions as a result of the evaluation that has taken place. To date the following team of personnel has contributed over 600 hours to the development of the project.

- Producer/Scriptwriter/Content Specialist (Librarian): contributed over 200 hours
- Producer/Director/HTML Author (UCS Web and Multimedia Specialist): contributed approximately 120 hours
- Designer/Graphics/HTML Authoring Assistant (student): contributed over 250 hours
- Authoring Assistant (student): contributed over 40 hours

There was a steep learning curve for much of the development of the program and a great deal of troubleshooting took place when the completed tutorial was transferred from the UCS server to the Libraries’ server. Therefore, it is estimated that considerably fewer hours would need to be spent on subsequent projects such as this.

**Evaluation**

Initial evaluation of the design of the tutorial took place in the summer of 1997 in the form of questionnaires given to five colleagues who are experts in one or more of the following: language, electronic interfaces, subject content, target audience, and instructional technology. Included in this group were two faculty members in criminal justice. I also tested the tutorial’s design on several criminal justice students by setting up individual sessions to observe them, take notes, and administer pretests and post tests to obtain feedback for revision. This method of evaluation is based on a model which is described by Thilagarajan (1978).

This fall an advanced criminology class worked through the tutorial and subsequently completed an attitudinal survey. The results of this survey are currently being compiled. In the winter semester a more
extensive pretest and post test will be administered to a different group to assess learning that is taking place as a result of the tutorial.

In direct observation of students we learned that there is wide variation in the amount of computer skills and Web experience they possess. Some students are quite proficient, but others have barely used computers. For example, it cannot be assumed that a student enrolled in this class knows when to single click or double click in a graphics environment or can recognize a hypertext link on the Web. Because only a few students were observed, additional observation is needed in order to gain further insight. This method of evaluation proved quite useful in that certain types of data can be obtained from watching students that cannot be obtained with a written survey.

Other findings that emerged as a result of observing students included:

- Elements such as a quiz need to be very straightforward. If there is anything difficult about navigating through the tutorial, students may well become confused.

- Everything needs to be labeled very clearly, such as the main menu, even though it may seem self-evident to the author.

- Students want to be able to click on anything near a hypertext link. For example, if a bullet which is a graphic appears next to a hypertext link, students may try clicking on it, as well as any other nearby graphics to invoke the hypertext link.

- Important elements, such as practice exercises, need to be contained within what can be seen on a screen initially because students do not scroll down automatically.

- Navigational links that allow students to progress in a linear fashion through the tutorial are needed in addition to links that allow them to review or skip units. Multiple navigational options allow students to use the tutorial in different ways.

Faculty feedback indicated the following:

- The font size needed to be larger in some places. Considering that there are more adult students enrolling in the University, this point is worth considering.

- Some of the questions in the survey might be too difficult for undergraduates, and they may become discouraged. The suggestion was made to add a few easier questions to achieve the right balance.

There was also a suggestion to change the logic of the material being presented in one unit, but overall, the comments indicated that the content was right on target, the language was appropriate, that students will enjoy using it, and the faculty will assign it. It is our belief that the needs assessment conducted at the planning stages of the tutorial is responsible for the positive assessment of the tutorial by faculty.

In addition, both students and faculty who were surveyed especially like two features: the case study in which a student conducts research and the gateway to resources. One of the most confusing aspects of conducting research is choosing what tools and databases to use. The gateway is designed to act as a filter and allow students to do one-stop shopping for information in their discipline. Other features considered useful are the tutorial's accessibility on the Web, the practice exercises and examples, and the instruction which covers evaluation of resources, since students have difficulty mastering this concept.
What We Learned

The challenges we encountered include the following:

- While developing the tutorial, the librarian and UCS staff found it was not easy to dedicate large amounts of time to any one project because of additional responsibilities. As a result, we continually needed to refamiliarize ourselves with what had already been done and play "catch up" each time we resumed work on the project.

- During this stage, it also became evident that the Libraries and UCS had different equipment and software capabilities, and it became easier for the librarian to work in the UCS environment for the sake of uniformity. It also turned out to be much easier for the team to work in close proximity in order to edit and troubleshoot while programming the pages.

- Upon moving the program from the UCS server where it was developed to the Libraries’ server, there were new incompatibility issues. The Libraries’ part-time webmaster was using a different browser than that used to develop the tutorial. The webmaster’s page layout web editing program translated the code differently when it read the tutorial pages prior to their being mounted on the server. Consequently images were broken, some links didn’t work or change color properly, and other problems occurred.

- In order to revise and maintain this tutorial we found it is necessary for the person doing the revisions to have a good knowledge of tables and some graphic design. The original intent was for UCS to create a template which the Libraries could use to expand the tutorial or create new tutorials. No one in the Libraries, however, really possesses the level of expertise to revise sophisticated programming. As in many institutions, the number of personnel to support the technology lags behind the creation of Web pages. This became evident not only with this tutorial but also with the Libraries’ web pages, which have grown very rapidly in a short amount of time.

To address these issues, the Libraries’ Web Committee has been working out a long-range plan for developing its website, and a student and graduate assistant have been hired to work on the Libraries’ web pages. In addition, we are experimenting with having each author-librarian mount pages to a temporary directory on the server where the webmaster can view them, suggest any technical revisions that need to be made, and the author can then make these revisions before the pages are published to the main directory. We are hoping this procedure will eliminate the need to have the pages processed through different HTML editors.

As a result of this project, UCS design consultants are now trying to consider the resources that will be used at the client’s site after they help launch a project such as a Web-based tutorial so that the product can be easily maintained by the client. This will require a delicate balance between using advanced design strategies and tools that can enhance a product and providing web pages that the client can easily work with in the future.

Plans For Future Tutorials

Because the tutorial has been accepted with enthusiasm on the part of students and faculty, a faculty member in the School of Social Work has requested that the Libraries create a similar program for her classes. Plans for developing this tutorial are currently underway. The format and design of the Criminal Justice Tutorial provide a template for this and similar projects, and the experience gained in developing it is itself a resource for future developers, which should make subsequent tutorials a bit less daunting.
Bibliography


The Evolution of the Virtual Library
and its Impact on Bibliographic Instruction
for Distance Learners

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Abstract: Given the profusion of electronic databases available to off-campus students, bibliographic instruction is essential for students' success in navigating and utilizing the resources. This paper describes the evolution of the virtual library and its impact on bibliographic instruction for distance learners at the University of Wyoming.

The University of Wyoming Libraries office of Library Outreach Services has altered significantly since its inception in 1983. The most dramatic changes have occurred in the past two years and are directly related to the implementation of technological improvements and the development of the World Wide Web. These innovations have moved the University of Wyoming Libraries closer to being one virtual library.

While there are numerous definitions of a virtual library (Van Fleet and Wallace, 1993; Kurweil, 1993; Schiller, 1992) the essence of these is access to the contents and services of a library without actually being physically present in a library building. Generally speaking the virtual library is an electronic network which grants access to library catalogs, bibliographic databases, full text databases, electronic journals and an electronic information network such as the World Wide Web.

The evolution of the virtual library has forced librarians, especially outreach librarians, to develop new skills and means of delivering services and materials to off-campus students. One of the most noticeable impacts has been the need for bibliographic instruction. To understand the rapid evolution and its impact on library outreach services to distant students, an examination of what has transpired at the University of Wyoming is enlightening.

Distance Education at the University of Wyoming

The University of Wyoming is the only four year university, public or private, in a state of 98,000 square miles and a population of 480,000. On-campus enrollment is approximately 10,000. To meet the needs for higher education in this large and sparsely populated state the University offers five undergraduate degree programs, four graduate degree programs, and one certificate program through the School of Extended Studies, its distance education unit. Over the years the number of courses and degree offerings has risen, and the enrollment in off-campus courses has steadily grown to encompass out-of-state and out-of-country students. Currently the off-campus enrollment of 2,100 comprises approximately one fifth of the total University enrollment. The 203 distance education courses are delivered on-site, through independent study or via audio teleconference and interactive video teleconference (two way audio and two way video).
Library Outreach Services

Recognizing that Wyoming's community college and public libraries were inadequate to support the library and research needs of the off-campus students, faculty and staff, as well as the graduate students who have left campus but continue work on a thesis or dissertation, the Library Outreach Services office was established in 1983. From the beginning, Library Outreach Services and School of Extended Studies have worked cooperatively to develop support services for the off-campus population. Initially, Library Outreach Services was primarily an operation in which outreach librarians, at the request of off-campus students, conducted subject searches and then delivered the required books and articles. This meant that students were essentially left out of the research process, an important aspect of a university education.

Evolution of the Virtual library

The evolution of the virtual library at the University of Wyoming has been the result of a series of technological innovations. It is also the outcome of cooperative efforts and agreements between the University and several organizations, including the School of Extended Studies, the Colorado Alliance of Research Libraries, Wyoming community colleges, and the Wyoming State Library.
The initial step toward a virtual library was taken in 1989 when the University Libraries joined CARL, the Colorado Alliance of Research Libraries, and exchanged its card catalog for the CARL online catalog. At the same time, the University placed CARL terminals in the eight Wyoming community college libraries for off-campus student use. The CARL system included not only the University’s online catalog, but other library catalogs, as well as two general and two specific article databases. While this technological advance was a significant improvement, access was limited to students residing near a community college or to those students with a PC and modem allowing them telnet access to CARL. With this initial innovation, library outreach began distributing CARL manuals and handouts to assist students and community college librarians with searching strategy.

At this stage, bibliographic instruction was minimal. Individual instruction was given through telephone conversations and focused on the specific needs of a particular student, which was not an efficient way of delivering instruction. The focus of class instruction was primarily an orientation to library outreach services, which outlined who we were, what services were provided, and how to submit a request for materials. This orientation was presented verbally in audio teleconference classes for obvious reasons. In interactive video classes the verbal presentation was augmented with the visual contact between library instructor and students and a graphical presentation made possible with the use of an ELMO, a type of overhead projector. Attempts at teaching basic search strategy for the online catalog were made using a series of overheads of a computer screen. This was not very satisfactory and was time consuming for the librarian who had to run a search, print individual screens, and finally enlarge the screens in order for the text to be visible on the classroom monitors. Needless to say it was extremely boring for the students to watch.

The second step toward a virtual library was achieved with the addition of FirstSearch on CARL in 1995. FirstSearch on CARL granted off campus access to over 40 indexing and abstracting databases. At this point the need for bibliographic instruction became apparent because FirstSearch was not an obvious choice on CARL, nor did off-campus students understand how to search the databases. However, the limitations of the technology previously described stymied our efforts at library instruction.

Soon thereafter, in January 1996, accessibility to CARL and its databases was again greatly enhanced with the installation of 52 personal computers in compressed video classrooms and in all eight UW Regional Offices. These computers were installed for instructional purposes, as well as for student use. Furthermore, at about the same time WYLD CAT, the state’s online library catalog system, was installed in most of the 23 county public libraries. WYLD CAT included a gateway to CARL. In addition to personal home computers, 39 sites now existed within the state where students could utilize CARL and the FirstSearch databases. Consequently, the emphasis of library outreach services altered as the number of subject searches done by librarians diminished and the requests for assistance with search strategy increased. In fact, outreach librarians began actively encouraging students and faculty to do their own searching.

With many more students able and expected to do their own searching, bibliographic instruction (BI) was expanded to include where and how to connect with the University’s online catalog/FirstSearch and the basics of searching. The interactive video classroom was now equipped with a PC and a scan converter which transforms a computer RGB signal into NTSC video in real time, making it possible for students to view the instructor’s computer screen on video monitors. For a description of the design and teaching in an interactive classroom, see Pederson, 1995. This technology made it feasible to use a PC for instructional purposes, in addition to the ELMO. Therefore, a PowerPoint presentation was developed and used for instruction. However, both PowerPoint and the ELMO restricted the content and flexibility of a BI session. Neither of these media worked well to display the contents of an online catalog screen, because the catalog screen displayed a lot of text in small font which was not easily visible on classroom monitors. Another drawback of using the ELMO and PowerPoint is that they offer static presentations.
The most recent leap toward a virtual library occurred in January of 1997 when the University Libraries replaced their CARL terminals with PCs equipped with Netscape. In addition, the Libraries discarded the majority of their most heavily used stand-alone CD ROM indexes and abstracts in favor of their Web-based counterparts. The new workstations, called UW Catalog Plus, give entry to numerous library catalogs, government resources, FirstSearch, SilverPlatter, DIALOG@CARL, and other information databases, as well as four full-text databases. Identical access was extended to the eight Wyoming community college libraries with the installation of UW Catalog Plus workstations at those locations.

This same access, albeit with password protection, was expanded further with the creation of a Web page (http://www.uwyo.edu/lib/out.htm) with links to the electronic databases and an electronic request form. The result is that our off-campus students, faculty, and staff have a full array of services: reference, research, access to electronic databases, delivery of materials, and bibliographic instruction. Currently, nearly identical services are being offered to off-campus students as to those on campus, although there still remain several stand-alone CD ROM workstations, such as Newsbank, Science Citation Index and Social Science Citation Index, which are only available on campus.

Bibliographic Instruction for the Virtual Library

The availability of a plethora of electronic databases with varying search interfaces, and the World Wide Web has created a greater need for bibliographic instruction than existed previously (Hutton, 1996). According to Hensley and Litzinger (1996), “Electronic information access...depends on how well they (patron) can perform three tasks: (1) perceive and define the information they need; (2) analyze the diverse bits of information they find and synthesize that analysis into a coherent ‘information solution’ to a problem; and (3) develop an effective ‘mental model’ of each electronic system they use and identify which system will most effectively and efficiently provide the information the need”(p. 30). Teaching these skills becomes critical to the academic success of students who are far removed from the main campus with its library and information specialists, i.e. librarians, to assist them.

Currently, a personal computer and scan converter are employed in interactive video classes to present a live demonstration of how to find the Library Outreach Services home page (http://www.uwyo.edu/lib/out.htm), to connect with and search the appropriate database(s), and finally how to submit electronically a request for materials (http://www-lib.uwyo.edu/outfrm.htm). Interwoven are basic computer skills, strategies for conceptualizing their information needs and characteristics of database organization. Throughout the demonstration, students ask questions, such as, “what if I’m not sure whether to use the term TV or television?” or “what if I only want articles in English?” or “I’m not having any success finding articles on patients abusing nurses.” An immediate response showing the suitable search strategy is possible and the results are visible instantaneously. Furthermore, since there is a computer in off-campus interactive video classrooms, students are able to turn to the computer, immediately implement what they are learning and ask questions of the librarian at hand. Once students see and speak with us they are more likely to call on us for assistance.

The outreach reference desk is available to students, faculty, and staff via email, an 800 telephone number with voice mail, FAX, the World Wide Web, and mail. Most commonly requests for assistance are received by phone or email. Telephone conversations typically last from 15-40 minutes as librarians talk students through the search process.

The placement of UW Catalog Plus workstations in Wyoming community college libraries created a need to train community college librarians who are frequently the point of contact for distance learners. Training of public librarians was also necessary due to the UW CARL gateway on WYLDCAT. Therefore, during the summer of 1997 the University outreach librarians cooperated with the Wyoming State Library to offer six three-hour hands-on training sessions throughout the state. This same workshop
was offered at the Wyoming Library Association fall conference. Training will continue to be an ongoing endeavor as search interfaces and the availability of databases constantly change.

Challenges

Bibliographic instruction continues to evolve and improve as librarians become more adept at using the technology for teaching distance learners. Regardless of our competence we are faced with a variety of challenges. Professors do not want to give up class time for the learning of library skills, in spite of the fact they require their students to do research. Students frequently have no or inadequate computer skills. Support for technical difficulties is not well coordinated. Audio teleconference, with its instructional limitations, is the predominant mode of delivering distance education at the University of Wyoming and is likely to be so for the foreseeable future due to the high cost of delivering interactive video. Individual instruction via the telephone is extremely time consuming but effective.

Conclusion

The evolution of the virtual library presents opportunities and challenges for bibliographic instruction which University of Wyoming outreach librarians are rushing to address. World Wide Web searching guides and tutorials are under development. A Web page with links to sites relevant to off-campus courses is in progress. Electronic reserves are feasible but are currently the responsibility of the course professor. In the haste to provide instruction and services, evaluation of instruction and user satisfaction has been overlooked and must be addressed. Ultimately a course for credit on library and information research may need to be offered. Whatever unfolds it is clear that future developments in instruction and services will be guided by and determined by advances in technology.
Bibliography


Promoting Off-Campus Library Services: 
Even a Successful Program Needs a Marketing Plan

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Abstract: Even when library services are available and sought after, there needs to be a program for marketing those services to off-campus/distance audiences. The presenter will focus on the need for and the development of a marketing plan, focusing on the identification of the users and their needs, and the development of a plan for marketing library services to off-campus/distance students. The presentation will include survey results from a sampling of institutions which provide off-campus library services. Mission statements and promotional materials from these institutions will be displayed and discussed.

In the introduction to the Winter 1995 issue of Library Trends, issue editor Darlene Weingand (289) expresses her view that "marketing is essential to effective library management -- and ultimately to the ability of libraries to successfully move into the next century." Although she does not make specific reference to the delivery of off-campus library services, or even to the delivery of education to distant students, clearly, when talking about moving into the next century, she had these in mind. In that same issue, John Nichols (1995) discusses environmental and future scanning, pointing out the importance of planning not just for the day but for the future.

For many years, libraries and other educational institutions have been developing plans for the coming fiscal year and for five or ten years into the future. This activity has generally been referred to as long-range planning but in the more recent years, particularly in higher education, it has been more commonly referred to as 'strategic planning'. Although initially used on the institutional or administrative level, it has filtered down to the departmental level at those institutions which have introduced the process. Primarily, its use has been for budgeting and assessment.

Although this is still seen as its primary purpose, changes in the economic and technological environments have made it more important for educational institutions to utilize the strategic planning process in order to position themselves within the political environment. Educational institutions -- and the libraries within those institutions -- need to think about 'the business' of education and, within that framework, develop a more proactive approach toward providing their customers, i.e., the students, with what they want and need. It is no longer fruitful for educational institutions to have the attitude that, just as goodness is recognizable, so is the strength of their services and programs. Times have changed; it is the forward-thinking entity that recognizes this and develops a plan for the future.

In more recent years, educators have begun to appropriate many of the concepts and practices used in the business world, particularly as these relate to the arena of customer satisfaction. Although in the past, most educators as well as most librarians have acted as if they had a captive audience, with the advent of technology, the proliferation of personal computers, and access to the internet, this edge has been lost. In fact, many computer-literate users have begun to think that because they can search and find information on 'the net', librarians are no longer necessary. Unfortunately, some educators agree or think that the library is not as necessary as it was in the past. To counter these misconceptions, librarians need to persuade others that despite technological advances, efficient and effective searches will still be done
primarily by librarians or information specialists who understand the structure of databases. Librarians
must market the attaining of these skills so that they will be seen as part of the educational process rather
than as 'fetch and carry' personnel. Furthermore, they must demonstrate that they can fill and anticipate
information needs. In order for the library and librarians to be seen as essential, they must make users
aware of the services and programs which they provide.

More than a decade ago, Joyce Edinger (1980, 328-329) noted that:

If the library is seen by its clientele and onlookers as vital to the university or to the
community, it will be less in the position of having to justify the existence of its programs
and policies. ... By actively marketing the library's services, the library can reach more
potential users, encourage use of the library's resources, and work toward becoming an
indispensable source of information for the community.

But what is marketing? Although many think that marketing refers to raising money, perhaps via book
sales, or to advertising new products or services, there are there are several definitions which show that
marketing is much broader. Esteve-Coll (1985, 2-3) says that the "concept of marketing starts from the
premise that a company actively researches customer requirements and then tries to develop a product
which will satisfy those requirements". That product can be a service. She also cites (1985, 3) the Institute
of Marketing definition that "marketing is the management process responsible for identifying,
anticipating, and satisfying customer requirements profitably". Philip Kotler, known for his works on
marketing, defines marketing as "the analysis, planning, implementation, evaluation, evolution, and control
of carefully formulated programs designed to bring about voluntary exchanges of values with target
markets for the purpose of achieving organizational objectives." (Mathews, 1984,5). Edinger and many
others, including Weingard, refer often to Kotler, to his "marketing concept" and to what he refers to as the
'marketing mix or the 4 P's of marketing: product, position, price, and promotion (Weingard, 1987;
Kotler, 1982). More simplistically phrased although not more simplistic is the definition that "marketing is
finding out what your customers want and, within limits, providing it" (Tenney, 1993, 1).

Regardless of whether one is beginning a new program or re-appraising an existent program, it is necessary
to have some type of plan for its development, particularly when trying to please customers. The purpose
of this plan, whether it is called a strategic plan, a business plan, or a marketing plan, is to plan for the
future, to ensure the effective use of resources, and to ensure that the needs of the users are being met.
Although using different vocabulary and having a different slant, each of the above plans includes the
activities of identifying the audience, assessing their needs, developing solutions to fill those needs,
informing the audience about those solutions, and evaluating the effectiveness of the solutions and the
satisfaction of the audience.

There are many ways of defining the phases of the marketing plan, but, as used by this author, it will include

Assessment of audience and environment,
Analysis of user needs, examination of current marketing practices,
Development of a mission statement for the unit providing the service,
Development of objectives and goals that fulfill the mission and re-examination and/or
development of new services to achieve these,
Examination of the marketing mix, --i.e., the 4 P's spoken of by Kotler: product, price, position,
promotion,
Evaluation.

In a paper discussing off-campus program start-up, Lebowitz (1995, 242-43) places emphasis on the need
to gather background information about users and their needs. She identifies the various audiences and
environments which should be examined prior to developing a program of off-campus library services. These are:

- Target audience (students and other users of the library services)
- Varied environments, such as
  - External (delivery site, local library resources, student environment)
  - Internal (academic departments, continuing education unit, support services)
- Faculty usage (for the course being taught)
- Faculty attitudes and perception about off-campus students and the library
- Course requirements
- Library skills and knowledge of students

She mentions other factors which need to be included in an assessment. These include knowledge about

- the degrees or programs offered off-campus,
- the delivery format,
- the number of students enrolled. (Lebowitz, 1997)

These same elements should be re-visited as part of the first phase in the process of developing a marketing plan for off-campus library services. Also of importance is the futures assessment or scan. As it relates to off-campus/distance education, this would involve examining the projections of degree programs and/or courses which might be offered off-campus within the next five to ten years so that future service demands can be anticipated.

In addition to gathering background information about who the users are, it is also necessary to gather information about their skills, knowledge, and abilities as information seekers. This can be done in several ways: by conducting formal surveys of users, by informally questioning them as they request assistance, and by talking with faculty. Also of importance is an examination of the current practices as it relates to the provision of services and the current methods used to promote the services available. Ideally, the needs of users and the provision of services to them will have been anticipated by the institutional or library mission statement.

**The Mission Statement**

The purpose of the mission statement is to define and establish the institutional philosophy. The mission statement for the unit providing library services to off-campus students must support and be supported by the mission statements of the university and of the library as a whole. If neither has made direct reference to or incorporated any reference to off-campus students in their statements, then the unit must write one which philosophically can be supported by the two higher entities.

In addition to defining the philosophy of the institution, the mission shows the commitment of the institution and/or unit to providing service to off-campus students. It provides the foundation for the development of goals and objectives which, in turn, support the mission. Goals are broad statements about the unit’s intentions, areas of interest, or key issues. Objectives are more specific. They are measurable and explain how the goals will be accomplished. They are the action-oriented and have an established time frame (Catt, 1995, 379).

Once the mission statement, objectives and goals have been written, it is time to examine the marketing mix and to focus on the marketing plan. Even when the unit providing services is comprised of one person, as often happens with off-campus library services, it is wise from the standpoint of institutional clarity to follow this process by writing a mission statement and developing a written marketing plan.
The Marketing Mix

Throughout marketing literature as well as library literature dealing with marketing concept, the term "marketing mix" appears. This term refers to the 4 P's, product, position, price, and promotion, as defined by Kotler. A brief definition of each given and then followed by a more in-depth explication relating each to off-campus services.

Definitions

**Product**: the actual materials or the services provided,
**Position**: the channels of distribution that will be used. This can involve cost issues as well, particularly as it relates to the duplication of resources and convenience for the patron,
**Price**: the hidden as well as the obvious costs to both the institution and the student,
**Promotion**: the final factor in the marketing mix. It involves communicating with both current and potential customers to make them aware of the services that are available. (Weingand, 1987)

Product

In practical terms, examining the marketing mix in relationship to the provision of library services to off-campus students means examining all the services and/or products provided as well as the way in which they are provided. Within the off-campus environment, product might more appropriately be defined as the service which is provided. Even though there are tangible products such as books and journals to be considered, it is the service which most distinguishes off-campus library services from services available to on campus students.

When assessing the services offered, it might be worthwhile to examine the model used to provide these services. Although it is not the role of the marketing plan to decide whether it is more effective to have an individual unit provide services or to have services integrated into other departments, it might be institutionally beneficial to reconsider whether, if the service is provided by an individual service unit, it should be decentralized, or, if the service is provided by several units, should it be centralized. This question, which many might wish to overlook, can be considered either a budgetary issue or a managerial issue. If one format will work better than another, this should be considered within the overall framework of planning.

Additionally, the specific services or products should be examined to ascertain that the needs of users are being met. The questions to consider include not only whether students are receiving needed materials but how quickly and whether the assistance they receive is provided in a courteous and professional manner. This might be determined via survey (Tenney, 1993, 95-100), focus group, observation of user habits (Tenney, 1993, 127-128), or interviews. Once the needs are known, it is necessary to find products, whether defined as materials, programs or services, which will fill these needs either by matching existent resources with the needs or by planning new products or services. Existing products should be examined to ensure that they are filling the needs of current clientele and that they will also fill the needs of new clientele. Likewise, any newly developed products should be examined in the light of whether they will fill the needs of both sectors.

Position or Place

There are at least two ways of defining position as it relates to off-campus library services. On the one hand, it refers to the decisions about how and where to provide (or distribute) services to off-campus locations regardless of whether these are defined as branch campuses or as individual locations. When providing these services also means ensuring that resources are distributed to off-campus locations, there can be a cost factor involved. Another way of defining position is the importance or relevance that the
library services have in the user’s mind. The latter can be more difficult to ascertain, although making use of the background assessment should provide some data regarding this.

Price

Although library services are generally offered at no expense to the library user, when it comes to providing services to the off-campus/distance student, many institutions are beginning to assess fees — for copying as well as for accessing the library’s database and for phone reference.

Promotion

In the minds of many, promotion is synonymous with marketing although it is but one phase of marketing or the marketing plan. Promotion is a combination of various activities including public relations, personal contact, and advertising. Each of these, however, are stand-alone aspects of the marketing concept. Public Relations consists of publicity and personal contact directed towards bringing about “a heightened level of awareness”. It is manifested as newsletters, bookmarks, posters, handouts, instructional guides and displays, and includes having an informed staff which knows about and cares about the needs of the user. Advertising has been defined by some as paid publicity but by others as “an effort to stimulate demand for a product or service by providing information to the community about those services”.

There are several somewhat common ways that libraries promote their services. These include not only producing printed materials but the development of library web pages. It is through these printed or electronic materials that the library’s customer service attitudes can best be evidenced. Although providing excellent personal service is the most important ingredient in Customer Service, it is the materials that people or institutions produce which are most measurable. If the library already has materials explaining its resources and services, these might also be distributed to off-campus students. They will need to be reviewed, however, to ensure that the information discussed is also appropriate for the off-campus users. If materials are being developed specifically for the off-campus users, there are some questions which might be considered beyond that of informational correctness. For instance, is there a consistency about the materials that will identify them as directed toward distance users? Is the total package effective? Because first impressions are so important, it can be very advantageous to develop a consistent visual image, and perhaps a logo, for off-campus students. In creating these, librarians might be able to utilize other resources on campus, such as news and publications or graphic design departments. Having an effective package will draw attention to the services and will aid in the overall impression made by the library and the institution.

Last but not least in importance is evaluation. There are both explicit and implicit methods of evaluation. Both should be used to assess whether the marketing plan has been successful in terms of bringing greater awareness to users, that the needs of the users have been met, and that the mission, goals, and objectives have been fulfilled. Even when an evaluation shows that the marketing plan has been successful, it is not important to remember that marketing is a continuous activity in terms of assessment, planning, and promoting so that user’s needs are recognized and fulfilled.

Measuring up

Are there many institutions which follow this process or have a marketing plan in place? The author recently raised several questions (see appendix) regarding these issues. Of the twenty-nine who responded, one half indicated that their institutions had an institutional as well as a library mission statement which make reference to serving off-campus students but only one-third have such mission statements at the unit level. One-third of the respondents indicated that their institution and/or the library have written goals and
objectives but only one-fifth have a strategic plan for the unit providing the services. To some degree, all have materials by which they promote or publicize their services to their users.

There are undoubtedly some who are already overwhelmed by the level of service which they must provide and therefore would possibly feel that developing a marketing plan might increase their activity to a point which would make them ineffective. To the contrary, the marketing plan will help organize the activity and, at the same time, can provide administration with necessary data for increasing staff to provide services to off-campus/distance students.

To repeat the words of Darlene Weingand, “marketing is essential to effective library management – and ultimately to the ability of libraries to successfully move into the next century.” (Weingand, 1993)
Appendix

The author sent a short survey to colleagues who had indicated a willingness to respond. Twenty-nine responded. Among the questions asked were the following:

1. Does your "institution" have a mission statement which makes direct reference to serving off-campus/distance students?

   If yes, please provide a copy if it is available.

2. Does your "library" have a written mission statement? If yes, does it include direct reference to serving off-campus/distance students?

   If yes, please provide a copy if it is available.

3. Does the unit [providing services to off campus/distance students] have a separate mission statement regarding the provision of library services to off-campus/distance students?

   If yes, please provide a copy if it is available.

4. Is there a written strategic plan identifying goals and objectives for serving off-campus/distance students. Please answer yes or no.

   ___ For the institution
   ___ For the Library
   ___ For the unit providing services
Bibliography


Other Suggested References


Off Campus Library Resources:  
Collection Development for Distance Education and Its Impact  
on Overall Library Collection Goals

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Abstract: Distance education programs present significant issues for libraries: budget allocations; program development; service development; collection development. Acquiring access to expensive electronic resources became a driving force in a reorganization reference collection program. Remote access to full text electronic journals and important indexes/abstracts will influence future library collection directions and budgets.

Introduction

Building library services for a university based distance education program of any size requires a significant investment of planning and development time for identifying program needs and for the creation and implementation of programs to serve those needs effectively. The extent and cost of distance education services depends upon the size and extent of the distance education curriculum, student body, market for new programs, and overall goals.

Central to any library program, whether designed for remote branches, traveling or remote-site staff, televised, or Internet based services, are the basic mechanics of providing access to library materials. Providing access to books, journals and other materials needed for research, registering patrons, authenticating patrons, and teaching them how to use resources are some of these fundamental services.

Whether its university serves a handful of specialized offcampus students in one or two specific disciplines or offers a broad, multi-degree program covering many disciplines, a library must define the needs of its remote students and of the faculty teaching in the program and then search for methods to meet those needs in a reasonable and cost effective manner. Understanding university goals for its distance education programs is essential for determining the extent and breadth of the library program. Will the university’s distant learner population remain small, or stable? Will the university expand successful programs? Is the university seeking new markets? Does the university plan to add on disciplines? These and other questions are important ones for library planners to discuss and evaluate, since they can have a significant effect on the extent and cost of library services.

Although these are not necessarily questions to which there are clear answers at the beginning of the planning process, the questions themselves do suggest some important issues for the library concerning staff and material costs. Planning based on a realistic view of these issues may be more successful in developing programs which will work over the long term. Serving the large university program is costly. Checking back periodically for a reading of the university’s overall goals and objectives for distance learning is an essential ingredient for long term success.
The University's Distance Education Program

At this university, the distance education program is a broad based one. The primary component, the TELETECHNET program, is a two plus two bachelors degree program based at community colleges across the state. Classes are broadcast through two way audio and one way video from campus broadcast studios to receiving studios at the various community colleges. The success of the program has led the university to examine other growth opportunities.

For the purpose of planning for a growing program, university goals are not always clear at the outset of the planning process. This university's TELETECHNET program began with a specific undergraduate discipline, nursing, offered at 4 sites. Because it was successful and because statewide surveys clearly identified a need for bachelor degree programs in rural areas of the state served primarily by the 2 year institutions, the university very quickly expanded its offerings on two levels: to additional sites throughout the state and also to fifteen degree programs.

Many of the students served by this program are from a non-traditional college market. They are primarily adults (at an average age of 28), who would like to advance within their careers or to change careers but who are geographically bound by job and family responsibilities combined with economic restrictions. Having the university come to them through the widespread community college system has meant that these students can work part time towards a degree based on specific career interests such as nursing, health administration, counseling, criminal justice, and other disciplines.

Library Services for the Distance Education Program

The library based its program of services upon this first phase model of the TELETECHNET program, emphasizing its own materials and document delivery services but also stressing the role of the community college libraries and local collections. In its initial planning to meet the rapidly expanding university distance education program, the library prepared and developed methods of registering remote patrons, provided a means of barcoding remote patron identification cards in order to use its own automated system effectively, and developed fax, mail, and commercial delivery methods of interlibrary loan of library-owned books and journals as well as search services for non-owned materials. Instruction was provided through televised orientations and classes, a series of detailed handbooks on library resources and services, specialized handouts, telephone and email reference assistance, and a series of videos developed specifically for the distance education program. As additional support, the committee offered seminars on library services to faculty in the program and to the site coordinates at the sites.

The library's governing body for these services, the Distance Education Committee, identified the community college library as the most easily found, most easily accessed point for most off campus students to obtain basic reference and circulating materials, class reserves, basic access to indexes and abstracts, and assistance with use of these materials. In addition, the library identified community college library resources, services, and hours of operation, other area university and college libraries, and public libraries available for patrons at the various community college sites. Interlibrary loan staff arranged for community college library fax requests and pick up services. The Distance Education Committee provided for space at each site for class reserve material and then purchased resources for reserves.

Library Collection Development for the Distance Education Program

The Distance Education Committee also established a collection development program designed to support this phase of the university’s TELETECHNET program. It developed a policy which specified a combination of collection methods: establishment of a core collection of materials at each site, purchase of needed reserves materials, and a secondary reliance on community college library collections as the first step in a research process. The purpose of the purchased collections was to support curriculum-based
needs of the degree programs only. The specific principles established by the Committee for collections for distance education were:

- the library will support the immediate curricular needs of the distance education degree programs
- the library will select and acquire materials in all formats
- the library will consult with degree program directors to identify needed materials
- library bibliographers with responsibilities for collecting in the degree programs will include support for the distance education programs in selecting and acquiring materials
- library bibliographers will assess library support for the degree programs
- if and when new programs are added to the TELETECHNET program, the Distance Education Committee and subject bibliographers will initiate discussion on projected library needs and collections

Using funds allocated for library services from the TELETECHNET program, the collection subcommittee acquired reference and other titles identified by program directors as essential for students in the degree program. These titles were purchased by the main campus library and sent out to be added to the site library collections. Holdings were reflected in this library’s catalog, as well as the appropriate site library catalogs. Although only limited funds were available for building these core collections, committee members expected that, over time, reasonable collections could be established to support reference needs in the degree programs. Most importantly, students throughout the system would have equal and relatively easy access to core materials.

Fortunately for the university and its off campus students, a state supported program to enhance Virginia academic library electronic collections began at the same time as this university’s emphasis on distance learning. This state program was the Virtual Library of Virginia, or VIVA. The state has funded subscriptions for all public academic libraries to a wide variety of electronic indexes and full-text databases, with participation on varying levels by the independent colleges and universities. The VIVA program has also provided funding for staff training on the use of various databases, travel for organization and planning purposes, equipment purchases, interlibrary loan assistance, and some staffing. Because the university’s distance education students were based at the state’s community colleges, they all had easy access through the site libraries to many of the same important indexes and abstracts at the major universities, thus enabling this library to expanded needed coverage to some indexes and abstracts at very little additional cost right from the start.

New University Distance Education Initiatives

The university’s success in attracting students to its distance education programs has directly led to continuing expansion and fundamental changes to the initial structure of the program. The university’s distance education programs have expanded partially because its non-traditional student market is not limited to the rural areas of the state well served by the community college system. Adults interested in advancing or changing careers but able to continue their studies only on a part-time basis exist everywhere. The university has responded strongly to interest in its programs from a variety of markets.

Some of the changes which have taken place over the last three years are:

- addition of 5 master’s level programs, including:
- nursing programs, based at hospital sites across the state
- master’s level education programs, such as special education
- addition of an MBA program
- enrollment of 3 previously existing regional higher education centers into all or most of the distance education degree programs offered in TELETECHNET
addition of military base sites throughout the state (such as Wallops Island Air Station, or Quantico), and an emphasis on providing not only the TELETECHNET degree programs but also military transition programs designed to assist military personnel ready to make the switch from military to civilian career tracks

- establishment of several cooperative ventures such as:
  - participation in a joint higher education center on the west side of the state with other state universities and colleges
  - establishment of TELETECHNET programs at approximately 10 rural Indiana state sites
  - establishment of a program to provide some degree programs at cost to a private college in North Carolina
  - establishment of a pilot project to provide TELETECHNET programs to a Navy aircraft carrier while under deployment
  - establishment of a pilot project to develop 10 Internet based courses

In addition to the expansions above, the university has explored opportunities for service to the military on a widely expanded basis. Since military bases are at least national, if not global, this possibility clearly brings many implications for provision of reasonable library services.

Library Response to New Distance Education Initiatives

From the library perspective, it is apparent that understanding the breadth of the university’s goals for its distance education programs is of paramount importance. At this library, the initial community college based 2+2 program was first seen as a demanding program of services because it was statewide, served a significant number of students, covered a wide variety of disciplines, and was based on the accrediting agency principle of equal access to resources and services. In light of changing university goals, this initial large program has come to be seen as stable, structured, and achievable within the library’s somewhat limited budgetary and staffing resources.

It is now clear that the only constant in the university’s program at this time, and at least in the near future, is continuous change and potential growth. Through the experience of setting up services which quickly became outdated or inadequate because of changes in the structure of the overall program, changes in the technological capabilities of the distance education system, or the establishment of entirely new programs, Distance Education Committee members have revised their approach to planning for library services and collections. The following elements have become central to the thinking and planning process:

- the continuing importance of communications with the various university partners in the distance education program: distance education program administrators, faculty, students, site directors, community college librarians, and other partners
- the need to listen for, revisit and re-examine university goals and objectives for its distance education programs, whether directly stated or only implied
- the need to spend time annually on evaluating current services and collections and also on identifying future needs
- the need to re-examine “basic needs” for library users for at least 3 reasons:
  - to continue to meet the real needs of the distance education students
  - to eliminate all non-efficient, wasteful, and/or unnecessary services and resources in order to free up limited funds needed elsewhere
  - to identify new basic needs which have arisen because of changes in technology, establishment of new programs, and any of the other changes occurring regularly in such a complex array of services
- the need to continue to use statewide cooperative programs such as VIVA and supplementary in-house subscriptions on a cost-effective basis
the need to establish a framework of services and resources which can effectively meet basic needs as currently defined but which also embody flexibility and expandability so that the process or the products can be quickly changed as situations dictate.

This last is the goal of contemporary commercial and educational institutions as evidenced by the prevalence of such terms as "re-structuring," "re-engineering," "downsizing," and so on in the literature. It is difficult to achieve in a bureaucratic institution, which is traditionally structured to resist change, especially rapid change.

The Distance Education Committee has been trying to establish services and provision of needed resources which can float above the specific mechanisms of the university distance education program by creating a web of digital resources. The resources provided must be separate from such details as how much reserve space is available for the university degree programs at a small community college library possessing only 3 shelves of reserve space for its own students, or whether only one Internet station is available in the site director’s office, or whether providing interlibrary loan materials quickly to a ship at sea is an achievable goal.

Therefore, the committee began an extensive process of rethinking its original distributed system. Members have been examining the best means of providing an array of services and resources without tying them into a bureaucratic structure which will impede reasonable flexibility and expansion, but at the same time, looking for affordable options. Solutions appear to lie in an Internet based combination of digitized collections, increased electronic access to the best products available, and continuing reliance on VIVA resources.

**Digital Collection Building**

Building effective collections for the distant learner has always been a priority of the library’s distance education program. Until recently, collection development for distance education students remained a narrowly defined focus in actual practice, rather than being a strong emphasis amongst all bibliographers. Even so, the most important direction in collection development has come not from the Distance Education Committee, but from another committee formed in the library, the Electronic Resources Committee. The Electronic Resources Committee was created to reevaluate reference collection priorities and to reexamine formats for important research resources, large because inhouse patrons demands for more electronic products and increased access were so strongly and continuously stated.

Committee members were the electronic services coordinator, the systems librarian, the reference collection development coordinator, the collection development officer, and the head of the reference department. Three of the committee members also sit on the Distance Education Committee and thus were acutely aware of the developing distance education programs and the needs of the distant learners.

The specific goals of the committee were:

- a review of databases duplicated by VIVA subscriptions and identification of possible cancellations and possible replacements
- selection and deselection of electronic and print products in the reference periodicals collection
- development of policies for selection and access of electronic resources, especially given the competitive environment for limited cdrom drive space
- identification of licensing issues and requirements
- development of long range planning for electronic resource growth, including
- improved on and off campus access to resources
- equipment needs
- staffing and training issues
development of implementation plans

As its first phase, the Electronic Resources Committee undertook an extensive review of all reference collection periodical resources to identify little used titles and titles which might be better used in electronic rather than print format. Since no additional funds were available, the committee intended to find savings within the reference collection budget and thus to finance growing electronic resource needs internally. This first effort quickly grew to a more comprehensive project as the committee’s conception of the significance of the review expanded. There is little in the literature about reference collection development, especially for reference serial titles. Most reference collections in university libraries are traditional collections amassed over the years; once a new subscription is added, it is rarely canceled. Reference collections frequently include small, highly specialized indexes serving narrowly defined subject areas as well as the broad based, more general periodical indexes oriented to the undergraduate level.

Identifying Priorities

However, supporting such a traditional collection began to look increasingly cost prohibitive when viewed from the perspective of two major changes: the growth in the number and variety of useful electronic products and the growth of the university’s off campus programs. On top of these fundamental changes were the daily demands from inhouse patrons for more and better access to electronic resources. At that point, the library subscribed to a selection of cdrom format indexes such as Periodical Abstracts, ERIC, MLA, PsycLIT, AST, BAI, INSPEC, Medline, and others, all of which were used heavily by in-house users. Use of all of the print indexes and abstracts declined as students frequently avoid even the titles most appropriate to their subject needs in favor of any computer database. None of the library’s electronic resources other than the OPAC was available off campus.

Expanding access to some titles and targeting other titles for cancellation in order to finance access obviously requires some means of making meaningful, supportable decisions. The process required prioritizing titles. The committee identified elements which might contribute to or lessen the significance of specific titles. These significant elements included:

- relevance to the curriculum
- size of the degree program in which the index belonged
- the level of traditional and expected library use
- cost
- degree of duplicatory coverage with other indexes either through VIVA or through other library subscriptions
- duplication of print and electronic formats for the same title

Identifying these elements gave the committee a focus for further research on the data needed for prioritizing. Members reviewed each reference subscription title and consulted with other departmental specialists. They compiled data on:

- class enrollment
- number of degrees awarded by each program for bachelors, masters, and doctoral degrees
- specialized certificate program graduates
- reference department use statistics
- library circulation statistics
- electronic database use statistics
- university distance education program enrollment
- university distance education degree program statistics
- costs of specific print and electronic titles
- user interfaces
• search engines
• system requirements
• elements of specific databases

As the committee reviewed these elements and the reference indexes and abstracts, members began developing a model which provided a way to organize a meaningful series of objectives for the index and abstract collection. As part of the process, the committee then developed a series of assumptions to use in constructing a framework for organizing titles in priority order:

• there are limited library collection funds for purchasing and renewing indexes and abstracts
• the library should make the best use possible of those funds
• to allocate funds meaningfully, priorities must be identified and defined
• formats, costs, scope, content, and other components of electronic resurrects are constantly changing
• the university’s distance education program will continue to grow in size, expand in coverage, and change in content and direction
• overall user expectations and needs are changing and will continue to change
• in order to meet its service mission, the library must be able to recognize, evaluate, and respond in a timely fashion to changing needs and expectations.

These assumptions led the committee to conclude that flexibility and responsiveness in the electronic collection are essential and that a meaningful system of evaluation and re-evaluation of resources must be created.

The model developed by the committee organizes the areas to be supported by departmental indexes and abstracts. Built on university and other data, the model provides a framework for prioritizing areas requiring substantial support with reference resources and beginning to identify the extent to which the library should fund each area. Most importantly, the committee identified high enrollment areas and high expected use areas where support via library electronic resources should be consistently and extensively maintained or expanded, especially in the development of remote electronic access.

The model classified all university programs into a framework of large undergraduate and graduate programs; smaller undergraduate and graduate programs; and doctoral and research programs. The model also included two levels of indexes supporting the degree programs within the overall classifications: primary indexes, defined as those fundamental to the program, and secondary indexes, defined as those which supplement the primary indexes but which do not replace them in depth or breadth of coverage. Core indexes are those which are multidisciplinary and/or meet the needs of all university levels through comprehensiveness of coverage.

In general, the disciplines which require the highest level of library electronic subscriptions include:

• large undergraduate programs
• large masters degree programs
• distance education programs
• high traditional library use areas

By the end of this process, the committee was able to prioritize most of the reference indexes and abstracts meaningfully. Using the model, the committee identified indexes which required additional funding for expanded user access, new titles which were needed in electronic rather than print format, titles better in online format than cdrom format, titles which could remain in print format for the time being, titles requiring remote access, titles suitable for inhouse use only, and titles which could be canceled in order to free up the periodical budget to support expanding access for top priority expansion.
Expanding Access

Throughout these deliberations, the committee became more and more aware that adequate provision of resources for distance education programs was a significant driver in the prioritization process and in the competition for limited funds. This is partly because this university’s distance education programs covers so many disciplines. Remote access and multi-user licensing is crucial to reasonable support of these distance education degree programs. Because of this, the cost of supporting electronic resources increases considerably, thus forcing the committee to cut other costs as much as possible. During the review process, the university improved technological and equipment support for remote access, including improved on-campus cabling, joint projects for better statewide telecommunications capabilities, joint projects with community college sites for better computer lab facilities, distance education email accounts and other projects. All of this development increased potential demand for digitized resources from remote sites. In addition, development of the web and Internet access to more and more sites and resources expanded exponentially. All of these advances served to focus the committee’s attention further on the importance of remote access and the need to serve the university’s distance education students effectively. The success of the distance education program and its subsequently growing value for the university has compounded the importance of providing broad-based electronic access and finding ways to pay for it.

Costs associated with providing multiple user, remote site access to important databases are considerable. An example of the budgetary impact of serving distance education needs is the committee’s decision to provide remote access to psychology resources. Moving from one, inhouse cdrom station restricted to PsycLIT, probably the library’s most heavily used database, up to multi-user access of the online format of the same database (PsyclINFO) meant a subscription increase of over $12,000. Although this database is particularly expensive, providing multiple user access to a wide variety of digital indexes and abstracts is a costly undertaking. To pay for the expansion, the committee attempted to downsize and streamline the reference collection in a way designed to preserve curriculum and research resources.

By the end of the review process, the committee recommended the following:

- cancellation of $24,000 in print subscriptions
- cancellation of $15,000 in cdrom format subscriptions
- identification of $44,000 in new electronic titles, in an online format
- identification of $15,000 possible cancellations because of VIVA duplication
- identification of other needed new titles for further discussion

All of these recommendations were sent to various library committees for further discussion and evaluation. Final implementation followed these recommendations in principle, although specific title decisions may have varied because of systems questions or issues, subscription period, decisions to delay cancellations, etc. Actual implementation of some of the format changes have been delayed because of unforeseen technological barriers, and some have been delayed because of cumbersome bureaucratic response to licensing and software contract issues. However, work continues on implementation of this expansion. To date, remote access has increased dramatically, and there have been very few complaints created by cancellations of the print or cdrom formats.

Conclusion

The committee gained from this process a thorough understanding of the importance of collection building for the distance education programs, as well as an understanding of the cost of providing such a service. However, provision of indexes and abstracts is only the first step in building access to appropriate resources suitable for undergraduate and masters level research projects. Only electronic resources can really meet the needs of a distance education program such as that built by this university as it expands throughout the state and beyond, to the world. Full text digital journals, numeric and other datafiles, and
other, content-based digital resources which will largely be available only on a subscription basis are clearly the next essential steps in building collections which will be usable by the students in the distance education programs. Distance education collections needs will continue to dominate the library budget in this area. As the library identifies full text journal databases, it will again face the same problem of how to pay for those new and more expensive resources within the normal materials budget. Committee members and bibliographers are likely to turn to the print subscriptions as a source of funding for remote access digital collections, just as the Electronic Resources Committee targeted the reference periodicals budget. Eventually, distance education needs will fundamentally change the entire landscape of the library’s collections and the use of its collections funds.
Iowa Is Our Campus:
Expanding Library Resources and Services to
Distant Education Students in a Rural State

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Abstract: The fiber optic Iowa Communications Network links all counties and offers the capability of delivering university courses. This paper reports on the evolution of providing library services for ICN students at the University of Northern Iowa from both library and teaching perspectives, outlining successes, problems, and future directions.

Background: The University

The University of Northern Iowa (UNI), with a student body of approximately 13,000, is one of three state universities in a state with a population of 2.8 million. The majority of the state's residents live in central or eastern Iowa, where UNI and its sister institutions, the University of Iowa and Iowa State University, are also located. Western Iowa is largely rural and its two largest cities are located on the Iowa-Nebraska border. Opportunities for higher education in that part of the state are limited to community colleges and to private colleges or universities.

Concerned about providing higher education opportunities to western Iowa, UNI has a long-standing tradition of providing distance education in that and other parts of the state. Prior to the advent of the Iowa Communications Network, or ICN, all distance education courses provided by the University were delivered on-site. Faculty from UNI would travel to the site, usually driving but occasionally flying. All distance education efforts were, and continue to be, overseen by the University's Continuing Education and Special Programs office.

Traditionally, library support for distance education courses was minimal. There was no formal program of support and requests for support by faculty teaching courses off-campus were usually handled on an ad hoc basis. Students in off-campus programs could come to the University library to check out materials but otherwise depended on their instructor to arrange for course packets of journal articles to be photocopied or to bring library materials to class.

As more and more courses and programs began to be offered off-campus, concern began to grow about the lack of library support for such classes. Believing that the quality of education such students was receiving was probably being impacted by the lack of such support, the Director of Library Services in 1991 sent the Assistant Director for Informational and Instructional Services to the Fifth Off-Campus Library Services Conference to learn more about what was possible in terms of providing library support to distance education efforts.
Assessing the Need for Library Services

Upon his return, the Assistant Director and the Library Instruction Coordinator, Barbara Weeg, devised a survey project to determine library needs of students enrolled in courses taught off-campus. Separate survey instruments were designed to elicit responses from those students and from the faculty who taught those courses. The office of Continuing Education and Special Programs provided the appropriate lists of students and faculty and the surveys were sent in March, 1992, to random, stratified samples of both groups. Survey questionnaires were sent to 30 faculty members and to 125 students. Twenty-one, or 70%, of the faculty responded. Sixty-eight, or 54.4%, of the students completed questionnaires.

The surveys presented the library with considerable, valuable data. Among the questions asked of both groups were which library services or types of collections they felt would make easier the completion of off-campus course requirements. Respondents were also asked to rank their top three choices. The results were extremely helpful in determining the most pressing needs for off-campus students and there was a fair degree of congruence - and occasional disagreement - between the two groups. A summary of the top seven services or collections as ranked by students follows:

<table>
<thead>
<tr>
<th>Service or Collection</th>
<th>Student Ranking</th>
<th>Percentage of Students Indicating Interest</th>
<th>Faculty Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home delivery of library materials</td>
<td>1</td>
<td>63.2%</td>
<td>1</td>
</tr>
<tr>
<td>800 Reference Number</td>
<td>2</td>
<td>39.7%</td>
<td>4</td>
</tr>
<tr>
<td>Remote access to CD-ROM Network</td>
<td>3</td>
<td>27.9%</td>
<td>2</td>
</tr>
<tr>
<td>Guides to research in subject areas</td>
<td>4</td>
<td>25.0%</td>
<td>9</td>
</tr>
<tr>
<td>Bibliographies of source materials</td>
<td>5</td>
<td>17.6%</td>
<td>6</td>
</tr>
<tr>
<td>Remote access to library catalog</td>
<td>5</td>
<td>17.6%</td>
<td>3</td>
</tr>
<tr>
<td>Library instruction</td>
<td>7</td>
<td>16.2%</td>
<td>8*</td>
</tr>
</tbody>
</table>

*question asked somewhat differently on faculty surveys
Of particular interest in regards to the student responses was that 83.7% of the students who wanted to have home delivery of library materials indicated their willingness to pay for such a service. Also of interest were the responses to a question asking students which libraries they used in completing their research, to see if it might be possible to contract with one of the more heavily-used libraries to provide library services. The libraries used were so dispersed geographically that this proved not to be a viable option. A series of recommendations for providing library services, based on survey data, was developed but remained nascent for nearly a year.

The Iowa Communications Network

In 1993, the Iowa Communications Network (ICN) began operation. The ICN was a unique state venture that linked all 99 counties with fiber optic cable. The ICN was designed to handle voice, video and data and was to be used for all such applications by state and related agencies. Initially, there was at least one point-of-presence, or POP, in each of the 99 counties. Today most schools, public libraries, and National Guard armories, as well as government agencies and a number of hospitals and prisons are linked to the ICN. The ICN provides the opportunity for high quality two-way voice-data communication between and among its linked sites, each of which has at least one ICN "classroom" with the sophisticated equipment needed to provide that communication.

One relatively unique feature of the ICN is that it allows students to be taught on-campus and off-campus simultaneously; at UNI, virtually all courses taught over the ICN are taught in this method. When on-campus and off-campus students are taught simultaneously, it becomes imperative to provide a level of library service support for off-campus students to ensure that they are treated equitably in the educational process.

Teaching at a Distance: The Faculty Perspective

Teaching in a specialized graduate program distance education program presents resource issues that must be considered before the program begins to function. The UNI School Library Media Studies program which prepares school librarians (mostly for the state of Iowa) is one of only two library science programs in the state; the UNI program has produced approximately 75% of all Iowa school librarians over the years. Both of the existing programs are in the Regents institutions in the eastern part of the state; school librarians are most difficult to find in the central, southern, and western areas of Iowa.

About two-thirds of these students come to UNI as practicing teachers: often they have been hand-picked to become librarians by administrators. This implies that most are working, most are parents, and most cannot take two semesters and two summers away from home to complete the program.

In the early 1990s the Department explored the possibility of delivering the program off-campus in response to the demand for graduates. Several areas competed for the program, and one site was selected based on need, existing resources, and size of core student group to be enrolled. Site visits by faculty to several areas confirmed library resource support in this particular region; that was a major factor in the decision to proceed at that site. This course was delivered by professors who traveled the 2 1/2 hours to the site once each week. Despite the relatively good set of resources in the area, some courses were retained on campus and students completed the program during two summers of campus residency. Resources for reference, media design and preparation, research, computer applications, and introduction to school librarianship were insufficient. Collection management was taught on site, but faculty carried boxes of resources back and forth with us. Courses for which resources existed included children's and young adult materials, administration, cataloging (again, faculty provided resources), and curriculum development. Iowa has regional materials support agencies [AEAs] and the program was taught at one of these sites - which was generous in supplying resources to UNI students. Other support came from a community college, two public libraries, and one outstanding school library in the area.
The technological changes during the 1990s were as important in Iowa as elsewhere; change even increased the need for professional school librarians. In addition to computer communication and information resources, the Iowa Communications Network was developed. The department's experiences in off-site delivery and the demand to move into other areas of the state were convincing arguments to take advantage of this opportunity. It was understood that this would involve the department in regions of the state where library resources would be insufficient; the need to work cooperatively with the Rod Library to supplement the resources that did exist was recognized.

The first round of course delivery began in the fall of 1993; Library Science was the first graduate program at UNI to offer courses on the ICN which led to a planned degree/endorsement. Based on the experience at the off-campus delivery site, the first course offered was library materials for children, faculty thinking, naively, that this course would be the best supported via public and school libraries and that this would provide time to plan cooperatively with the library for more demanding course support. The following became evident:

- Public library working children's collections are not intended to support college-level classes by purpose, scope, or quality.
- Most rural public librarians in Iowa are not professionally trained.
- Many public librarians were spending much of their time and effort supporting our efforts, and thus taking time from their main constituents.
- Non-book materials, even periodicals, are largely absent from such collections.
- The lack of qualified librarians in schools in rural Iowa result in poorly developed school collections.
- School libraries in Iowa have extremely limited ILL possibilities: all requests are supposed to be routed through public libraries.
- Not all AEAs were ready and willing to support a college program.
- Private college collections are intended for private college students.
- Shared use of regents libraries by regents students is a long-understood policy, but its implementation is fraught with difficulty (one of our largest sites was near one of our westernmost regent campus).
- Effective reference service is as important as effective reference collections.

Faculty teaching in this program were librarians and should have predicted all of these things. Almost all of these conditions became noticeable after two class sessions. Two assignments that were extremely simple to complete on campus became nightmares for these off-campus students. It was not uncommon for them to visit as many as seven small public libraries in their area only to find neither resources nor services were adequate.

The Rod Library Response

When the need for support for Dr. Safford's class became pressing, the Rod Library very quickly swung into action. A task force was formed to determine how to handle such services and a pilot project was swiftly launched. The task force included both Assistant Directors, the Youth Collection Librarian, and the Acquisitions, Circulation, and Reference department heads. Acquisitions was included since that department is responsible for all mailing and shipping from the library. In addition to the immediate needs expressed by Dr. Safford's students, the survey taken the previous year provided invaluable information for developing a pilot project to provide such support. Unfortunately, the need for support for Dr. Safford's class was immediate and support for that class had to be provided even before the pilot project could be implemented.

Students and faculty are spoiled at UNI to have one of the best supporting children's and young adult collections and staff in the country, right in the Rod Library. This is a result of the nature of UNI as a
teacher-training institution and because of the long-term commitment of the Library to support this mission. The Youth Collection supports children's literature classes for the education undergraduate, young adult literature classes from the English department, curriculum planning classes from both elementary and secondary education, illustration classes from the Art department, and of course, school library graduate students. Youth Collection telephone numbers and e-mail addresses were provided to Dr. Safford's class; reference service was assured. Research materials from the broad range of professional journals were suddenly available. Working with the circulation department, due dates for children's materials were extended so that such materials could be mailed and returned (the standard circulation period for such materials was three days). A mechanism was developed to send such materials to the affected students. Thus, the immediate needs for Dr. Safford's class were met.

As a result of the task force's efforts, a method for registering ICN students was developed as were procedures for document delivery to them. Interlibrary Loan assumed responsibility for gathering and processing requested materials. Continuing Education and Special Programs agreed to subsidize partially the document delivery costs. They would pay for mailing materials to ICN students and for the labor costs for having library student assistants retrieve and/or copy the needed materials. The ICN students would be responsible for return mail and insurance costs. The appropriate forms for requesting materials and tracking their costs were developed and arrangements made to provide reference and other services. In addition to developing such procedures, loan rules had to be changed to circulate children's materials to Dr. Safford's students.

In January, 1994, the pilot project to provide library services to ICN students was launched. The pilot project was not extended to all UNI distance education students because of the fear that demand for such services would be overwhelming. A packet describing library services available to them was sent to all students enrolled in courses taught over the ICN. That packet included a handbook that had been developed to describe available library resources; a map of the UNI campus for those students willing to travel to do their research, a patron record information and release authorization form (to register students on our online system); a software request form (needed at that time for dial-in access to our CD-ROM network); a request form listing available Library User's Guides - guides developed to aid students in doing research in particular subject areas; brochures describing how to search our OPAC and how to interpret periodical records, and a form to complete to obtain UNI computer and Internet access if they wanted it. A reference librarian was given responsibility to oversee the provision of these services; his name and various ways in which to reach him (phone, fax, e-mail) were provided in the packet as was similar information for our Youth Collection and Art & Music librarians for students needing specialized assistance in those areas. Library instruction was offered for any course requesting it. Continuing Education allowed the use of their 800 number to ICN students to call the library.

Packets were also distributed to faculty teaching courses over the ICN to alert them to the availability of library services for their students. Initially the packets were printed by the library. Now Continuing Education takes care of printing as well as mailing packets.

After the Pilot Project: Successes and Failures

The pilot project to provide library services to ICN students proved generally to be a success and the same basic services have been provided to those students since that initial project. In 1996 Interlibrary Loan service was extended to ICN students, though for journal articles only due to the limited circulation of borrowed books. Use of the service has varied considerably from semester to semester but has never been as high as anticipated and the reasons why this is so must be determined. At this point, almost every library service provided to on-campus students is available to ICN students. The major exceptions are the unavailability of reserve collections and interlibrary loan privileges for books.
Student response to library support has been positive and even grateful. The ability to e-mail or phone both instructor and librarian makes students feel that the university does support their efforts. The response from the library with physical resources is important, but the students most appreciate reference services. It is the consultation with a knowledgeable library professional who makes a real difference in the quality of instruction that students receive.

Since those early days and first classes, a number of professors have come to depend upon the Rod Library for all sorts of sophisticated assistance to ICN students. Library and computer system registration is automatically mailed from our Continuing Education Office to students upon course registration (and a complete packet is mailed to first-time ICN students). A reference librarian (in addition to specialized staff such as in the Youth Collection) is responsible for responding to student requests for both services and resources. Special borrowing procedures are in place. Photocopy delivery and billing are arranged; direct mailing of materials is provided. Library faculty come to the ICN classes to demonstrate electronic/Internet access to the OPAC and to various databases. Librarians and professors communicate about course requirements: Dr. Safford has begun delivering her syllabus to the reference librarians and identifying those areas in which her students are likely to need assistance as well as highlighting the items on her bibliography which may be of most help.

Some issues and problems remain to be resolved and ICN students are sometimes frustrated in their efforts to obtain assistance. Many of those problems are associated with the newer technologies that have been implemented. At present, the student patron database is created through an overlay of student registration records from the Registrar's Office. It is not uncommon that distance education student registration information is not sent to the Registrar's Office until weeks after the start of the semester. That delay requires the continuing use of paper registration forms which in turn sometime prevents a timely response to student requests. While students have dial-in access to many CD-ROM databases, the interface is excessively "clunky" and access is generally limited by the size of the campus modem pool. Access to online or web-based services, such as IAC's Expanded Academic Index, has been problematic because of off-campus authentication issues. Further, some problems continue to exist because some students still do not have access to adequate computing equipment or simply lack the appropriate skills to use such equipment effectively.

More electronic databases need to be added—and the library is already committed to doing that. The library and faculty are certainly cognizant of copyright restrictions and abide by them. The library has been good to purchase videos with public performance rights but faculty still request permission from publishers to use them. The collection and interlibrary loan of non-print materials remains an issue for a number of faculty as well as the library.

One item bears mention as a particular success in terms of this endeavor, and that is the increased campus awareness of the importance of library access and services to distance education students. That awareness has come about not only because of the general level of satisfaction with and recognition of the services provided, but also because the Director of Library Services has been an active and vocal proponent in various campus venues of the importance of library services to a quality distance education program. As a result, the library is frequently - though not always - considered for representation to university committees dealing with distance education issues.

**Plans for the Future**

In terms of enhancing library services at UNI, the major change will be the anticipated expansion of such services to all UNI distance education students, not just those enrolled in courses taught over the ICN. A Web page devoted specifically to providing information about library services available to off-campus students should soon be available. Ways to improve access to CD-ROM and online databases are being investigated. While the database industry appears to be working towards a solution to authenticating off-
campus users, it is moving at a relatively slow pace and the solutions initiated to date have generally been relatively costly. It is unlikely that UNI can wait that long; it is likely that the library will develop its own solution through the use of a NT server or by other means.

A new focus of the library's distance education efforts will also revolve around increased promotion of off-campus library services. Despite a fairly continuous barrage of information, seemingly a number of faculty teaching distance education courses are unaware of the services currently being offered. In part, this situation may be alleviated by the inclusion of the library in training sessions for prospective ICN faculty. After several years of effort, the library was able to participate in such a session for the first time in fall, 1997, with promises of inclusion in future training sessions. E-mail will also be used more aggressively as a medium for getting across our message to the faculty of available library services. To this point, distance education faculty have been the critical factor in terms of the level of demand for service from their students. If faculty require a level of research in their classes that demands extensive use of library resources, the demand for service increases. If faculty are less demanding, it is unlikely that more than one or two students from any one class will seek assistance or request materials.

As in other states, there is a continued push in Iowa to expand distance education opportunities, and that push is coming from a number of directions. The State Library of Iowa is spearheading an effort to expand distance education programs in library science within the state. A survey conducted in early summer, 1997, revealed an enormous demand for such an effort. The State Board of Regents is also pushing for an expansion of distance education offerings, particularly at the undergraduate level. To that end, UNI and others are looking at new opportunities, particularly in regards to 2+2 programs, whereby students earn their bachelor's degree at a community college; the community college provides the first two years of education, a 4-year university provides the second two years.

The three Regents universities - UNI, ISU, and the University of Iowa - have formed a library Interinstitutional Committee on Distance Education. The charge of that committee is to determine ways in which the three universities can cooperate to improve library services to distance education students. A major initial effort of that committee is to conduct a library needs survey of distance education students and faculty at the three universities. The survey will be an updated version of the one conducted at UNI in 1992.

In Iowa, the future of distance education in the state universities and the library services needed to support distance education will possibly be a hybrid of the current method of stand-alone service provision and some kind of cooperative effort with other university or community college libraries. What is certain is that the breadth and depth of the services will continue to grow to expand library resources and services to distant education students in this still largely rural state.
Using Citation Analysis to Identify and Monitor Journal Usage by Off-campus Graduate Students

Sr. Margaret Ruddy
Cardinal Stritch University

Abstract: Citation analysis is based on the assumption that use patterns are reflected in the citations. Frequently cited works are likely to be more valuable to a collection than those used less often. A comparison and analysis of citations from master’s theses attempted to determine: 1) the type of material used by students for research; 2) the currency of the material; 3) any patterns of usage.

Cardinal Stritch University is a fully accredited, Catholic liberal arts University, located in metropolitan Milwaukee. The Mission of Cardinal Stritch is to assist women and men in pursuing lifelong learning. It provides both traditional and non-traditional approaches to meet the educational needs of a diverse student body.

In 1982, the need became apparent for a non-traditional delivery system that would accommodate adults returning to school. In answer to this need, Programs in Management for Adults (PMA) was implemented. Designed specifically for the busy schedules of working adults, these programs were enthusiastically embraced. In addition to on-campus offerings (Region One), PMA classes were offered, and continue to be available at off-campus sites in areas around the state of Wisconsin. A regional office located in Madison, Wisconsin, referred to as Region Two, serves the rest of the state. In 1987, the success of the programs led to the extension of the PMA to include course offerings and a regional office in the Minneapolis-St. Paul area of Minnesota (Region Three).

Instructional activities in the PMA programs are scheduled in five-to-ten week modules. Courses involve four-hour class sessions presented one evening per week. Participants form study groups made up of three to five students who meet weekly outside of class to work on assigned individual and group projects. Courses are based on a facilitative model of education in which students assume responsibility for self-directed learning.

The PMA programs combine theory with practice. In classroom discussions and small-group projects students draw upon their professional experience in order to integrate theoretical knowledge with the demands of the workplace. As an integral part of all PMA master’s programs, each student designs, implements and evaluates a professionally relevant integrative product. This final integrative product serves to document the student’s ability to integrate the information and skills developed in all the major courses of the program. This culminating activity permits the student to recognize the validity and value of using learned problem-solving methods in a professional environment.

Currently there are four master’s degree programs. These are described below.

**Master of Science in Management (MSM)**

The MSM is intended to assist the working professional to develop, and apply to her/his profession a broad, critical, and practice-based understanding of management science. Through the design, execution, and oral defense of a significant thesis project the student demonstrates the application of theoretical
knowledge to the solution of practical management problems. Students ordinarily select projects related to their own professional responsibilities.

**Master of Business Administration (MBA)**

The MBA program's goal is to develop the broad management analysis, synthesis and leadership skills required for middle-and-upper level management. Students in this program are required to complete an Applied Management Decision Report (AMDR). Students select a problem from their workplace and apply the research methodologies and decision theory techniques learned in their course work. They evaluate alternatives and recommend a strategy for resolving the workplace problem. Students prepare a report of the research, analysis, and recommendations they have developed. Unlike a thesis, the AMDR is not a general research exercise and does not involve the extensive literature search typical of a thesis. The report is similar in design to an analytical case study.

**Master of Business Administration-International (MBA-I)**

This program is designed for the professional seeking a career in international business. The students in this program complete an Applied Management Decision Report (AMDR). In the MBA-I, the problem selected must have international business implications.

**Master of Science in Health Services Administration (MSH)**

The MSH is designed to develop or enhance the personal and management skills of those with, or interested in, administrative responsibilities in the health care field. Students in this program complete a thesis related to their own professional responsibilities or interests.

Since the beginning of offering off-campus programs Cardinal Stritch University has taken the ACRL Guidelines for Extended Campus Library Services seriously. The draft revision of the 1990 Guidelines again stress the necessity of access to bibliographic information for instructional and research support of the off-campus community. The Guidelines charge the parent institution with providing effective and appropriate services which at times may be above and beyond those offered to the traditional student population.

The author's study of the draft revisions caused several questions to come to mind. Are we supporting the research needs of our off-campus students? Can we determine usage of resources available to off-campus students? What resources are off-campus students using? These questions in turn led to others. Are students enrolled in similar programs but in different geographic regions using different resources? If the majority of resources being used are journals, is there any type of core list that can be identified?

It appeared that one of the most straightforward means to answer these questions was by citation analysis of students' master's theses, the product of their research efforts. Citation analysis, in its basic form, consists of counting the number of times an item is mentioned in the footnotes or bibliographies. The use of citation analysis is based on the assumption that use patterns are reflected in the citations. Frequently cited works are likely to be more valuable to a collection than those used less often. Citation analysis has been used in a number of disciplines as a means of identifying the most important journals in the field. Two weaknesses of citation analysis apply to the research described below. 1) There is an assumption that all the works cited were actually used, and 2) there is the tendency to cite works that were readily accessible and to omit those that were not easy to access.

The theses submitted by PMA students for the year 1996 form the basis of this study. The bibliographic citations from the master's theses of students in the programs described above were collected and
examined. The students in the study came from on-campus programs (Region One) and from the region covering the remainder of Wisconsin (Region Two). There were no theses from the Minnesota region (Region Three) for the year 1996. A total of one hundred bibliographies were examined. A breakdown of the number from each program is given below.

<table>
<thead>
<tr>
<th>Region One</th>
<th>Region Two</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSM</td>
<td>15</td>
</tr>
<tr>
<td>MBA</td>
<td>20</td>
</tr>
<tr>
<td>MSH</td>
<td>13</td>
</tr>
<tr>
<td>TOTAL</td>
<td>48</td>
</tr>
</tbody>
</table>

The table below displays the total number of citations that were examined from each program.

<table>
<thead>
<tr>
<th>Region One</th>
<th>Region Two</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSM</td>
<td>414</td>
</tr>
<tr>
<td>MBA</td>
<td>344</td>
</tr>
<tr>
<td>MSH</td>
<td>450</td>
</tr>
<tr>
<td>TOTAL</td>
<td>1208</td>
</tr>
</tbody>
</table>

Students in both regions depended heavily on books and other types of miscellaneous resources for writing their theses. Nine of the twenty MBA students in Region One used only books as reference sources. This may relate directly to the type of research paper students in this program complete. A comprehensive literature review is not required and, typically, students draw heavily on their workplace experience for material. This may also give support to the weaknesses of citation analysis noted above. Students will use those items that are readily available.

Of particular note is the frequent reference to textbooks used by students in their classes. Of the one hundred papers examined, ten students cited one or more textbooks used in course work. The number of citations for all types of materials used per paper ranged from a low of two to a high of ninety-four items. Students in the MSH program had the largest number of citations per paper. Most of the cited materials were no older than five years. This was not a surprise finding since the projects researched by students in these programs demand a high recency of materials. Of considerable importance from the point of collection development is the relatively large number of items used from materials developed within the student's organization or corporation. This in-house material, more than likely, could not be accessed in any other way than from personal experience and the expertise of the student writing the paper.

Unpublished materials such as memos, papers and reports given at staff meetings comprise a large segment of items used by students in their research. Material and information gathered at conferences proved another valuable source of reference material for students to cite. Below is a breakdown of the number of items used excluding items classified as serials.

<table>
<thead>
<tr>
<th>Region One</th>
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</thead>
<tbody>
<tr>
<td>Books</td>
</tr>
<tr>
<td>Newsletters</td>
</tr>
<tr>
<td>Unpublished</td>
</tr>
<tr>
<td>Conferences</td>
</tr>
<tr>
<td>In-house</td>
</tr>
<tr>
<td>Interviews</td>
</tr>
</tbody>
</table>
### Region Two

<table>
<thead>
<tr>
<th></th>
<th>MSM</th>
<th>MBA</th>
<th>MSH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Books</td>
<td>55</td>
<td>93</td>
<td>82</td>
</tr>
<tr>
<td>Newsletters</td>
<td>3</td>
<td>2</td>
<td>14</td>
</tr>
<tr>
<td>Unpublished</td>
<td>6</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>Conferences</td>
<td>2</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>In-house</td>
<td>4</td>
<td>13</td>
<td>12</td>
</tr>
<tr>
<td>Interviews</td>
<td>7</td>
<td>11</td>
<td>1</td>
</tr>
</tbody>
</table>

Serials included journals, conference proceedings, annuals, newspapers and other materials issued periodically. The count for serials was made of individual titles. When the same volume of a particular title was cited more than once, it was counted as a single title. Some students used the same title repeatedly, so although a count of times used would be high, still a relatively small number of titles was used. The publication dates of the serials used, for the most part, covered the past five years. In Region One a total of 280 different titles were used. For Region Two the number of different titles was 285. The table below indicates the number of times a single title was used.

### Region One

<table>
<thead>
<tr>
<th>Times used</th>
<th>Number of titles</th>
<th>Times used</th>
<th>Number of titles</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>171</td>
<td>1</td>
<td>190</td>
</tr>
<tr>
<td>2</td>
<td>51</td>
<td>2</td>
<td>32</td>
</tr>
<tr>
<td>3</td>
<td>18</td>
<td>3</td>
<td>27</td>
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<tr>
<td>4</td>
<td>11</td>
<td>4</td>
<td>12</td>
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<td>5</td>
<td>7</td>
<td>5</td>
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<td>6</td>
<td>4</td>
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<td>5</td>
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<tr>
<td>7</td>
<td>1</td>
<td>7</td>
<td>2</td>
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<td>8</td>
<td>3</td>
<td>8</td>
<td>5</td>
</tr>
<tr>
<td>9</td>
<td>2</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>10</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>more than 10</td>
<td>7</td>
<td>more than 10</td>
<td>6</td>
</tr>
</tbody>
</table>

There were very few titles that were used more than ten times. Of the titles used more than once, many of these were used by the same person. The title *American Funeral Director* was used only by one person. The *Milwaukee Journal Sentinel* (the local Milwaukee newspaper) was used a total of twenty five times, however, fifteen of these uses were by the same person. In Region Two, *Archives of Physical Medicine and Rehabilitation* was used fourteen times by the same person. The use of a very specialized title by one person can skew any study very much, and make the results questionable. The titles used more than ten times are listed below. The only title from the list that is not owned by Cardinal Stritch is the *American Funeral Director*. 
<table>
<thead>
<tr>
<th>Region One</th>
<th>Region Two</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title</td>
<td>TIMES USED</td>
</tr>
<tr>
<td>American Funeral Director</td>
<td>16</td>
</tr>
<tr>
<td>Fortune</td>
<td>13</td>
</tr>
<tr>
<td>JAMA</td>
<td>14</td>
</tr>
<tr>
<td>J. Nursing Administ.</td>
<td>11</td>
</tr>
<tr>
<td>Mil. Journal Sentinel</td>
<td>25</td>
</tr>
<tr>
<td>Modern Healthcare</td>
<td>11</td>
</tr>
<tr>
<td>Nursing Management</td>
<td>17</td>
</tr>
</tbody>
</table>

Cardinal Stritch University Library owns 161 of the 280 titles used by students in Region One and 163 of the 285 titles used by students in Region Two. It is impossible to know how students in Region One identified the titles they used. However, for Region Two some guesses could be made. Records show that 24 of the 52 students in Region Two had literature searches done by the University librarians. No such comparable paper trail is available for the other 28 students or for those of Region One. The later could easily come to the Library to conduct their own literature review.

What does this information tell us? One of the first things would appear to be that it is almost impossible to develop a core list of journals. If such a list were developed, it would be very small and limited, based on the repeated usage patterns noted in their papers. The titles used are many and varied. Some are specialized titles used by only one or a few individuals. The use of such esoteric publications, such as American Funeral Director, represents a special needs category and cannot be used as indication of a use trend by others. In fact, the journal was used repeatedly by only one student and became the major reference for his paper. It is not likely that this will be a publication that is in high demand. On the other hand, JAMA was used repeatedly by students in both Regions One and Two and is likely to continue to be a popular reference for students in the MSH program.

The diverse population served by these varied programs makes it very difficult to compile a common base list of journals that will serve the needs of the majority of the students. In the face of this diversity the challenge to the librarians in our institution is to continue to assist the students on an individual basis and to help them find research tools that they need to progress in their programs.
Student Satisfaction with Library Services: Results of Evaluation Using Focus Groups

Steve Schafer
Athabasca University

Abstract: This paper presents the findings of focus group survey of Athabasca University students. Using teleconference, three sessions with students across Canada were conducted. Students report a high level of satisfaction with current library services and stressed the need for more information about the Library and services available to students. Students reported that there is a need for instruction on how to access library services and how to access and use information in electronic format.

Introduction

Athabasca University (AU) is Canada’s Open University, and specializes in distance education at the post-secondary level. At the undergraduate level, the admission requirement is that applicants be 18 years of age. Students may take courses leading to a number of certificates and degrees; AU offers 13 certificate programs, 13 undergraduate degrees, 2 graduate degrees, and 2 graduate diploma programs. The number of AU graduates is increasing each year and there is an increasing number of students who enroll in a course at AU with the intent of transferring the credits to their home institution. Visiting students may come to AU due to a course not being offered at their home institution or because there are timetable difficulties at their home institution. A large number of students come to AU because a distance education course can be fit into a difficult schedule, and there are students who wish to take a course for their own interest.

Since its inception in 1970, AU continues to experience growth: total registrations in 1996-97 increased by more than 15 per cent over registrations in 1995-96. At the graduate level, registrations in the Master of Business Administration program increased by nearly 85 per cent while registrations in the Master of Distance Education program increased by about 22 per cent. Such unprecedented growth is largely attributed to the quality of the learning experience of the student. It is believed among the units that provide support services to students, that quality service contributes to the growth and success of Athabasca University. A survey of AU students in 1997 revealed that 98 per cent of AU students would recommend Athabasca University to a friend or colleague.

Prior to the 1997 study referred to above, the idea of a qualitative research project emerged. The Student Satisfaction with Non-academic Student Services project began as a proposal prepared by the Student Services Group at Athabasca University. The aim of this project was to survey the student satisfaction with services provided by AU to its students. Student Services Group (SSG) includes the Registry, Computing Services, Counseling and Advising, the Learning Centres, the Course Materials/Bookstore, and Library Services. While all AU courses include an evaluation form for students to complete and submit upon completion of a course, it was the collective thinking of SSG that there is a need to evaluate more in-depth the services that the University provides to its students. The proposal was prepared in the Fall of 1996 and submitted to the University for inclusion in the AU’s submission to the Alberta Department of Advanced Education, Learning Enhancement Envelope (LEE) fund. The University, however, decided to fund the project regardless of LEE funding.
Process

The Library Services focus group study is one facet of the Student Satisfaction with Non-academic Student Services project; the project remains to be completed in its entirety. The aim, however, of the Library focus group was to assess the level of student satisfaction with the library services and determine the speed, knowledge, and efficiency of the library services to AU students. It was anticipated that students would discuss their experiences and ideas regarding the level of awareness about library services, the need for information about library resources, and the need for instruction on using resources (in both traditional and electronic formats). The Library at the time of writing this paper has been the only department in SSG to complete its survey of student satisfaction with library services.

Initially, contact was made with the University’s Institutional Studies Department (IS) to discuss whether focus group research was indeed an appropriate methodology. The Library and IS discussed how to proceed. Focus group research was selected because it was felt that this methodology would provide more opportunity for respondents to discuss aspects of library services. Discussion would be preferred, and indeed, richer, than simply “tabulating scores on a scale of 1 to 5”, or from “poor to excellent”. Focus groups would provide opportunity for orderly and moderated discussion. With AU students across Canada, it was decided that teleconference sessions would be held. This would provide opportunity for students beyond the immediate vicinities of Edmonton and Calgary to participate. Teleconference sessions also, it was felt, would be the least disruptive to the schedules of the participants. Finally, all costing considered, teleconference sessions would be the least expensive and most efficient.

Two other departments were involved in this project and provided extensive support. Media Services operated the teleconference bridge and provided excellent support. Institutional Studies provided the administrative support for the project, identifying and securing a moderator/facilitator, assisting with the translation of library issues into discussion items, and securing the approval of the Ethics Review Committee to conduct the focus group research project.

Focus group sessions were held on 26 June 1997, 18 September 1997, and 25 September 1997. Each session was about nine hour in length. The first session included the widest range of participants: undergraduate and graduate students, and from both rural and urban areas. After this initial session, which was in a sense a trial one, it was decided to conduct at least two more sessions of participants at the undergraduate level. In the first session, it became obvious that there was a distinct need among graduate student participants for, and concern about, interlibrary loan (ILL) provisions. ILL was an important but less of a critical concern among undergraduate students. The following two sessions of undergraduate students were divided into rural and urban students. The rationale for this was simply on the basis of the assumed differences inherent in whether a student resided in a rural or urban area. It was assumed that particular areas of discussion might be more relevant to one group or another. For example, the use of other university or college library facilities may relate more to students in an urban area. Likewise, the timeliness of delivery of materials may be more of a significant factor among rural students rather than urban students. Nonetheless, as different as the groups were respecting geographic location, there were threads of commonality among all three focus group sessions. At the conclusion of each teleconference session a brief report was prepared.

Participant selection

To have meaningful discussion, it was essential to have users who were aware of, and knowledgeable about, the services provided to students by AU Library; it would be essential to select participants from a pool of "informed users". The population of students from which focus group participants would be taken, it was decided, would be those who had recently used the Library -- it was paramount that discussions with students were with those who were informed users. A list of potential participants was created by simply going through request forms that had been filed at the Library Information Desk over the previous few
weeks. Student names and ID numbers were compiled by the Library. The moderator of the focus groups, who also served as the administrator, contacted each potential participant to determine their willingness to participate in a focus group project about AU Library services. Each potential participant was told the aim of the study, that participation was voluntary, and that they could terminate at any time. Participants were told that attempts would be made to ensure confidentiality, and that the focus group session would be audio-taped through the teleconference bridge. A list of nearly forty potential participants was required to solicit at least 10 participants. Each participant was offered an honorarium.

It was decided that the Library would compile a list of issues that it wanted to discuss with students. Following the crafting of the list of issues, the Director of Library Services and the Director of Institutional Studies met to determine how to translate the issues into questions that would result in discussion and, in the end, provide meaningful data. It was expected that the data would confirm areas in which library services were satisfactory, identify those areas in which services needed improvement, and identify areas to development respecting the provision of library services to students.

The issues: discussion items for each of the three focus group sessions:

1. Providing direct support to AU students by supplying materials from AU Library holdings
2. Providing indirect support by suggesting appropriate material, by mediating literature searches, and making databases available on-line
3. Providing library instruction
4. Providing Interlibrary loan service

Comments

The following sets of comments are typical of those made by the focus group participants. The comments that follow are organized on the basis of the issues listed above.

1. Providing direct support by supplying materials from AU Library holdings
   - It was agreed that material was sent quickly and that the library was satisfactory.
   - It was clear that there is a high level of satisfaction with material supplied from AU Library.
   - Helpful staff provide an efficient and exceptional level of service.
   - Library staff are found to be knowledgeable and helpful; service is satisfactory, as is the range, variety, and quality of materials.
   - It was suggested that there be a limit on the number of books that can be borrowed at a time.

2. Providing indirect support by suggesting appropriate material, by mediating literature searches, and by making databases available on-line
   - Most participants were satisfied with the available on-line services and thought that the services were good.
   - There is much satisfaction with the support received from AU Library staff; it is excellent.
   - It was unanimous among one group that library staff "go the extra mile" to help students find what they need.
   - Some students are unaware of services available on-line.
   - Most students were unaware of the AU Library web page.
   - Graduate (and other students) indicated that they need more instruction and explanation techniques to access the services that are available.
3. Providing library instruction

- Library staff are very helpful in explaining on-line services and getting obscure material.
- Some participants said that they were not aware of on-line services available to them.

4. Providing Interlibrary loans

- Comments were generally positive and service reported as very satisfactory
- Extensions on loans from other institutions would be helpful

Issues arising

The following points are issues that arose during the focus group session.

1. Providing direct support by supplying materials from AU Library holdings

- Delays may be caused by materials sitting over weekends and holidays
- Canada Post is slow
- Confusion with terminology on the library’s on-line catalogue
- Lack of awareness or information that AU Library will courier materials to students with a rush request, at the student’s expense
- Quality of some video materials is substandard and outdated

2. Providing indirect support by suggesting appropriate material, by mediating literature searches, and by making databases available on-line

- Lack of awareness regarding on-line services available to student
- ERIC is cumbersome and not practical to use
- Some students indicated a need for a reciprocal borrowing arrangement at other university libraries

3. Providing library instruction

- New students felt they need more information available on-line and they need a more detailed list of such services.
- A majority of students were unaware of AU Library’s Web page.
- Some participants were unaware of services available on-line.
- Students in general need more information explaining how to use the library system.
- Students commented that more information was needed to make students aware of the different ways to access AU Library services by computer.

4. Providing Interlibrary loans

- Among undergraduate students, there is much satisfaction with ILL service.
- Graduate students need materials quickly; sometimes materials were received past the deadline.

Recommendations for the Library

The following recommendations are those that were made by the focus group participants.

1. Providing direct support by supplying materials from AU Library holdings
• Provide detailed information regarding the services available to students from the Library.
• Provide information brochures clarifying how to request materials from the Library.
• Continue to respond to e-mail requests within 24 hours.

2. Providing indirect support by suggesting appropriate material, by mediating literature searches, and by making databases available on-line

• Provide information detailing databases, on-line features, and techniques to access the information.
• Provide pamphlets or newsletters giving clear information regarding services offered by the Library.
• Provide clear instructions to access the information.

3. Providing library instruction

• Provide a pamphlet or newsletter giving clear and detailed information to students regarding the services offered by the Library.
• Make available clear instruction about how to access information.
• Provide a clear outline of on-line services and databases available for literature searches that are accessible to students.
• Provide graduate students with information packages explaining on-line features and techniques to access that information.

4. Providing Interlibrary loans

• Increase the staffing level to handle requests to ensure speed of delivery and continued satisfactory service.
• Special considerations need to be made for graduate students and their requirements at the thesis level.

**Recommendations for other areas of the University**

The following recommendations for areas other than the Library were made by focus group participants.

• AU should be more cost-effective and environmentally responsible. For example, send each student only one information package and reduce the number of texts for certain courses.
• AU should improve the technical quality of video material and ensure that the information and content are current.
• AU should offer a service to enable students to cut costs respecting course texts. For example, allow students to resell their books and providing a bookstore service to find and buy books.
• AU should increase the awareness about the availability of AU student computer accounts, through which the Library catalogue may be searched and materials requested.
• AU should include in the course materials package more information about services (including library services) available to students.

**Additional findings of the focus groups**

Participants in the last two focus groups were asked whether they had a computer, whether they had an AU student computer account, and whether they had an Internet account. Of the seventeen participants, all had a computer. More than half, eleven of seventeen, had an Internet service account. Only one student of the seventeen had exercised the entitlement to an AU student computer account.
This indicates that AU students are well-equipped on their own to participate in learning methods that incorporate computers and on-line information services. The above finding suggests that it will be essential for AU to provide processes what will authenticate AU users and allow users to access in a seamless fashion on-line information services to which the Library subscribes.

With a large proportion of AU students having computers and wanting to access on-line services, it will be essential that the Library provide information about such services and provide instruction regarding access to and efficient use of such information services.

Conclusion

The focus group sessions, it was concluded, were most helpful and informative; helpful in terms of identifying areas in which the Library is effective in its provision of service to students, and helpful in terms of identifying some needs. It became clear that there is a need among students for more information about the services available to students, a need for library instruction, and a need for the Library to upgrade its automated systems to accommodate more students wanting to use resources and tools on the Internet.
Course-Specific World Wide Web Pages: 
Evolution of an Extended Campus Library Instruction Service

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Abstract: This paper discusses the evolution and application of the Class and Academic WWW Pages Project, developed as part of a course-integrated user instruction program for adult evening students. The project is intended to enhance students’ abilities to conduct effective research from remote sites as well as in the extended campus library.

Introduction

Providing effective instruction in research skills for students enrolled in extended campus or distance learning programs continues to challenge librarians. One problem has been that the librarian is often not in physical proximity to the students, or has very limited time to be with them in person. A possible solution to this problem lies in the expansion of increasingly sophisticated information and search capabilities available through the World Wide Web. A fairly large number of students now have access to the Web at home or work, and would like to conduct research electronically as much as possible. In response to this situation, the Class and Academic Web Pages were developed as part of a course-integrated user instruction program for adult evening students. The project is intended to enhance students' abilities to conduct effective research from remote sites as well as in the small, highly automated extended campus library. Course-specific Web pages link to library services and sources, syllabi, class projects, and relevant Internet resources. Standardization of Web page templates, development of guidelines for Internet resource selection, and collaboration with faculty were important to the success of this endeavor. Now in its third year, the project continues to grow as an increasing number of students and faculty members express an interest in remote access to information resources.

One of the most pressing challenges for reference and instruction librarians in today's increasingly sophisticated electronic environment is finding new ways to provide library instruction and guidance for students who conduct much of their research via computers located outside the library. Some students enrolled in extended campus or distance learning programs see a librarian only briefly, if at all, while taking a particular course. Librarians investigating methods for reaching these students may find a solution in the utilization of the informational and search capabilities available through the Internet. This paper will describe and discuss the evolution and application of the Class and Academic Web Pages, developed as part of a course-integrated user instruction program for adult evening students (Northwestern University Library, 1997).

Background

The Joseph Schaffner Library, located on the Chicago campus of Northwestern University, serves several programs, including University College, the undergraduate evening program of Northwestern that enrolls part-time evening and weekend adult students. To meet the immediate needs of users in the programs it serves, the library has a small collection of reference and circulating books and about 150 current journals. However, its main focus is on providing users with the skills, tools, and services to identify and obtain
resources not available within its walls. Some of these services and tools include document delivery, an extensive selection of electronic information resources, and a well-established library instruction program (Swords Steffen, 1994).

Preparing adult students with limited time to conduct effective research in a highly electronic, extended campus library is the major goal of Schaffner Library's course-integrated library instruction program. University College students do not live on campus. Most work full- or part-time, and many have family responsibilities. All these characteristics must be taken into account by Schaffner Librarians when planning and developing instruction programs. To promote this instruction, Schaffner Librarians engage in activities that raise faculty awareness about the importance of research skills in adult education (Swords Steffen, 1988).

Meeting Changing Needs

A rapidly expanding assortment of networked resources is available to remote users while the number of students with access to the Internet at home or work also grows. One consequence of this situation is the potential for equal access to networked information resources for extended campus students and their main campus counterparts, in compliance with guidelines for service to extended campus students published by the Association of College and Research Libraries. (Association of College and Research Libraries Task Force on Extended Campus Library Service Guidelines, 1990) Since geographical and time constraints affect the ability of many of our students to conduct library research, devising new ways to incorporate the capabilities of the Internet into Schaffner's instructional offerings allows us to carry out our mission more effectively.

A variety of reference and technical issues revealed the need for a new type of instruction service. Because of the difficulty some students were experiencing in tracking down Web pages appropriate for university-level research, we needed to develop and refine ways to share librarians' skills in discovering and selecting the most appropriate Internet resources for specific purposes. Another concern requiring attention was the numerous protocols and addresses characteristic of multiple electronic information resources. Mastering these technical details presented a considerable obstacle for all but the most technologically savvy and determined students attempting to connect from remote locations.

Development of a New Service

The Class and Academic Web Pages were initiated in January 1995. Tailored to the Internet and library resource needs of individual University College classes, each set of Web pages lists relevant Internet sites selected and annotated by a librarian and pinpoints the most appropriate library resources for students beginning their research. A range of formats such as print materials, networked CD-ROMs, and Internet-accessible databases are usually represented in the library section. By taking advantage of the hypertext links to the Internet-accessible databases, users can avoid the frustration of trying to remember multiple addresses. Printouts or demonstrations of course-specific Class Web Pages serve as visual reinforcements during instruction sessions. Afterwards, the Web pages can direct their users to other useful services provided by Northwestern University Library, such as Document Delivery request forms and Electronic Reserve, and occasionally serve as a delivery mechanism for additional course materials. This consolidation of resources at one URL simplifies an increasingly technical research process, thereby removing yet another barrier to effective library use for our students.

Getting Started

Establishing the earliest Web pages initially required a large investment of time for the one librarian who performed most of the start-up work. To reduce the workload, it helps to have Web authoring software that automates some of the repetitious, detail-intensive operations involved in creating a Web page. HTML
Assistant and Bbedit software simplified tasks such as the quick generation of links and the creation of lists. Despite promising developments in Web authoring software, we have been wary of developing too much dependence on any one tool. To troubleshoot the occasional error in formatting, it is still necessary to have some basic understanding of HTML code and how it works.

Initially, one Web page per class was considered sufficient for listing all resources. Design considerations and the continuous inclusion of additional resources quickly made this form of presentation impractical and cumbersome. One idea now reflected in the Northwestern University Library handbook for staff publishing material on the NUL Web server is that it is generally better to have several smaller pages instead of one long, hard to load page. (Northwestern University Library, 1997b). The home page for each Class Web Page now functions as a table of contents that links to other pages focusing on specific parts. For example, Organization Behavior C01 - Organization Behavior has its home page at <URL: http://www.library.nwue.edu/class/orgbeh/C01/>. Establishing separate Web pages for Internet Resources, Library Resources, and other categories permits a more practical hierarchical structure. Selected Internet Resources are listed at <URL: http://www.library.nwue.edu/class/orgbeh/C01/c01inet.html>. Library Resources are listed at <URL: http://www.library.nwue.edu/class/orgbeh/C01/c01libra.html>.

These are not the only elements of the general Northwestern University Library Web design and structure currently reflected in the Class and Academic Web Pages. To save time and transform what otherwise would have been nondescript Web pages, we borrowed liberally from the design elements and standards that became part of the NUL Web template. The production of new Web pages eventually became easier, especially after a "cut and paste" approach was adopted whereby Web pages for previous classes served as templates for subsequent sets. Although more interactive elements such as forms and image maps may be added in the future, keeping the multimedia "bells and whistles" to a minimum has facilitated production and helped insure that remote users can load the pages on their computers more quickly.

Now that all Schaffner librarians participate in this project, consistent file and directory naming schemes have become even more important. Avoiding long file names simplifies the process of moving documents between different platforms while they are being edited. For this reason, most file names are kept to eight characters or less. Descriptive title tags are also important since they show up in bookmarks. For example, having a bookmark show up as "Information Resources for Political Science C71: Environmental Politics" is preferable to "newpage.html."

Policies on who has the authority to update Web pages vary from institution to institution. In our experience, the ability to upload files quickly to the library Web server on Northwestern's Evanston campus from our extended campus location is essential. Had this authority rested solely in the hands of one or two people on another campus, it would have been a major impediment. For various reasons, the Class and Academic Web Pages represent the most practical means through which certain University College faculty can achieve a Web presence for their class. Unfortunately, any attempt to accommodate certain types of customization requests such as special graphics would quickly overload what is already a fairly large service. Furthermore, only library staff members are allowed to update and upload the files on the library Web server. The university does provide resources for faculty wishing to create and maintain their own Web pages, whether for personal or instructional purposes. The existence of such instructor-created Web pages does not preclude production of additional Web pages by the library since they still serve an important role in facilitating library instruction.

Internet Resource Selection

Due to the initial paucity of useful Internet resources applicable to the needs of University College classes, selection of the earliest classes for Class and Academic Web Page development was based largely on the availability of relevant Internet-accessible and networked resources. There were exceptions, however. In
putting up a very successful Web page for one of the early participating classes, the content was enhanced by a large quantity of material provided by the instructor such as essays he had written and images. Not all faculty have been equally involved in providing extra information to be accessible through the Class and Academic Web Pages. Furthermore, such material is often more appropriately handled by another Northwestern University Library service, the Electronic Reserve System.

Fortunately, the availability of resources has improved during the three years since the project began. The development of more powerful, refined search engines and guides makes it easier for library staff to identify relevant resources. We are now able to develop a useful list of Internet resources for most of the courses that receive an instruction session. Consultations with instructors as well as careful reading of course descriptions, syllabi, and descriptions of class assignments are essential for the discovery and selection of Internet resources best suited for class needs. During the evolution of the Class and Academic Web Pages, it has also been important to develop guidelines for the critical evaluation of Internet resources. Currently Schaffner librarians are planning instruction sessions to teach students to evaluate resources they may find when searching the Internet.

Several factors that librarians typically consider when evaluating print or in-house electronic resources for inclusion in library instruction materials are also important considerations when assessing Internet resources. These are purpose, audience, authority, scope, and format. In addition, other considerations apply when planning to recommend particular Internet resources for remote access, such as ease of access, work ability and organization, and update frequency.

**Purpose & Audience:** Checking for statements of purpose or selection criteria lets us see whether there is a match with the needs of the class. If it is not explicitly stated, we try to get a feel for who the intended audience is (or should be). For example, if a page was developed by a faculty member teaching a class, it will probably contain useful information, but is also likely to contain information that was specific to that particular course and irrelevant to a different class taught at a different institution. Although personal Web pages are not necessarily inferior sources of information, their tendency to mix several disparate subjects in addition to their often ephemeral nature often makes them less useful for our purposes.

**Authority:** What are the source, reliability, and completeness of information contained? How easy is it to determine the author’s level of expertise? Is this a personal Web page? If so, does the author list any information on his or her education or experience that might indicate expert knowledge of a subject or field? Is this an academic department home page? A library’s page? The Web site for a government agency?

**Scope:** Due to our small staff and limited time, finding a good guide or gateway to resources in a subject area is often preferable to creating a new resource list from scratch every time we create a Class and Academic WWW Page in a new subject area. We note the level of selectivity versus size. If a Web page listing resources in a particular subject area lacks "value-added" qualities such as organization and annotation, it is sometimes better to link directly to the sites it lists instead. We try to give the Internet resource lists we develop some focus. For example, a French history class Web page does not require a comprehensive list of history resources on the Internet. It does need resources that focus on French history covering whichever periods of time the course does.

**Format:** Most of our patrons prefer Web to Gopher, Telnet or FTP resources. We note the appropriateness of the format as well as any software or hardware requirements. Does this site require specialized software packages not supported by our institution? Would obtaining this software place an unreasonable burden on our patrons?

**Ease of Access:** This factor is always important to remote searchers, and is one of the most basic factors to consider when evaluating Web resources. Is a persistently slow site redeemed by the unique and valuable
resources it provides, or are there equivalent resources that are easier to reach? Will modern users find this an especially frustrating connection? Is it more trouble than it is worth?

**Work ability & Organization:** Is the material broken down into manageable pieces or is it all on one interminably long Web page? If multimedia "bells and whistles" are present, do they enhance or distract? Consider the organization of the information in the Web page; does it facilitate or interfere with finding a particular topic? Is there an index page that will help in jumping to a subject? If the pages are particularly image-intensive, is there a comparable text-only option at the site? Good internal search engines are very desirable features, especially for finding a subject on an extensive Web site.

**Update:** We note the frequency of update and check for signs of the host's commitment to maintenance and stability. This often entails monitoring after the site has already been selected for our pages. We want to know how easy it is to identify currency, last update, and what was included in that update.

Sorting through the endless loops of links to sites with promising names, only to find out they all point to the same handful of marginally useful Internet resources is a typical aggravation. We think that annotating Internet resources, whenever possible, is one of the best "value-added" services we can provide on the Class and Academic Web Pages. A few words about content can be very helpful to a person using a slow modem trying to decide how to spend time most efficiently.

**Marketing and Publicizing the New Service**

The continually increasing popularity of the Internet has enhanced our ability to market the Class Web Pages as part of the Schaffner instruction program. Librarians publicize the service to University College faculty via announcements, telephone calls, and letters. This publicity has generated interest; we frequently receive telephone calls or e-mail from instructors interested in having the library make Class Web Pages for them. In addition, we have collaborated with the University College faculty development coordinator to create a faculty seminar that is designed to generate interest in the integration of electronic technologies, including the Web, into the curriculum. One benefit of this seminar is that it is a perfect vehicle for librarians and faculty members to meet and discuss how we can work together on projects that use current technology to improve students' ability to complete class projects and other coursework. The linchpin of our collaborative efforts so far has been the Class and Academic Web Pages.

We have retained Web pages from past classes on the Web server as a marketing tool. During the initial year or two of the project the older pages were important for demonstrating to faculty members the range of subject areas for which we had created pages. The links to Web sites were still relatively new, and initially required minimal updating. We may need to reconsider this retention practice in light of the maintenance that is now required. If we keep updating the links, we divert attention from current responsibilities. If we leave the pages up and full of outdated links and older material, it looks bad and may damage the credibility of the rest of the Web pages. We no longer need to retain the older pages for publicity purposes, since the project is thriving and there is enough variety in the current course pages to illustrate a wide range of topics.

**Reception and Initial Reaction**

In early 1995 few University College students demonstrated extensive knowledge about the Internet or Web browsers except to indicate that they had heard of the terms. In fact, a few students using a Class Web Page for an ancient Egyptian history class expressed surprise to library staff that such a class involved computers at all. Early instruction sessions using Class Web pages focused more closely on the mechanics of the Web browser software than is currently the case.
Since many of the students had not yet activated the Network Services Account provided by the university to all students, they were not necessarily ready or able to take advantage of the benefits of remote access. Some were not even aware that they were eligible for this account. To raise awareness of this eligibility, librarians spent a few minutes during instruction sessions encouraging students to activate their accounts and obtain the Internet software provided by Northwestern. The benefits of remote access to Class Web Pages were also explained.

It is obvious that more students now expect to be able to obtain information resources from remote locations. One reason is an increase in the availability of the Internet in the home and the workplace, making access more convenient than it formerly was. Students seem to accept the concept of utilizing Class Web Pages for research more quickly than they did in 1995. It is more common now for library users to ask to use the Web pages even when they are on-site in the library.

A Strong Foundation

Services like the Class and Academic Web Pages could not function effectively without the strong technology infrastructure and technical support of both the Library and the University. As one of the benefits of being housed on a particularly well-maintained Library Web server, the Class Web Pages undergo automatic monthly checks for broken, redirected, and changed links from a link verification program. Although Schaffner Library staff can provide limited technical support to remote users, Technology Support Services, the division of Northwestern's Information Technology unit that provides end-user computer support, has the expertise to provide assistance to people with difficult computer and network applications problems. Finally, the implementation of a proxy server allows members of the Northwestern community using other Internet Service Providers to get access to services and databases restricted by contractual agreements and IP address restrictions (Northwestern University Library, 1997a).

Pedagogical Issues

The Class and Academic Web Pages supplement but do not replace the personal contact between librarians and students that occurs during instruction and reference interactions. Personal contact is critical for the development of good student-library relations, the delivery of technical instruction in the use of networked resources, and the accommodation of different learning styles. In the midst of technological change, we remain committed to the belief that establishing this personal contact is an essential component of the Schaffner Library instruction program.

Like users of other libraries serving extended campus and distance learning students, our patrons must learn to regard the library as an access point in addition to the more traditional perception of the library primarily as a physical collection. Although instruction presentations emphasize the benefits of remote access, many Northwestern evening students still come to the library to conduct their research. Librarians stress that students have the same level of access to Class and Academic Web Pages whether they come into Schaffner Library or connect from a remote location. This does not mean that there are no plans for additional instruction services such as online tutorials. Development of such a service would facilitate Schaffner Librarians' efforts to accommodate different learning styles among its diverse student population.

A challenge noted earlier when Schaffner introduced full-text database searching to its students still exists: how, when faced with abundance, to shift the focus to refining searches and evaluation (Marshall, 1991). Many librarians have been devising means to meet this challenge for the past several years. The proliferation of Web pages has spurred an intensification of effort among librarians to teach the principles of critical thinking and analysis so that students can evaluate the avalanche of material that some searches generate. Schaffner librarians have developed principles for Internet resource selection that could be adapted for teaching to students. We have been incorporating some discussion of these principles into instruction sessions. Evaluation skills, for both the faculty and students will have to receive more attention.
in the future. The library must teach those skills to the students, and communicate to the faculty that it is possible to demand that students evaluate Internet resources used in their coursework.

Conclusion

Due to greater access to the Internet at home and work as well as the attention the Internet receives in media, students are becoming much more likely to ask about availability of remote resources. The Class and Academic Web Pages are, in essence, the transformation of the library instruction handout from a print document to a more dynamic HTML document. This is not in itself a particularly daunting task if adequate technical support exists. The true challenge is in introducing such a project on a major scale, doing it efficiently, and doing it often. While there are surely library staff members capable of producing sophisticated, eye-catching Web sites within these limitations, the small staff size characteristic of extended campus libraries will probably result in focusing resources and energy on content, production, and update issues. The development and implementation of instructional sessions covering a wide range of subjects may make this type of approach necessary.
Bibliography


An International Comparison of Library Services for Distance Learning

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Abstract: This paper presents an international perspective on library services for off-campus and distance education students. It examines the knowledge base in this area, the factors influencing research and publication, and the topics and themes in the literature from various countries and regions of the world. Four models of service provide a framework for comparing international issues. The paper concludes by offering a glimpse of what the future holds for providing library services to distance learners.

Introduction

The parameters and definitions of off-campus library services are becoming less distinct and more fluid as we move into the 21st century. Evidence of these changes is apparent in the topics discussed and the backgrounds of the attendees at the Off-Campus Library Services Conferences sponsored biennially by Central Michigan University. Originally intended as a forum for American librarians to share experiences about serving students at extended campuses, the conference series now attracts a broad spectrum of international librarians with diverse interests ranging from traditional on-site collections to web-based instruction and virtual libraries. While American librarians still comprise the majority of the attendees, several other countries have been represented over the past twelve years. These countries include Canada, the United Kingdom, Australia, New Zealand, South Africa, India, and the Caribbean. The topics covered at the conferences include both country-specific issues and general discussions of the role of libraries in distance learning.

The recent bibliography Library Services for Off-Campus and Distance Education (Slade & Kascus, 1996) is indicative of the breadth of the international literature available in this area. To acknowledge the emerging globalization of distance learning, this paper will examine the international context of off-campus library services as discussed in the literature. It will briefly discuss the various terms used in this area, the shifting boundaries of the field, and the nature of the literature. The paper is intended to be comparative, focusing on the dissemination of information, the topics of concern, and selected research undertaken in various countries. Common themes will be identified and a glimpse of the future will be offered.

Terminology and Shifting Boundaries

Varying terms are used by librarians to describe off-campus programs. Even use of the term "off-campus" itself is variable. In brief, there is no standard terminology or set of definitions in this area. One’s choice of terms tends to be heavily influenced by academic and geographical factors. Usage amongst college and university librarians often reflects the terminology applied at one’s institution and/or the methods of program delivery common in one’s country or region. For example, the terms favoured in the United States are "off-campus" and "extended campus", connoting programs delivered at sites distant from the main campus. In Canada and Australia, "distance education" tends to be the term of choice for many institutions, indicating an emphasis on independent study. Other countries prefer to use "distance learning". However, there is increasing evidence of American influence in terminology used abroad. The
term "off-campus" is appearing more frequently in the literature from Australia and the United Kingdom. The international literature also employs terms such as "open learning", "flexible learning", "extended learning," and "franchising" in a variety of interrelated contexts.

Use of the Internet, the World Wide Web, and information technologies for educational purposes has spawned a number of new terms including "distributed learning", "synchronous learning" and "asynchronous learning". In many ways, the academic professions are inventing new terms or modifying existing terms to accommodate changing learning styles and methods of course delivery. In several countries, "learning" has replaced "education" in the description of academic programs. There is more emphasis on the learner in this regard, a trend that is reinforced by the increasing opportunities for independent or classroom-free studies offered by current technologies.

The parameters of the literature and the terminology in this area used to be more clearly delineated. In many of the early publications listed in the first bibliography of Library Services for Off-Campus and Distance Education (Latham, Slade & Budnick, 1991), the standard terms used to describe the type of education in question were "extension", "off-campus" and "distance education". The former terms referred primarily to classroom courses held at remote off-campus sites. A synonymous term "extended campus" was introduced in the 1980s, blending the concepts of "extension" and "off-campus". Distance education grew out of the field of correspondence study which was primarily print oriented. While the notion of the separateness of teacher and learner remains implicit in distance education, the term also implies the use of mechanical aids and technological devices to supplement print materials.

The boundaries of this area are changing rapidly due to technology and the increased emphasis on the use of distance learning to complement or replace traditional classroom learning. In the words of Stephens and Unwin (1997b), "in the UK as in other countries, the definition of a distance learning course is constantly shifting and often crosses the fluid boundary which separates distance from open and flexible learning." Another British author (Bye, 1996) goes on to indicate that "there is no university-wide definition of a distance learner and no standard course structure." Definitions of related terms such as "open learning", "flexible learning" and "extended learning" tend to be fuzzy at best and include many overlapping characteristics. The characteristics of "open learning" include liberal admission requirements, a learner-centered philosophy and flexible study schedules. "Flexible learning" covers a number of techniques and approaches to learning and utilizes a number of teaching methods beyond classroom instruction as well as requiring the students to assume greater responsibility for the direction and pace of their own learning (Ariffeld, 1994). Some authors insist that open and flexible learning are not distance teaching (Allred, 1995) but, in practice, many of the techniques and strategies employed are the same. The ambiguous use of "open learning" is compounded by the existence of single-mode distance education institutions that call themselves open learning agencies or open universities. The field is further complicated by the recent introduction of terms like "extended learning" which seems to cover everything from off-campus classroom instruction to web-based instruction.

New terms have further expanded the parameters of distance learning. "Distributed learning" appears to have characteristics in common with open and flexible learning while at the same time implying the use of computer technology for course development and delivery. More specialized terms have been introduced, almost as sub-sets of "distributed learning". "Synchronous learning" refers to real-time interaction, usually through computer assisted communication, between instructors and students or between students and other students. "Asynchronous learning" involves computer communications that allow interactions and responses at separate times. Most recently, the terms "virtual campuses" and "virtual libraries" have been introduced to represent the ultimate version of distance learning where physical campuses and libraries are replaced by electronic resources and communication technologies.

The current array of confusing and overlapping terminology is indicative of a field in the process of change. Usage in context tends to delineate the various terms rather than universal agreements about
standard definitions. In the context of this paper, "distance learning" is used as a broad term to encompass all the terms mentioned in this section. It is also the term that is most neutral to national concerns. Since one of the objectives of this paper is to provide an international perspective of library services for distance learning, it is important to realize that distance learning takes a variety of forms and utilizes a variety of terms and delivery mechanisms. However, the common cross-national denominator is the separateness of the learner from a traditional postsecondary institution and, more specifically, the separateness from a traditional (physical) library attached to that institution.

The Literature on Library Services for Distance Learning

The literature on library services for distance learning is heavily weighted towards practice and application with a relatively low emphasis on research studies. In the combined contents of the two volumes of *Library Services for Off-Campus and Distance Education*, library surveys and user studies comprise only 14% of the 1,053 publications listed. In 1994, the Research Committee of the ACRL Extended Campus Library Services Section (ECLSS) conducted a survey of librarians to determine their research interests in this area and to encourage collaborative research projects (Slade, 1995). The survey instrument was distributed through the OFFCAMP listserver and at the ECLSS membership meeting held during the 1994 American Library Association (ALA) conference. Despite the wide distribution, only 56 responses were received. Attempts of the Committee to encourage research projects, including open hearings at the 1995 ALA conference and the 7th Off-Campus Library Services Conference, resulted in relatively little success. In 1995, an American librarian announced through the OFFCAMP list his intention to edit a book of research studies on library services for off-campus and distance learning. His call for papers resulted in such a low response that plans to produce the book were abandoned.

The irony in this area is that there is a demand for research studies from the point of view of authors who wish to cite authoritative data in their various works. However, there appears to be little incentive for research amongst many practitioners. In addition, most schools of librarianship, especially in North America, do not include library services for distance learning in the curriculum nor emphasize it as a field for research (Kacser, 1994). The research studies that have appeared to date may be attributed to one or more of the following: the need for research at an individual institution to determine good practice; the initiatives of an individual or group of librarians to present a paper at a conference and their need to collect data to satisfy the objectives of the paper; the interest of the occasional library school student who chooses a topic in this area for a major paper, thesis or dissertation; the availability of grants from governmental and other agencies for research and the initiatives of librarians to apply for these grants; and, last but by no means least, the interest in scholarship and research demonstrated by a few librarians who have undertaken projects primarily to make a contribution to the knowledge base in this area of librarianship.

Generally speaking, the most common types of literature found on library services for distance learning are examples of practice at individual institutions, discussions of various issues in the field, opinion papers, and descriptive accounts of projects and initiatives. Models of service for distance learners are based primarily on existing practice rather than on research. There are relatively few benchmark publications in this area that blend theory, practice and research results. This is partly attributable to librarians' demand for practical information from the field and their search for examples of effective services for distance learners. Evidence of this demand came from a librarian who reviewed the anthology *Off-Campus Library Services: Selected Readings From Central Michigan University's Off-Campus Library Services Conferences* (Lessin, 1991) shortly after it was published. This reviewer praised the book for the examples it provided of effective practice in the United States and then went on to comment that the international papers included in the anthology were interesting but provided little useful information for American librarians.

Another reason why benchmark studies are few and far between is due to the vehicles used for publication in this area. Very few papers appear in peer-reviewed journals. Those that do appear in these journals tend
to be cited most frequently. The article by Kascus and Aguilar in *College & Research Libraries* (1988) is the most cited work in this field to date. It is noteworthy that in the ten years since this article was published, no other work of this caliber has appeared in a "scholarly" journal. Many of the papers on library services for distance learning turn up in conference proceedings, library journals that are not peer-reviewed, professional news publications, anthologies and edited compilations, and, more recently, on the World Wide Web. This trend may change due to the introduction of a new peer-reviewed electronic journal titled *Journal of Library Services for Distance Education* (http://www.westga.edu/library/jlisd). The first issue was made available in August 1997 and has been favourably received by both librarians and educators.

With a few notable exceptions (e.g. Bazillion & Braun, 1992; Kascus, 1994; Wilson, 1994a; Stephens & Unwin, 1997a), relatively few papers appear in scholarly journals outside the field of librarianship. Some of the most valuable research material on library services for distance learning has been released in report form through academic institutions or governmental agencies. This material is often the result of projects funded with grant money and is frequently difficult to obtain through conventional acquisitions channels. Citations to this material tend to be found in the footnotes and bibliographies of other publications and rarely appear in the standard indexing sources.

The sections that follow will briefly examine the literature on library services for distance learning from various countries and regions of the world. Each section will outline the types of publications common to that country or region, the motivational factors influencing the types of publications that do appear, the forums for professional development and the major themes in the literature. Selected studies and descriptive reports will be highlighted to provide examples of research and developments in the various countries.

**Country Issues, Developments and Research**

**United States**

Despite the long history of extension service in the United States, it was not until 1931 that the American Library Association first recognized that extension students were at a disadvantage because of the lack of library resources for this constituency (American Library Association, 1931). In the period 1930 to 1970, very little was written on the topic in the library literature. Since that time, the body of literature on library support for the distance learner has grown considerably. The first growth span coincided with the establishment of open universities in several countries in the 1970s and the second growth span coincided with the growth of distance education programs in traditional postsecondary institutions in the 1980s (Latham, Slade & Budnick, 1991). The latest development in universities without walls in the United States is the educational model provided by the Western Governor's University (WGU) in Denver (http://www.westgov.org/smart/vw/imp.htm). WGU provides an example in *extremis* of tomorrow's virtual campus and virtual library. In its mission statement, WGU proposes to deliver innovative and cost-effective education using the Internet and other advanced telecommunications and networking technologies. This educational model is currently being aggressively marketed to students who otherwise might not have access to higher education. It is a US vision that mirrors a trend in distance education already well-established in developed countries such as the UK with its Open University. Technology is the enabling force that is advancing traditional education further along the continuum of the distance learning model.

While the body of US literature on library support for the distance learner is growing at a rapid pace, it remains largely descriptive and non-analytic as is true of much of the literature of distance education. What progress has been made comes from the field describing practice and application instead of research; what is missing is the theoretical framework needed to help refine practice and foster new applications. The publication productivity in this area has been reported primarily outside the conventional library.
milieu with much of it appearing in conference proceedings. At this point, it would benefit from being brought into the mainstream of library literature for discussion by a wider audience through the refereed publication process.

Typical sources of publication in the US are institutional reports, journal articles, newsletters, conference proceedings, masters and doctoral theses, anthologies, and occasional chapters in monographs. During the decade of the 1990s, proceedings from the Fifth, Sixth, and Seventh Off-Campus Library Services Conferences contributed heavily to the publication output in the United States (Jacob, 1991, 1993a, 1995). Another source of publication activity during this period resulted from the appearance of three special journal issues on extended campus library services in Library Trends (Aguilar, Kascus & Keenan, 1991), Illinois Libraries (Gaynor, 1994), and Colorado Libraries (Lebowitz & Potter, 1995). A recent anthology titled Libraries and Other Academic Support Services for Distance Learning contains a selection of essays on the topic (Snyder & Fox, 1997). Included in the appendices of this anthology are the Association of Research Libraries SPEC kit "Role of Libraries in Distance Education" (Snyder, Logue & Preece, 1996) and "Selected World Wide Web Pages for Distance Learning." 

Compared to Australia, few US theses have been written on the topic of library services for off-campus and distance education. This may well be a reflection of the fact that the topic is minimally represented in the curricula of library schools and of low priority for most library school deans and directors as reported by Kascus (1994). The ECLSS Research Committee recently distributed the list of North American research priorities (Slade, 1995) to the deans and directors of US schools of library and information science to encourage more theses and dissertations in this area. The following research studies are examples of American theses on the topic. Corrigan (1993) investigated the coordinating mechanisms between external degree programs and off-campus library services from the perspective of program administrators, finding that these administrators perceived a moderate frequency of discussion with librarians, no formal responsibilities for library services, and a moderate match between program mission and the manner in which library support is provided. Forrest (1986) reported the results of a survey of faculty and students involved in off-campus course work at West Virginia University, Marshall University, and West Virginia College of Graduate Studies, finding that faculty and students perceived the service to be inadequate. Hammer (1994) conducted a survey of North Central Association Colleges and Schools to determine the library services considered essential to quality distance education. Findings showed that the libraries surveyed offered the following services to the extended campus: collections at the off-campus site; library staff assistance with non-print materials and equipment; mail, telephone and electronic mail reference assistance; database searching; and interlibrary loan service.

The motivational factors for writing and publishing among US librarians are as varied as the publication sources chosen. The motivation for many in-service librarians is simply the opportunity to share good practice with colleagues. For some librarians the availability of grants or sabbatical leaves has provided an opportunity to explore a particular institutional concern. The motive for publishing for a few librarians is to expand the knowledge base in the area of library support for the distance learner and to make a contribution to scholarship. However, one key motivational factor for writing and publishing in the United States is the need for library faculty and academic librarians to satisfy existing promotion and tenure requirements.

Professional conferences provide an avenue of continuing education for in-service librarians and an opportunity to present papers and have them published in proceedings. The professional conferences relevant to this area are both within the library field and in the broader arena of distance education. In the United States, a valued source of professional development continues to be the Off-campus Library Services Conferences which provide a forum for sharing practice, ideas and experience. An important medium for professional exchange on the national level is the Association of College and Research Libraries Extended Campus Library Services Section that meets twice annually at the American Library Association meetings. Two current projects of ECLSS committees are the development of a uniform data
collection form for use in the extended campus and a revision of the "Guidelines for Extended Campus Library Services" (Association of College and Research Libraries, 1990). The ECLSS section publishes a newsletter providing an opportunity for members to share information and news about section activities relating to library services for distance education librarians. Local library associations such as the Chicago Area Extended Campus Librarians provide a forum of exchange for a specific group of librarians serving distance learners. The OFFCAMP listserver provides an electronic forum for the ongoing exchange of ideas and practice and is a ready information resource for librarians serving distance learners.

Developments in the United States reflect a growing awareness of the special needs of the distance learner and focus on identifying these needs and how best to meet them. The growth of distance learning as an educational model in the United States has placed a renewed emphasis on the importance of access and equity in the provision of library support as more higher education institutions accept responsibility for providing library support for students enrolled in off-campus academic programs. What in the past had been an area of specialization for a small number of librarians is rapidly becoming an area more widely dispersed throughout the profession. Some individuals are looking at distance education as the future for all librarians. Remote access provides the common ground on which the interests of on-campus and off-campus librarians are beginning to converge. A discussion of some of the dominant themes discussed in the US literature follows.

One prominent theme in the US literature relates to developments in the area of interlibrary cooperation. The focus is on the role of statewide resource sharing in facilitating the provision of off-campus library service. Feldmann (1993) describes Indiana's automated network that links its citizens with libraries, and Potter (1993) describes cooperative statewide resource sharing strategies in Colorado. The assumption is that the forging of statewide and regional alliances in education and library support will produce new synergies for cooperation in the absence of walls and institutions. A further assumption is that libraries will collectively have access to a larger body of resources than they could afford to purchase individually.

Another focal point of interlibrary cooperation in the US literature is the role and development of contracts and formal agreements to provide resources and services to off-campus students. One interesting collaborative agreement exists between Walden University, an accredited university without walls, and Indiana University at Bloomington, a traditional institution of higher learning (Barsn & Weaver, 1995; Weaver & Shaffer, 1995). Scribner and Potter (1991) examine the importance of using contracts in formalizing agreements between libraries to provide resources and services for off-campus students. Goodson (1996) reports on how the State University of West Georgia in Carrollton uses cooperative arrangements to supplement their resources and efforts for meeting the library needs of distance learners. Formal agreements have been written as a way of satisfying accreditation requirements and include services such as reference and user instruction, reciprocal borrowing, joint access collections, and document delivery.

A second theme in the US literature relates to bibliographic instruction and information literacy. Information literacy is the ability to locate, interpret, critically evaluate, and communicate knowledge. Priority number one among the North American research priorities identified in the ECLSS Research Committee survey was that of bibliographic instruction for distance learners (Slade, 1995). This is not surprising since distance learners experience the same need for information literacy as on-campus students. While there are many descriptive studies in the US literature of the various methods of providing bibliographic instruction and the various technologies for delivering it, not much research has been done in designing analytic studies to help measure performance in this area and to determine best practice. Included among the techniques used to deliver instruction to distance learners are: librarians traveling to remote sites with portable equipment to bring technology to the classroom at Northern Arizona University (Jagers, 1993); agreements with local libraries to deliver bibliographic instruction to off-campus students at Central Michigan University (Collier, 1991); and the use of various technologies such as the use of audio conferencing to teach a course in "Library and Information Strategies" at the University of Alaska at
Fairbanks (West, 1992). Burke (1996) reports on the use of computer mediated communication to create an interactive learning experience for students with electronic mail via a listserv that acts as a forum for group discussion.

The use of faculty/librarian collaboration offers another model for providing instruction to distance learners. An example is a team taught course at Linfield College in Oregon in which library instruction and writing instruction were successfully integrated in the course development process (Whyte & Wolfe, 1993; Whyte, 1995). Bibliographic instruction in the cyberspace age will include teaching distance learners about the Internet, the World Wide Web, web browsers, search engines, access to full-text databases and much more. According to Bazillion and Braun (1995), electronic research skills will become an integral part of the educational mission of tomorrow's university with the library becoming a teaching instrument. In this context, the Internet is providing the technological structure for developing new methods and models for providing bibliographic instruction. These methods and models are being explored in the US literature and will be part of the infrastructure for tomorrow's virtual library.

A third theme represented in the US literature is the area of remote access to electronic resources and networked learner support. One focus is on networking information resources. Billings et al. implemented and tested a prototype solution to providing remote reference assistance for users who are accessing networked information sources at remote sites (Billings, Carver, Racine & Tongate, 1994). This enabled librarians to assist users by remote intervention in the online search process. What is stressed in the literature is how technology is alleviating the problem of physical access at a distance for on-campus as well as off-campus library users. Cutright (1993) describes how Eastern Oregon State College provided distance learners with access to CD-ROM databases via innovative telecommunications technology. Developments such as dial-access, networked CD-ROMs, client/server systems with end user capability and remote access to online catalogues and electronic resources are recognized as expanding the options available in meeting the needs of distance learners.

An aspect of remote access receiving current attention in the literature is the use of web-based instruction in addressing the information literacy needs of distance learners. The University of California at San Diego uses electronic mail and the Internet to deliver user education including a six part online tutorial that is self paced (Jensen & Sih, 1995). Many US libraries are creating library web pages to instruct remote users in how to search and access electronic resources and to link them to useful electronic resources throughout cyberspace. With the new technology, the emphasis in the current literature is on finding ways of teaching library and information skills to distant and remote users rather than on doing research for them and delivering documents. Remote access technology has the potential to enrich the educational experience for the distance learner and to move distance learning closer to the goal of equitable access. Cooperation, resource sharing and networking are emphasized in the US literature as ways of improving service to distance learners and remote users, with technology as the key to success in all these areas.

Summaries of Selected Research

The majority of the US publications included in the Second Annotated Bibliography describe practice rather than report research. Three of the major categories in the bibliography represent the principal research methodologies that have been used: user studies, library surveys, and case studies. Selected US research studies in these categories are discussed below.

User Studies

User studies are library statistical surveys that involve carefully planned questionnaires or focused interviews designed to evaluate user satisfaction or dissatisfaction. These studies are important in identifying problems and issues faced by distance learners in accessing library service and resources. They
provide the basis for quality assurance and continuous improvement. Several of the research studies undertaken in the United States provide examples of what is being done in this area.

Craig and Schultz (1993) investigated MSA graduate students' perceptions of the effectiveness of library instruction for the successful completion of assignments in courses and the final integration process at Central Michigan University. Eagan (1994) investigated the information gathering process in terms of information needs, sources available, and sources chosen for use by pharmacy students enrolled in off-campus programs at the University of North Carolina at Chapel Hill. Dillon, Gunawardena and Parker (1993) evaluated Oklahoma's Televised System based on an analysis of the support services available to the distance learner and found that library services are a prime concern for 57.3% of the distance learners, indicating that success in their course work required the use of the library. Kascus and Aguilar (1987) surveyed faculty and students at a Connecticut college with ten off-campus sites to determine their perceptions of the availability and adequacy of off-campus library services. The results indicated that students make minimal use of libraries and are uncertain about the library services available to them. Jaggers, Tallman and Waddell (1991) surveyed the need for library materials and how effectively this need is met at Northern Arizona University. Findings indicated that students used material provided by the instructors (82%), followed by personal collections (68%), local schools (62%), and community college libraries (42%).

In a study of the nature of graduates experience with off-campus programs in agriculture, "the lack of access to library facilities" was identified as a significant obstacle by 65.2% of those responding (Miller, 1995). Interesting research has been conducted on the searching behaviour of remote users based on an analysis of transaction logs from Penn State University's online catalogue. According to Kalin's (1991) research findings, an effective remote user support program would include: promoting remote access, providing system support, establishing a communication network, providing instructional classes or seminars, developing remote access guides and other printed materials, providing online prompts and help screens, and creating special gateway programs. These studies on the searching behaviour of remote users have implications for reference librarians in terms of providing appropriate instructional services. Input from users provides one standard for measuring library performance and an opportunity to improve services.

Library Surveys

Library surveys organize, present and summarize data and are a useful tool in collecting measurable information for comparative study. Van Blair (1991) surveyed four-year private colleges accredited by the North Central Association to determine the methods of funding library services in support of off-campus programs and identified four funding models. Power (1991) surveyed 149 U.S. academic libraries to determine what extended campus library services are offered and how they are funded. Moulden and Fritts (1993) investigated staffing patterns for off-campus locations in a survey of colleges and universities and found that it is not a common practice to staff distant sites. Kascus (1994) surveyed all ALA-accredited library schools to determine the level of commitment in the current curriculum to library school coursework on the topic of library support for off-campus and distance education programs. Baseline data at the time of the survey indicated that the topic is minimally represented in the curricula of schools of library and information science and of low priority for most deans and directors. The Association of Research Libraries conducted a survey in 1996 to gather information about current distance education and distance learning initiatives in member libraries. The objectives of this SPEC survey were to: (1) identify libraries involved in distance education activities and determine the extent and/or level of involvement; (2) determine library services delivered to remote users; and (3) ascertain the management and support provided by libraries for distance learning programs (Snyder, Logue & Preece, 1996).
Case Studies

Case studies of individual libraries are a good source of institutional data and provide working models and useful ideas for other libraries planning library support for distance learners. Hoy and Hale (1991) did a comparison of references cited by on-campus and off-campus graduate library science students at Emporia State University to investigate whether off-campus students are disadvantaged in gaining access to scholarly materials. Findings from the study indicated that they appear not to be disadvantaged in gaining this access. Steffen and Marshall (1993) describe the Schaffner model of library Services at Northwestern University providing insights on the design and delivery of an effective program of library services and the resources required to do so. The components of the Schaffner model are bibliographic instruction, information technology as the method of access, document delivery, integration of research and library skills into the curriculum, cooperative relationships with other parts of the Northwestern Library System, and investment in staff and facilities.

Cooperative agreements have evolved as a model of providing access to libraries for learners at a distance from the parent institution. These agreements are as variable as the institutions that have negotiated them. Some are informal in nature while others are highly structured. Barsun and Weaver (1995) describe a unique collaborative agreement which exists between Walden University (WU) a North Central Association accredited university without walls offering doctoral degrees, and Indiana University at Bloomington (IUB), an esteemed institution of higher learning. According to this inter-institutional agreement, IUB librarians provide year-round library services to more than 900 students and faculty during regular academic sessions as well as summer sessions to about 340 students. An important criteria contributing to this inter-institutional agreement is equitable and satisfactory remuneration for the services provided by IUB libraries. In this mutually beneficial fee-based service agreement, WU has secured access to a major research library’s collection for its services, and IUB has secured an ongoing source of external funding. This model provides practical insights into how to meet the library and information needs of working adults enrolled in advanced distance education programs.

While the number of actual research studies is small compared to the total publication output, they are important to advancing the field of library support for the distance learner because they provide measurable data about what is good practice and what can be done to improve practice. Some good work is being done here, but there is more work that needs to be done in the area of designing research studies that establish evaluative criteria, collect data, test assumptions, and measure outcomes to provide a research base that is valid across institutions and continents.

United Kingdom

In the United Kingdom, the starting point for much of the current research is based on the premise that library support to the distance learner has been largely neglected. The types of publications common to the UK literature are journal articles, research reports, and news items. One motivational factor for publishing in this area is the availability of research grants from governmental agencies. A far reaching example of government support for research is the "Libraries Without Walls: The Delivery of Library Services to Distant Learners" project (University of Central Lancashire, 1995). Also known as the BIBDEI project, it was undertaken in 1994-95 and resulted in six deliverable reports on this important collaborative effort.

Other sources of publication activity are reports on various special initiatives funded by the British library. One such initiative is the two-year research project undertaken by the Flexible Learning Centre at the University of Sheffield to survey students enrolled in Masters Degree programs at UK universities (Unwin, Bolton, and Stephens, 1995). A second initiative is a research and development project conducted through the Centre for Research in Library and Information Management (CERLIM) at the University of Central Lancashire. This initiative investigated library support for franchised courses in higher education, focusing on user information needs and how students go about the process of identifying, locating, and using library
and information resources (Goodall and Brophy, 1997). Publication activity has also resulted from the work of individual researchers hired for specific projects.

The BIBDEL conferences have provided an important forum for professional development, being the first of their kind in Europe. The impetus for the conferences was to disseminate the results of the BIBDEL Project and to encourage interest among academics and practitioners in the use of information technology to deliver library services at a distance. Representatives from twelve European countries attended the 1995 conference (Irving & Butters, 1995). Proceedings from the 1997 conference have not yet been published. A decision was made at the 1995 conference to establish ADELISE, the Association for the Delivery of Library Services in Europe (University of Central Lancashire, 1995). ADELISE serves as an ongoing special interest group providing an electronic forum with a World Wide Web site for the exchange of good practice, ideas and experience among the conference delegates and the wider international community.

One function of this group is a "technology watch" to encourage those involved in the remote delivery of library services to share experience on new technologies and to learn innovative applications. Among the recommendations for action, it was noted that there is a need for ongoing collaboration within Europe and much to be gained from extending that collaboration across continents (University of Central Lancashire, 1995).

Among the major themes addressed in the literature of the United Kingdom are the problems faced by part-time students. The ways in which librarians have attempted to remedy them are described in a paper by Bevan (1985) and in several papers in the early 1990s (Fisher, 1990; Moses, 1990; James, 1991; Heery, 1993; Astbury, 1994). A monograph by Heery and Barr (1989) lists the many ways librarians can assist part-time students, and a dissertation by Peacock (1992) provides a case study of library provision for part-time students at the University of Sheffield. An article by Heery (1996) discusses library services for non-traditional students and compares the library needs of part-time students to those of distance learners. The problems faced by part-time students have much in common with those faced by distance learners, so many of the remedies suggested in these studies can be applied to the distance learner.

Another prominent theme in the UK literature relates to the Open for Learning Project for public libraries. This project funded by the British government enables public libraries to provide adult learners with access to open and flexible learning materials. The project began in 1988/89 in Clwyd County, Wales, with the establishment of open learning materials in four public libraries (Williams, 1990). A national seminar held in Peterborough in February 1995 identified a number of key issues that libraries, colleges and Training and Enterprise Councils (TECs) needed to address. These included concerns for charging for open learning services, support for collaborative networks, and developing services in the future. By June of 1995, over 90% of library authorities in England had set up open learning services. A key study "Open Distance Learning in Public Libraries" (ODIN) was led by the University of Central Lancashire and funded through the European Union. Its purpose was to study the potential for open learning delivery by public libraries in all European countries and to assist the use of open and distance learning technologies by conducting a use study (Green, 1995). This report is central to the developing role of public libraries in the provision of open and flexible learning.

A recurring theme in the literature is the student concern about the importance of libraries to their learning experience and the mismatch of expectations between students and course providers with the former being more aware of their needs in this area than the latter (Stephens & Unwin, 1997a). The extent to which distance learners are disadvantaged compared to students who live close to the home university is under study.

The early literature from the UK focused on the role of the Open University (OU) in relation to library support. The issue of concern in the 70s and 80s was whether OU students could access relevant materials at local libraries. This issue has not received much attention in the 90s, the only reference being to a campaign in 1991 by the OU Students Association to obtain borrowing privileges at institutions of higher
education. The rationale offered in the past for not providing OU students with enhanced library services has been that the learning resources provided by the institution are sufficient to enable the student to study effectively, especially if combined with a summer school and telephone access to a tutor (Heery, 1996). In a recent interview, the Director of Library Services at the Open University implies that new technologies will play a significant part in enabling students to access information. As a result, library staff will need to be proactive to help independent learners receive quality training in generic search and information handling skills. She indicates that the OU is currently running a pilot project to develop a strategy for the electronic delivery of library services to its students (Whitsed & Adams, 1996).

An interesting recent trend in the UK is that the number of distance education providers is increasing and library services to distance students are now being developed by a number of UK universities (Whitsed & Adams, 1996). Services similar to those offered to off-campus students in North America have been introduced at institutions such as Northern College of Education in Aberdeen (Jolly, 1995) and Sheffield Hallam University (Bye, 1996). Other initiatives include the London Plus scheme to allow students to borrow from any of the university libraries participating in the scheme and the project at the University of Glasgow which provides distance students with a study skills tutorial on computer disk (Heery, 1996).

**Summaries of Selected Research**

Three major research and demonstration projects have contributed substantially to the literature on library support to the distance learner. The first major project is the BIBDEL project "Libraries Without Walls: The Delivery of Library services to Distant Learners" coordinated by CERLIM at the University of Lancashire in partnership with Dublin City University, Ireland and the University of the Aegean, Greece. The project explored the use of information technology as a means of improving library services to distance learners. One of its goals was to provide a coherent program of access and delivery at a distance, including access to online catalogues, electronic databases, reference and referral and document delivery in various formats. The specific aims of the project were to research and demonstrate techniques for providing access and delivery of materials and services to remote users, and to disseminate good practice in this area (University of Central Lancashire, 1995). As part of demonstrating good practice, they investigated setting up a special interest group similar to CMU's Off-Campus Library Services Conferences and ACRL's Extended Campus Library Services Section in the United States. The project intended to deliver a series of reports and produce a "tool kit" of techniques on the various aspects of providing library support to distance learners. The "tool kit" was developed as a hypertext package to allow users to adapt and modify it to meet local requirements (http://www.dcu.ie/library/bibdel/index/html).

A second major project contributing to the publication productivity in the UK was funded by the British Library and the European Union, and conducted at the University of Central Lancashire through CERLIM. This project investigated library support for franchised courses in higher education, focusing on user information needs and how students go about the process of identifying, locating, and using library and information resources (Goodall & Brophy, 1997). Franchising is the process of universities validating small colleges or other bodies to operate parts or entire degree courses. In this user study, a questionnaire was designed and focused interviews were conducted to assess the level of user satisfaction/dissatisfaction. Students were asked to record their information-seeking behaviour and to document their experiences with respect to the provision and availability of library services and resources for completing their academic assignments. The diary method was used for recording how franchised students satisfied their information needs. Ongoing evaluation is taking place to determine if they are disadvantaged compared to on-campus students.

A third major project contributing to the literature was undertaken by the Flexible Learning Centre at the University of Sheffield. This project surveyed 1,000 students enrolled in Masters Degree programs at nineteen UK universities. In addition, interviews were conducted with selected course providers, university librarians and public librarians to identify the educational and practical issues involved in
providing library support (Unwin, Bolton & Stephens, 1995). The results of the survey indicate that students recognize the importance of the library to academic success and, at the same time, they experience difficulties in accessing library services (Unwin, 1994). Forty-seven students responding to the survey participated in a longitudinal diary study to record their use of libraries over a twelve-month period.

Europe

Among the major themes in the European literature are lifelong learning initiatives and the role that the public library can play in supporting distance learning. An interesting movement which has implications for libraries is the European Lifelong Learning Initiative (ELLl) established in 1992 (Longworth, 1997). One of its nine goals is to include ways in which libraries can contribute to ELLl beyond their normal role in education, and how ELLl can help libraries with this educational role. The underlying assumption in the current literature is that, because public libraries are serving adult distance learners, more should be done to inform those doing the work about the needs of this group and how best to meet these needs.

In this context, the proceedings of the first "Libraries Without Walls" conference was an important forum for professional development, providing a window on European effort in the area of library support to distance learners (Irving & Butters, 1995). Prior to the papers presented at this conference, few references on Europe appeared in the Second Annotated Bibliography. Current projects reflect different approaches to the Europe-wide concerns of providing education and training on a national scale for adult citizens, and recognizing the potential of the public library as a gateway for supporting decentralized education. Several European projects that speak to these issues are reported below.

Summaries of Selected European Projects

The following projects reflect a common concern interwoven throughout the current European literature on library support for the distance learner. The Public Libraries and Adult Independent Learners (PLAIL) project is a partnership of European countries including Spain, Portugal, Wales and Scotland seeking to improve access to continuing education and training for adult workers using public libraries. Its objectives are to identify the needs of open learners, to determine what services the library should provide, and to assess the implications for librarians’ skills (Watkin, 1995). Library authority partners in Greece, Scotland, and the Netherlands undertook the Mobile Research Project to identify the information needs of remote communities not adequately served by stationary public libraries, and to exploit telecommunication technologies in a mobile library environment in order to provide a wider range of library services (Trohopoulos & Carpenter, 1995).

In Sweden, the IT Project at the Kalmar county library emphasized the potential role of the public library in helping citizens of a democratic society to become better educated. As part of this initiative, the Swedish National Council of Cultural Affairs funded a distance training course for library staff in preparation for teaching information technology to ordinary citizens (Kuhne, 1995). The HYPERLIB Project is a cooperative initiative involving Loughborough University, UK, and the University of Antwerp, Belgium, working together to improve access to library services at the University of Antwerp by adopting a hypertext interface to the library’s OPAC (Van Born, 1995). In Norway, a project to improve library services for distance and decentralized education enlisted the cooperation of research libraries and public libraries. These libraries are working together to find solutions to a national need for distributed library services to support this education. Of particular concern are those students who do not have access to library services other than the local public library (Salvesen, 1995).

Australia

Australia has a long history of providing distance education programs that enable people living in remote areas to have access to a postsecondary education. Regional or study centres for distance students are not
as common in Australia as they are in some other countries. One notable exception is Southern Cross University which has a number of open learning access centres located in New South Wales (Neuhaus, 1995). Australian distance students generally complete their coursework on an independent basis using a combination of print, mechanical and electronic aids complemented by some communication with a course tutor. Library services for distance students are not a recent development in Australia; many institutions initiated such services in the early stages of distance education delivery. The literature from this country contains many examples of descriptions of library service models and research studies on the library needs and use patterns of distance or external students.

Typical sources of publication in this area are institutional and government-funded reports, journal articles, conference proceedings, newsletters, theses and dissertations, and occasional chapters in monographs. There have been several significant research reports on library issues in distance education. These include the Winter-Cameron study (1983) which investigated the use of libraries by external students at ten tertiary institutions, the Grosser and Bagnell study (1989) which examined the use of public libraries by external students at Deakin University, and the University of Central Queensland survey (1993) which studied library services for remote postgraduate distance students.

Compared to other countries, Australian authors have published a relatively high number of articles in peer-reviewed journals, including some outside the field of librarianship. Another significant source of publication is the thesis and dissertation literature in Australia. Several postgraduate students in library science have selected research topics related to library support for distance students. Examples include Martin’s survey of services to external students in Australian regional colleges (1986), Doddrell’s study of public librarians’ attitudes on services to off-campus students (1988), Matrika’s investigation of cooperative borrowing by University of New England external students (1988), Ledo’s study of the information needs of external students at the Southern Australian College of Advanced Education in Whyalla (1993), and Macauley’s examination of the information needs of postgraduate distance students at Deakin University (1996b).

The motivations for scholarship in this area amongst Australian librarians are varied. Due to this country’s long-standing involvement in distance education, the topic of library services to distance students is of major concern to many institutions and is a prime candidate for investigation and research. Several studies reflect institutional initiatives in combination with the availability of government funding for research (e.g. the Winter-Cameron and the University of Central Queensland studies). Other studies reflect the individual initiatives of a few librarians who have demonstrated an exceptional interest in research.

Conference attendance is a motivating factor for publication and a number of Australian librarians have used such forums as a vehicle to present research findings or describe projects originating at their institution. One conference series which addresses library interests in this area is the Access Through Open Learning conferences sponsored annually by Southern Cross University. The last three conferences have included a number of sessions devoted to library topics. There is a specific forum dedicated to the interests of Australian librarians working with distance learners - DESIG, the Distance Education Special Interest Group within the Australian Library and Information Association. This group holds a biennial conference and publishes a newsletter called DESIGNation. The newsletter, issued 2-3 times a year, provides an opportunity for members to share information and news about library services to distance students. Reports from various institutions appear regularly and selected research studies are summarized from time to time.

Amongst the themes prevalent in the Australian literature, the area of user studies has received the most attention. Many of the studies cited in this section have attempted to determine the library needs of distance students, their patterns and preferences in using libraries and library resources, and their knowledge of the services available to them. Most of these studies have focused primarily on
undergraduate students. Two notable exceptions are the University of Central Queensland study (1993) and Macauley's thesis (1996b).

Another area of major concern in Australia is user education and information literacy. Numerous papers address the need for remote students to develop information literacy skills. Appleton and others discuss electronic access to library resources and services as one means to enable distance learners to acquire information literacy skills (Appleton & Hall, 1993; Appleton & Orr, 1994; Appleton, 1997). A recent initiative from Central Queensland University (CQU) involves the use of a residential school program designed to teach information literacy skills to both on-campus and off-campus students (Central Queensland University, 1995; Orr, Andrews & Appleton, 1996; Orr, Appleton & Andrews, 1996). The various information strategies employed by CQU are summarized by Ward (1997). Wilson, in three papers (1994a, 1994b, 1995), discusses the findings of a study at Edith Cowan University which examined the information literacy skills of remote external students and how new communications technologies could improve those skills. Various authors describe the development of information literacy packages for Open Learning Australia students that include print, video, and computer assisted learning materials (Hall, 1995; McAlpine, 1995; Cheek at al, 1995).

A third common theme in the Australian literature is library support for Open Learning Australia (OLA) students. The library implications of the OLA program and its precursor, the Television Open Learning Project, have been discussed in several publications (e.g. Ryan, 1993; Tucker, 1993; Cavanagh, 1994a). The library services offered by OLA have been described in a number of sources (e.g. Van Dyk, 1997; Lim & Van Dyk, 1997).

Summaries of Selected Research

There has been a plethora of research studies conducted in Australia and it is difficult to single out a few deserving specific attention. The research conducted by students in library science programs is noteworthy, especially since summaries of the key findings often later appear in the form of journal articles. However, for the purposes of this section, the focus will be upon selected research conducted outside the library school arena.

The benchmark research study on library services for distance education in Australia was conducted in 1982. The Winter-Cameron report (1983) is still the most comprehensive and highly regarded Australian study of its type and continues to be cited fifteen years after its publication. The study was funded by the then Commonwealth Tertiary Education Commission and involved a random sample of more than 2,000 students from ten tertiary institutions. The response rate was about 75%, and approximately 15% of the sample were postgraduate students. Approximately 70% of the students surveyed lived in large cities. The findings indicated that only about 40% of the students surveyed took advantage of library delivery services offered by their home institution. Instead, it appeared that the majority tended to use public or university libraries located near their home or place of work. An important issue that emerged from the Winter-Cameron report was that of reciprocal borrowing rights for external students delineating the need for cooperative borrowing between institutions. As a result of the study, a national library card scheme was proposed for Australia. The proposal was never implemented despite much debate between the various institutions. However, the objective was fulfilled to some degree by state and regional schemes now in operation such as CAVAL in Victoria and UNILINC (formally CLANN) in New South Wales.

A more recent research study of note was undertaken at the University of Central Queensland (subsequently Central Queensland University) in 1992. Funding for the project was provided by the Department of Employment, Education and Training. The study investigated whether the use of electronic communications and information technologies would improve the delivery of library services to remote postgraduate students (University of Central Queensland, 1993). The objectives of the study were: (1) to identify the library needs of postgraduate distance education students and classify those needs by type and
field of study; (2) to investigate the use of information technology to assist these students; and (3) to determine the types of library services offered to remote postgraduate students, how the services are promoted, and the costs of delivering these services to remote students. Each objective required a different methodology. To fulfill the first objective, remote postgraduate students from five universities were surveyed by questionnaire. The methodology for the second objective involved an eleven week trial during which remote postgraduate students from the University of Central Queensland were given electronic access to the University's OPAC, CD-ROM indexes, and information sources available through AARNet. For the third objective, librarians at Australian Distance Education Centres were interviewed over the telephone and costing information on distance education library services was obtained from the University of South Australia and Deakin University.

The most relevant findings of this study were that: the majority of students were not aware of all the library services and resources available to them; distance education students often find it more convenient and useful to use other university libraries; electronic access to library services and electronic delivery of information offer the potential for fast and improved library services to students; there are additional costs in delivering library services to remote students; and postgraduate distance students make particularly heavy demands on library resources. This national survey of remote postgraduate distance education students identified: (1) the needs of remote postgraduate students; (2) the specialized needs of research postgraduate students; and (3) the computing equipment that was available to students for the use of electronic services.

Deakin University, one of the major distance education providers in Australia, has been the focus of numerous studies. Several recent investigations of Deakin’s library services have been conducted by Cavanagh and others. Cavanagh & Tucker (1993) analyzed the costs of providing library services to Deakin’s off-campus students. Cavanagh & Lingham (1994) examined library services for Deakin’s overseas students. Cavanagh (1994a) surveyed the use of Deakin’s library resources by students of the Open Learning Agency of Australia. Cavanagh’s other studies have been reported in the newsletter DESIGNation but have not been widely accessible outside the membership of DESIG. These studies cover: the turnaround time for books sent to and returned from external students (1994b); off-campus students’ use of electronic access to library catalogues (1995, 1997); and the use of electronic ordering of library materials by Deakin’s off-campus students (1996).

This latter survey provides some interesting comparative data on students’ access to computers with modems or Internet connections. In Cavanagh’s investigation of electronic ordering, survey forms were sent to 105 off-campus students in an attempt to determine why these students did not use electronic means to submit their requests to Deakin’s delivery service. It was found that 28% of the students owned computers with modems or had access to the Internet, but only 8% had tried to access the library electronically. 17% indicated that they intended to try electronic ordering in 1996. Amongst those who did not use or intend to use electronic ordering, 44% said that they could not afford the necessary equipment and 28% indicated that they saw no advantage in electronic ordering.

Two other studies show a similar pattern of computer and modem access amongst distance education students. A 1996 survey by Monash University (1997) did not address library issues but revealed that, of the 2,380 distance education students who responded to the survey, 36% had computers with modems and/or access to the Internet and World Wide Web. In a 1993 survey in western Canada (Slade, 1997), 26% of the 90 respondents reported that they had access to both a computer and modem. The data from these sources indicates that many distance students still do not have access to electronic information from their homes or places of work, but the number is steadily increasing.
Canada

Due to similarities in land size and population distribution, the Canadian and Australian models of distance learning are somewhat alike. However, in Canada, the use of distance education delivery methods only gained prominence during the past twenty years. Prior to that, Canadian universities had tended to offer classroom extension courses. Unlike Australia, some Canadian postsecondary institutions continue to offer off-campus classroom courses in combination with distance education courses. These classroom courses are usually held at a variety of local sites since very few Canadian institutions have remote teaching centres of the type that are common in the United States.

Library services for distance learning were slower to develop in Canada than in Australia. The expansion of distance education programs in the 1980s prompted the development of library delivery services at several Canadian universities (Slade, 1991). This development resulted in a significant increase in the number of publications about distance education library services in Canada. Prior to 1980, the publishing output in this area had been very modest. Typical vehicles for publication in Canada include library science and distance education journals, conference proceedings, and institutional reports. Canadian academic librarians generally do not have the same promotion and tenure requirements as their American colleagues and thus do not need to publish to satisfy such requirements. Grants from government agencies to subsidize library research are rare in Canada. Canadian library schools have not encouraged research on library services for distance learning and, to date, have not produced any Canadian theses or dissertations in this area. As a result of these factors, motivations for publishing are primarily restricted to individual and institutional initiatives and attendance at conferences.

The main forum for professional interaction in this area is through the Library Services for Distance Learning Interest Group of the Canadian Library Association (CLA). This group generally holds a workshop or information session during the annual CLA conference and publishes an occasional newsletter. The Interest Group also has a listserv called DISTLIB-L.

A significant proportion of the Canadian literature in this area is descriptive, providing information on library services for distance learners at specific institutions. The two topics most commonly addressed in this context are collections development (e.g. Kelly, 1987; Whitehead, 1987) and bibliographic instruction (e.g. Fu, 1989; Cleyle, 1992). In addition to accounts by librarians, there are several examples in Canadian educational journals of academics discussing library support of specific distance education activities. Montgomerie (1987) discussed library services as one of the components in the University of Alberta’s ‘Extended Campus’ graduate program. Davie (1987) briefly described library use while reporting on the effectiveness of a graduate course conducted by computer conferencing from the Ontario Institute for Studies in Education (OISE). Burge and Howard (1990) examined distance education course assessments at OISE to determine the reactions of graduate students to the accessibility of library resources. Burge and Snow (1990) considered library issues in relation to the learning-centered view adopted by OISE in the delivery of audio-conferenced graduate-level distance education.

Aspects of Canadian library services are described in the context of works from other countries. Carty, in a thesis from the UK (1991), examined the library services for distance learning in Canada, Australia, and the United Kingdom. Brophy, in a journal article (1992), summarized his findings from an investigative visit to Canada and the United States. Watson, in a report to the Commonwealth of Learning (1992), outlined the library services to distance learners provided by 10 universities and one college in Canada. The Off-Campus Library Services Directory (Jacob, 1993b) listed Canadian institutions by province and included information on academic programs offered, access to collections, document delivery, and services provided to off-campus students. Stephens, in a journal article (1996), provided a detailed review of the UK, US, Canadian and Australian literature on the role the library in distance learning.
The most significant Canadian publication in recent years is the document titled *Guidelines for Library Support of Distance Learning in Canada* (Canadian Library Association, 1993). These guidelines were endorsed by the Canadian Association of College and University Librarians in 1992 and by the Canadian Library Association in 1993. Prior to 1992, Canada lacked national guidelines for this area.

The first major publication to describe research on library services for distance learning in Canada was an article by Orton and Wiseman (1977). The authors described three surveys conducted in 1974/75 to assess the library needs of part-time students at Queen's University and Trent University in Ontario. The surveys included both on-campus and off-campus students. A more detailed account of the Trent report was also released as a separate document (Wiseman, 1976).

Between 1977 and 1985 there was a long gap in Canadian research on library services for distance learning. Since 1985, the results of several other research studies have been released. Slade and Webb (1985) presented the results of a national survey of off-campus library services. Latham (1987) reported on a study in Alberta concerning library services for the Chinook Educational Consortium which included surveys of library collections and services available from participating institutions and local public and school libraries. Librarians at Athabasca University (AU) in Alberta completed a two-stage research project to determine the use of libraries by AU students and to identify the subjects and kinds of materials borrowed by these students (Appavoo & Hansen, 1989). Researchers from the Ontario Institute for Studies in Education designed and conducted an extensive study of library relationships for distance education programs in Northern Ontario (Burge, Snow & Howard, 1988; 1989). The Library Services for Distance Learning Interest Group of the Canadian Library Association surveyed academic libraries across Canada to determine their level of support for distance learners (Slade, 1988). Schäfer (1991) investigated the use of the supplementary materials list at Athabasca University. Slade (1997) coordinated a survey of distance students from six universities in Western Canada to study library use patterns and student satisfaction levels.

In related research, Baker’s analysis of the self-directed learning strategies identified in distance education courses from four Canadian universities included comments and recommendations regarding the use of library materials (Baker, 1993). Canadian data was collected in two American surveys. Kascus (1994) surveyed library schools in the United States and Canada to determine the extent to which the topic of library support for off-campus and distance education programs is included in the curriculum, and Power (1992) surveyed academic libraries in the United States and Canada to collect information on the use of CD-ROMs in serving extended campuses.

**Selected Research Studies**

In 1987/88, the Library Services for Distance Learning Interest Group of the Canadian Library Association coordinated a national survey of college and university libraries to determine the types and levels of library services provided to off-campus and distance education students (Slade, 1988). Questionnaires were distributed to academic libraries in each province by representatives of the interest group. The response rate from the 199 institutions surveyed was 60%: 78% for universities and 53% for colleges. Of the institutions which responded to the questionnaire, 37 universities (86%) and 46 colleges (60%) indicated that they offered off-campus or distance education courses. Of those institutions, 35 universities (95%) and 39 colleges (85%) provided some level of library support for their off-campus students.

The findings indicated that library delivery services and core collection services were the two primary means of off-campus library support in Canada in 1988. Responses to various questions indicated that: (1) many institutions tended to provide off-campus library services on an ad hoc basis and (2) the planning process for these services in Canada was relatively underdeveloped at that time. One survey measurement determined that only 11 institutions (15%) provided a high level of off-campus library support. This result indicated that, while many institutions had library delivery services and/or core collection services and
were willing to support their off-campus students, relatively few of the institutions were supplying large quantities of library material to their students. The enrollment statistics provided by the various institutions, in conjunction with another survey measurement, confirmed that only a small proportion of the off-campus students were taking advantage of the library services available to them. Some of the factors identified as contributing to this phenomenon were: students’ proximity to the campus library; instructors supplying library material directly to students; library resources not being appropriate or required for the course; and adequacy of local collections (Slade, 1988).

A second major research investigation was conducted in Canada in 1987/88. Researchers from the Ontario Institute for Studies in Education designed and conducted an extensive study of library relationships for distance education programs in Northern Ontario (Burge, Snow & Howard, 1988; 1989). Four different groups were included in this study: distance education students, faculty/instructors, public library staff, and academic library staff. Questionnaires were distributed in both English and French to all members of each constituent group in the region. Questionnaire data was supplemented by interviews with academic and public librarians.

In the findings, the majority of the student respondents (67%) believed that they received, in their course packages, all the material necessary to complete their assignments. As a result, many did not use libraries at all. The academic librarians who responded to the survey expressed concern about both the students’ low levels of library use and their apparent lack of awareness about the services available to them. The authors concluded that there is a process of exclusion for distance learning students that is due to factors such as poor communication between library staff and faculty, course designers, and tutors; course assignments that do not require library resources; and ineffectual publicity about library services and resources. The findings indicated the need for greater cooperation between all stakeholders, especially between public and university librarians, in order to serve the off-campus student more effectively. Based on their findings in Northern Ontario, Burge et al. proposed a conceptual framework for improving library services to distance education students and presented specific recommendations to enhance the working relationship amongst the various librarians, faculty, administrators, and students involved in this type of education. This was the first Canadian work to propose a detailed model of library support derived from original research.

A third Canadian research project was undertaken in 1993. Librarians at six universities in Western Canada conducted a survey of a sample of their distance education students (Slade, 1997). The survey had two objectives: (1) to determine the extent of students’ use of local resources for course purposes, and (2) to determine the extent of students’ satisfaction with the library delivery services provided by the library of their home institution. A single questionnaire was developed for use by all six universities. Fifteen students from each institution were interviewed by telephone. The survey sample was drawn from students who had contacted the library delivery service of the home library within the past twelve months to request materials or reference assistance for their off-campus and distance education courses.

This survey indicated that the majority of the students (72%) used other libraries in addition to the library service of the home institution. Public libraries were used more frequently than other types of libraries. The most common difficulty reported in the use of other libraries was the lack of holdings appropriate to the course content. An interesting finding from the survey was that distance learners tended to use a wide variety of non-library sources to obtain information for course assignments. Sources mentioned included bookstores, personal copies of books and documents borrowed from friends and classmates, and interviews conducted with local officials or other individuals in the community.

When asked about their satisfaction with the home library delivery services, the majority of the students indicated that they were more than satisfied. The factors that most influenced the students when rating the delivery service were the speed of the turnaround time to receive materials, the provision of a useful selection of items, and the efficiency and convenience of the service. When asked about problems or
inconveniences encountered with the library service, some of the respondents expressed frustration that recommended titles were in use or not available from the library. A number of students also commented that loan periods tended to be too short.

The survey results demonstrated that distance learners in Western Canada attempted to be somewhat self-sufficient in their search for information for course assignments. However, most of the students in the survey indicated that local resources were seldom sufficient to enable them to obtain a good grade in their assignments. The survey demonstrated that distance students appreciate having a consistent method of accessing library materials from the home institution and feel that this access does enhance grades and course performance.

India

India has had a considerable publication output in the area of library services for distance learning. In the second bibliography Library Services for Off-Campus and Distance Education, India had the third highest number of references listed. The main types of publications in this area are journal articles, chapters in monographs, and papers in conference proceedings. To date, one professional forum has been dedicated to library issues in distance learning, the National Seminar on Distance Education and Libraries held in Quilon, India, in 1988. This conference produced twenty-eight papers which were published as a monograph (Isaac & Devarajan, 1989).

The common theme in the literature from India is that library services for distance learners in this country are underdeveloped and need to be improved. The theme of “barriers to service” appears to be the strongest motivational factor for Indian librarians to write in this area. Many of the papers presented at the National Seminar discuss the potential role of libraries in enhancing the quality of distance education in India, advocate the need for change, and recommend ways that library services can be developed to assist distance learners. The following recommendations for improvement are frequently mentioned in the conference proceedings: the public library system needs to be strengthened so that it can provide support for distance learning programs; public libraries should become resource centres for distance education courses; training and professional development programs for librarians need to be upgraded; distance education providers should initiate bookmobile services for distance learners in remote areas and establish study centres in more populated areas; and libraries of all types should “open their doors” to distance learners.

The primary providers of distance education in India are the open universities. The library services of these institutions are the focus of many of the other Indian publications. The two universities most discussed are Indira Gandhi National Open University (IGNOU) and Dr. B. R. Ambedkar Open University (BRAOU). Jagannathan describes the library structure and the acquisitions and collection development practices of IGNOU in a number of articles (e.g. 1992, 1996, 1997). One of the topics of concern for Jagannathan and other Indian authors is the provision of library materials and services at the regional and study centres of the open universities. Common problems at the study centres include minimal collections that do not circulate, paucity of properly trained staff, limited opening hours, a lack of necessary reference materials, and a shortage of equipment such as photocopying, fax machines, playback machines for audiovisual material, and computers. Frequently mentioned remedies for some of these problems include resource sharing amongst libraries, enhancement of the public library system, and the development of computer networks to provide access to information technologies.

Two research studies on library services for distance learning have been discussed in the literature from India. Haricharan (1993) describes a survey that investigated the functionality of the study centres of Indira Gandhi National Open University and Yashwantrao Chavan Maharashtra Open University. Both students and coordinators at these centres were included in the study. The following aspects of the study centres were investigated: physical facilities; functional and structural aspects; strengths and weaknesses
of various services; and the usefulness of the centres to the distance learners. In the findings of the study, the coordinators did not identify any problems with library facilities but the students indicated that "library books should be issued for home study." One of the author’s recommendations is that information technologies and library facilities be increased at the study centres.

Jagannathan, in the context of a paper discussing equitable library services to distance learners in India (1997), describes a survey conducted at Indira Gandhi National Open University in 1992/93. The overall objective of the survey was to determine the library needs and problems of the various categories of users at IGNOU libraries. The specific objectives were to collect opinions on facilities, collections, staff, audiovisual resources, user services, publicity, and computerization. Through questionnaires and interviews, data was gathered from academic staff, regional directors, study centre coordinators, counselors, and students. Three major areas of concern were identified in the findings: shortage of space, insufficient staffing, and inadequate collections. The majority of respondents at the study centres wanted improved library facilities and services at those sites, including reference services and borrowing privileges. The findings generally indicated that the services and facilities provided to staff at the central library and to students and counselors at the regional and study centres were in need of improvement.

South Africa

Of the remaining countries represented in the Second Annotated Bibliography, South Africa had the highest publication output. Distance education in South Africa is seen as a means of national development. "Distance teaching institutions are prime contributors to the educational uplift of the country by virtue of their high proportion of disadvantaged students." (Shillinglaw, 1995: 346). Almost all the information about library services for distance learners in South Africa concerns the University of South Africa (Unisa), a single-mode distance education provider with enrollments exceeding 125,000 students.

Most of the literature about Unisa’s library services is descriptive and has appeared primarily in journals and conference proceedings. Several of these articles and papers have been published in South Africa and are not easily accessible in other countries. Two articles about Unisa have appeared in international journals. Willemsen (1991) outlines the various library services available to Unisa distance students and describes the study collection which is developed to satisfy multiple demands from distance students. Shillinglaw (1992) also discusses Unisa’s study collection and its document delivery service and suggests that electronic document and text delivery may offer Unisa new options for providing library materials to remote users. In addition to these articles, Behrens and Grobler (1997) provide a detailed discussion of Unisa’s library services for distance students in a paper contributed to a reader published by the Commonwealth of Learning.

Three papers on Unisa have been presented at the Off-Campus Library Services Conferences. Two recent papers focus on change in South Africa. Shillinglaw (1995) addresses the issue of academic transformation at the University of South Africa and its implications for library and information service. Grobler (1995) describes the library and information services for distance postgraduate business students at Unisa and proposes a new model for support that is compatible with the students’ information needs and trends in information technology.

Research is the focus of the third conference paper about Unisa. Behrens (1993) describes a project using the grounded theory style of qualitative research to explore faculty attitudes toward the need for Unisa distance students to develop library skills and the teaching of such skills. Two other South African sources discuss research. A thesis by Behrens (1992) examines the relationship between information literacy and library skills and investigates the role of library skills in first year courses at the University of South Africa. An article by Dalton (1992) presents the results of a study of Unisa postgraduate students to evaluate user satisfaction levels with the quality of service provided by the Subject Reference Division of the Library.
The Caribbean

Information about library services to distance learners in the Caribbean has recently become available through four papers published in a reader sponsored by the Commonwealth of Learning (Watson & Jagannathan, 1997). Watson (1997b) discusses factors affecting the provision of library services to distance learners. Bobb-Semple (1997) proposes a model for providing library services to distance students enrolled at the College of Arts, Science and Technology in Jamaica. de Four (1997) discusses the use of technology to provide library services to distance learners in the Commonwealth Caribbean.

The fourth paper in the reader describes a research study. Steele (1997) examined the client's view of library services to distance learners at the University of the West Indies in a survey conducted in 1994. Questionnaires were distributed to students in four UWI territories to obtain their views on improvements and innovations needed for enhanced library services. Of the students responding, 91% indicated that library support was an important factor in the success of their studies. The library services rated as most important were: (1) increased book stock; (2) multiple copies of main texts; (3) a collection of tapes of course lectures; (4) photocopies of out-of-print materials; and (5) longer library opening hours.

Another publication from the Commonwealth of Learning provides some insight into the Caribbean. Watson (1992) uses information gathered from investigative visits to selected Commonwealth countries to establish a basis for developing a set of guidelines on the provision of library services to distance learners in developing countries, with particular emphasis on the Caribbean.

There has been one professional forum that focused on the Caribbean. The Commonwealth Library Association Workshop on Library Services to Distance Learners was held in Jamaica in 1994 just prior to the IFLA conference in Cuba. Four papers on the Caribbean were presented at this international workshop but, unfortunately, they were never published.

Other Countries

There is limited information available on library services for distance learning in other countries of the world. The information that has been published is mostly descriptive and appears in journal articles, chapters in readers, and conference proceedings. The following countries have produced one or more works in this area in the last five years: Ghana, Kenya, Tanzania, Guyana, New Zealand, the South Pacific region, Singapore, Taiwan, Hong Kong, Sri Lanka, Finland, and Denmark. The reader recently published by the Commonwealth of Learning is the source of several of these works (Watson & Jagannathan, 1997).

Of the countries listed above, New Zealand has the most publications on the topic. In many ways, the model of library service to distance learners in this country is similar to that in Australia and Canada. Three papers from New Zealand have appeared in international sources. Bockett, Marsden and Pitchforth (1997) discuss management issues at Massey University. Information on the services provided by the University of Otago Library is presented in a case study by Solomon (1997). A conference paper by Mann (1993) examines the development of a library service for the Open Polytechnic of New Zealand.

Many of the countries mentioned have open universities and the discussions of library issues often centre around these institutions. In this regard, the topics of most significance pertain to the availability of library resources at regional and study centres, interlibrary cooperation, resource sharing, and use of the public library system. With the notable exception of New Zealand, few of these countries have library delivery services for distance students like those provided in Australia, Canada, and the United States. Other significant topics include information literacy for distance learners and the need for access to information technologies. Economic, political and cultural barriers to service form a common theme in the literature from many of the developing countries.
A Comparative Perspective of the International Literature

There is now a substantial amount of literature available on the topic of library services for off-campus, distance and open learning. The two annotated bibliographies have identified 1,053 publications through 1995. Approximately 300 additional works in this area have appeared since the second bibliography was published. Of the combined contents from the two bibliographies, 44% of the citations pertain to the United States, 17% to Australia, and 17% to the United Kingdom. The remaining 22% of the entries are divided amongst other countries of the world. This area has truly become an international concern and many of the publications address similar issues.

Library services for distance learning may be divided into four basic models. The first model involves on-site collections and library resources at remote centres, including extended campuses and regional, study, and local centres. The second model concentrates on interlibrary cooperation, resource sharing, and student use of unaffiliated libraries. A third service model concerns the delivery of library materials to the student from the main campus of the parent institution. The fourth model pertains to the use of technologies that enable the distance learner to access electronic sources of information from remote locations. These four models are not necessarily independent or exclusive of one another and many institutions employ two or more of them simultaneously in support of their distance students.

In the first model, remote centres or extended teaching campuses provide some on-site access to library materials and resources enabling students to meet at least the minimum requirements of specific courses taught in the off-campus or distance mode. Extended campuses are common in the United States, especially in areas of population density, and a good deal of the literature from this country has discussed various issues concerning these sites including staffing, opening hours, physical space, facilities, collections, equipment, computer networking, and access to materials and electronic resources located at the main campus. Library resources at these centres can range anywhere from minimal to fully developed. Fully developed facilities generally have extensive collections, trained staff, and electronic access to information products.

With the exceptions of Australia, New Zealand, Canada, and the United Kingdom, regional and study centres are prevalent in other countries, particularly those with open universities. In Spain, for example, the local centres of the National University of Distance Learning are responsible for providing library services to the students (Belmonte, 1992). Remote centres or extended campuses in developed countries often utilize other models of service and, despite some limitations, are generally effective in meeting the basic library needs of distance students.

In developing countries, these centres are problematic because they may be the student's only means to access library materials for distance learning courses. Few institutions in developing countries can afford to deliver library materials directly to students due to transportation and other difficulties. Public libraries in these countries rarely have materials appropriate to distance education coursework. Common problems with study centres include insufficient funding, poorly trained staff, limited opening hours, inadequate collections that sometimes do not circulate, lack of equipment, and minimal reference materials. Students living in remote areas may be unable to visit these centres on a regular basis. The problems associated with regional and study centres have been particularly well documented in the literature from India (e.g. Jagannathan, 1997).

In the second model, distance students use unaffiliated libraries. Public libraries are often the libraries of first choice amongst these students (Power & Keenan, 1991; Solomon, 1997). Use of public libraries for support of open and distance learning has been discussed at some length in the literature from the UK and other European countries (e.g. Green, 1995; Watkin, 1995). The United Kingdom has a well developed public library system and students enrolled at the Open University often use these libraries as their primary resource. Some institutions in the US and elsewhere have entered into agreements with public libraries for
support of their distance students (e.g. Scrimgeour & Potter, 1991). In India and other developing
countries, there has been considerable discussion about the role of the public library in supporting distance
learning and various authors call for improvements in the levels of service given by these libraries to
distance students (Jagannathan, 1997).

Use of unaffiliated academic libraries is an important issue in the second model and probably the most
common means for distance students to obtain access to materials in countries like the United States. A
factor contributing to the popularity of this model in developed countries is the number of distance students
who live in urban areas and are close to one or more universities or colleges. The issue of access to these
libraries has been debated at length in countries like Australia and the UK (e.g. Radford, 1988; Stephens,
1996) and has resulted in a number of cooperative borrowing schemes (e.g. Macaulay; 1996a; Heery,
1996). Several examples can be found in the literature of formal cooperative agreements between
academic institutions for support of off-campus and distance students. One example from the UK pertains
to the franchising arrangements of the University of Central Lancashire with partner colleges (Goodall &
Brophy, 1997). In Africa, the Open University of Tanzania (OUT) pays honoraria to supporting libraries
to compensate for staff time used to assist OUT staff and students (Mmari, 1997). Examples of formal
cooperative arrangements and resource sharing in the United States are numerous (e.g. Scrimgeour &

In the third model of library services for distance learning, materials are dispatched from the campus
library directly to the student or to a central pickup location. These delivery services are most common in
developed countries with dispersed populations such as Australia and Canada. Since it is difficult for many
distance students in these countries to use an academic library in person, the parent institution provides a
publicized means for students to request materials from campus, designated staff to respond to requests,
and an expedited method of delivering the materials to the student. The components of a library delivery
service have been examined in detail in Canada (Slade, 1991). Several papers describe the delivery
services provided by specific institutions in Australia (e.g. Meacham & Macpherson, 1997; Cavanagh &
Tucker, 1997). In the United States, Central Michigan University is cited as a model service for delivering
library materials to off-campus students (Witucke, 1990). Many other examples of such services can be
found in the literature (Slade & Kascus, 1996). As was mentioned previously, library delivery services are
generally a phenomena of developed countries. Few institutions in developing countries can afford to
deliver library materials directly to students because of the number of students involved, the costs
associated with sending materials by mail or courier, the limitations of the local postal/delivery systems,
and general transportation difficulties within the country or region.

The fourth model of service involves the use of communications and information technologies and has
been evolving rapidly in the past few years. In developed countries such as Australia, the UK, and the US,
distance students at specific institutions have had limited access to electronic resources from remote
locations for some time (Slade & Kascus, 1996). This access has increased considerably since the Second
Annotated Bibliography was published. Many distance students now have the ability to access online
catalogues, bibliographic databases, full-text materials, and the resources on the World Wide Web from
home, office, or local centres. In several cases, this access complements the application of the other
service models described above. However, there is currently a move in some areas to create virtual
libraries and to reduce students' dependency on physical libraries. This topic is the centre of much debate
and raises significant issues concerning web-based instruction, bibliographic instruction, and information
literacy in general.

In developing countries, access to information technologies is still very limited due a variety of economic,
political, and cultural factors. In the words of Watson (1997a: 15), access to technology "certainly cannot
be assumed to be the norm for distance learners in Third World countries." Many institutions in
developing countries see IT as the hope for the future of distance education in general and library services
in particular (e.g. Kanjilal, 1997).
The four models described in this section are applicable to both developed and developing countries. Within the models, shared areas of importance include interlibrary cooperation, bibliographic instruction for distance learners, administrative recognition and support of library services, and communication with faculty and course providers. However, in other areas there is differing emphasis on priorities. In developed countries, the topics that appear to be of most concern are access to information technologies and electronic resources, web-based instruction for distance learners, information literacy, and methods of document delivery. The concepts of virtual campuses and virtual libraries are rapidly moving to the forefront of significant issues in distance learning due to political and institutional initiatives to capitalize on the use of current technologies for the delivery of educational programs.

In developing countries, topics of concern include the training of librarians and library staff, development of library collections at study centres and local libraries, expansion of physical facilities, access to basic equipment, and the lack of adequate funding for library services. Economic and cultural variables also influence the provision of library services in developing countries. Distance education in many of these countries is a means of national development and targets disadvantaged populations. Students from these groups are not likely to be technologically sophisticated or able to afford such devices as computers. Many of them live in remote areas and do not have easy access to study centres or local libraries. Where they do have access to library materials, the selection of appropriate materials written in their native language may be very limited. The use of information technologies to support distance learners in developing countries is an ideal goal but, in reality, many of these countries have a long way to go before they can reach this goal.

Two universal themes emerge from the literature on library services for distance learning - the recognition that distance learners in every country will benefit from access to appropriate library and information resources, and the genuine desire of librarians to assist distance learners in obtaining this access. The literature from both developing and developed countries contains many examples of creative solutions to the challenge of providing library access to students who are physically distant from their educational institution.

**Future Trends**

The future of library support for distance learning is in a state of flux and further change is inevitable as we move into the era of virtual universities and virtual libraries as exemplified by the Western Governors University in the United States. The first trend that will impact and shape the future is the increased global reliance on both distance education and technology. In the area of technology, efforts are currently underway to bring all of the required support services for learning together through telecommunications capabilities, computer mediated communication, fiber optics, and interactive media. These efforts will continue at an accelerated pace providing a gateway and a receptive environment for improving library support for distance learners. With networked access and web connectivity, libraries have the potential to make a kaleidoscope of options available to distance learners in terms of online catalogue access, online database searching, full text retrieval, remote reference and instruction, electronic communication, and document delivery.

The Internet and the World Wide Web will increasingly be used by libraries to electronically connect distance learners to institutional resources and services while linking them to information sources available at other institutions and throughout cyberspace. This technology will place more responsibility on distance learners in terms of research and document delivery, allowing them to take charge of this aspect of their learning. With instruction, these learners will be able to go beyond the "fetch and deliver" service model to one that enables them to electronically browse a variety of library and information resources, to critically evaluate them, and to select what is most relevant to their information needs. Library support for the distance learner has the potential to come full circle from the early days of spoon feeding to the current vision of empowerment.
A second trend will be the further growth of cooperation and collaboration as a strategy for facilitating access, equity, and quality for distance learners. This collaboration will be multilevel and multifaceted and will involve librarians with numerous stakeholders, including faculty, information systems professionals, distance education program managers, administrators, other institutions, bibliographic utilities, and statewide and regional consortia. Partnerships between librarians and instructors will help to determine how best to include library and information skills in the distance education curriculum to enrich the academic experience for the distance learner. Librarians will need to take the initiative in convincing faculty of the importance of making library assignments that encourage independent information seeking for distance learners. Librarians can help faculty go beyond using texts and traditional resources, further enriching the curriculum for distance learners, by identifying Internet sources and creating World Wide Web pages with links to important discipline related sites.

Economies of scale will result from statewide and regional cooperation through resource sharing, enabling libraries to provide access to many more resources collectively than they would be able to afford to purchase individually with limited budgets. Inter-institutional collaboration in terms of informal agreements and formal contracts will be increasingly used to acknowledge responsibility for distance learners, thereby satisfying accreditation guidelines and library standards that call for access and equity. Agreements and contracts will involve academic libraries cooperating with other academic libraries as well as with public libraries. Bibliographic utilities, such as OCLC, will continue to link technology to the library and to the distance learner as end-user, providing intelligent gateways that allow customized service. One area yet to be explored is the creation of a consortium of institutions involved in distance education willing to share resources and expertise to strengthen the community of learning for all distance learners. In the current global village, cooperation and collaboration will be feasible across continents, further enhancing the climate for library support to the distance learner in the future.

A third trend will be the further blurring of the boundaries between on-campus and off-campus library support. A convergence of the two areas will take place as new models of service are developed to meet the library and information needs of a growing number of invisible users accessing the library from remote sites. There will be a diminished emphasis on the conventional model of library service that historically required users to come to the library for resources and help. Along with the paradigm shift to the electronic library will come the need for a client-centered philosophy that accommodates remote users and distance learners. Services to the extended campus will become more the norm rather than the exception, and the client-centered models developed for remote users will have application to the needs of distance learners. Home librarians, not just off-campus librarians, will serve increasing numbers of remote users and distance learners. This convergence will place both groups of librarians on the same trajectory and distance learners will benefit from the new synergies developed.

A fourth trend will see another marked growth in the literature of library support for the distance learner and a further evolution of the knowledge base, as remote access and the virtual library continue to alter the distance learning paradigm. More emphasis in the literature will be placed on developing an analytical framework for use in making broad generalizations about how best to improve practice. The development of a strong research base will help librarians reach consensus on the essential criteria to use in measuring performance and documenting good practice. Comparative and evaluative research data will need to be collected from carefully designed empirical studies of user behaviour. These studies should document successful outcomes of library support for distance learners in terms of information literacy and self-directedness. Data collected automatically by online systems will help librarians study how users search for information. It will also help them determine how best to design systems that will assist users in this process.

In developing countries, the future scenario of improved library support for the distance learner is more of a long-term goal than a current reality because of a host of economic and political factors that are inhibiting the expansion of technology. Technology will not solve the problem of access to education or libraries in
developing countries or developed countries for those who are not computer literate or cannot afford computers. Solutions will have to be found to address the socioeconomic problems related to the technology rich and technology poor countries and individuals. Cost, connectivity, and copyright will remain high on the list of issues that will have to be reconciled as the electronic library evolves.

In developed countries, the future scenario of improved library support for the distance learner will not come to pass just because the technological and telecommunications structure is in place for it to happen. Other factors will contribute to the outcome. Attitudes toward distance learning as a viable alternative to classroom instruction will have to change in the minds of those who are not already convinced. Technology will have to be recognized as a useful means to an end and not a substitute for either teaching or library service.

Librarians will need to acquire the skills, sensitivity, and vision to assume a larger teaching role in tomorrow's electronic library. This expanded teaching role will be required because technology is broadening the definition of information literacy to include computer skills as well as cognitive skills. Distance learners will need to be taught traditional information seeking strategies as well as new electronic skills to succeed in the classroom and the workplace. These skills will have to be continuously learned as part of the lifelong learning aspect of information literacy. Librarians will need to aggressively market the services and resources that the library can provide electronically to ensure that the potential afforded by technology is fully utilized by distance learners.

Library educators will need to include library support for distance learners as a topic in the education and continuing education curriculum to better prepare librarians to function effectively in the virtual university and virtual library. Library educators will also need to initiate research and encourage doctoral projects that will develop and test new client-centered service models. More research studies will be needed from both developing and developed countries to broaden the knowledge base in this area and to provide the scientific data that can be used across continents to support the development of information literacy and self-directed learning skills in distance learners.
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Remote Reference by Microcomputer: Setup and Installation

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Abstract: This paper will discuss a recent system we installed at Austin Community College that uses networked microcomputers for remote reference work. This is a test-bed project, very much in progress, designed to evaluate different approaches to real-time communication between the remote distance learner and the reference librarian.

The Remote Reference Interview

In The Seventh Off-Campus Library Services in Conference Proceedings, Brophy (1995) stated that “the loss of face to face contact seriously undermines the normal negotiated query process.” The idea that librarians can use some of the new technologies to make remote reference more of a collaborative process is not new. Ruth Pagell (1996), Eric Morgan (1996), Kathleen Folger (1997), and others have all written about using desktop video and/or conferencing software to enhance the remote reference experience. Rapid delivery of print information is also moving forward. Chris Taylor (1997), for instance, talks about the truly ingenious REDD system of using the Internet to fill ILL requests in the web version of Ariadne. Alexander Slade (1997) has written an excellent article for the new electronic journal, The Journal of Library Services for Distance Education, that summarizes the literature and the continuing effort to establish real-time assistance to distance learners. Obviously, the above is not intended as a review of the literature, but just to illustrate that this type of remote reference project is becoming more and more common.

Objective One

The first objective of the project was to offer the Nursing Students at our Fredericksburg Site, 70 miles from the nearest Austin Community College Learning Resource Center (ACC LRC), the benefits of both asynchronous and synchronous reference services. A web page developed specifically for this program provides students with asynchronous library support, while students using the networked computers in the lab would benefit from a kind of synchronous reference service. While the absolute importance of a synchronous learning/reference experience to the distance learner is debatable, some of the current literature indicates it’s worth trying out (Berge, 1996).

Objective Two

Another objective was to test the usefulness of electronic network communication between reference librarians. ACC Extension Services, besides having responsibility for off-campus programs, is responsible for four of ACC’s smaller libraries. These libraries are essentially satellites of our larger, main campus libraries. Understaffed and under-stocked, it is very important that we share resources as efficiently as possible and that we not spend scarce funding building the same exact collections at all four locations. The
funding that allowed the purchase of the equipment has given us an excellent opportunity to test and develop better ways of sharing resources amongst ourselves.

Objective Three

Another exciting outcome of this project is the realization that much of what we learned while implementing the technical side of the program is that synchronous data communication and reference work is directly compatible with the TCP/IP-driven Internet. Product developers and hackers, hackers in the original sense (FOLD, 1997), are discovering ways on an almost hourly basis to deliver services that have been traditionally reserved for internal networks over the Internet. We are referring to the wider use and distribution of software like Microsoft’s freeware NetMeeting 2.1, Netscape Communicator, utilities like CyberPaste, Microsoft Chat, and other utilities that allow routing of network processes over the Internet. In fact, it seems increasingly apparent that in the near future the extra speed that a direct network connection provides will not be a factor in the provision of synchronous reference service.

Naturally, we are aware of some of the more established Internet collaborative technologies like the incredible CU-SeeMe, IRQ chat, Internet telephone, etc. that have been around and in use for quite awhile. While quite simple for the hobbyist to use, they can be intimidating for the distance learner already nearly overwhelmed by the prospect of having to use a computer for both school and library work.

Disclaimer

From the start, neither one of us are Internet, network, or HTML experts. We are librarians, however, and reasonably comfortable with the idea and practice of research. It really isn’t necessary to become experts in any of these areas (fortunately). Through some minor research and leafing through various books, periodicals, web sites, newsgroups, listservs, and the odd Microsoft help file we were able to put together a reasonably effective program while solving some very basic TCP/IP networking problems. Some of the particular network and computer issues were complicated, but not as complicated as something like AACR2 for instance. Most of the trouble came, not in designing the program, but in coping with the network itself.

Any of the network problems we discuss here are not intended to draw attention to deficiencies in ACC’s network (ACCNet), but to illustrate that network and computer problems are inherent in the process of establishing this type of program.

We very quickly discovered that one of the pitfalls of computer and networking projects is the naivete that allowed us to actually believe that products would function as advertised. Even though we were warned by no less than Dr. Thomas E. Abbot himself “At the root of all of these problems, of course, is the matter that some individuals may still be overly-inclined to believe everything they read or see on a fancy web page” (1997, p.2). Despite this warning we occasionally stumbled and believed what we read.

General Background Information
Austin Community College Extension Services

Extension Services operates four full-time campus libraries and maintains sites in high school libraries in several rural Texas communities including Bastrop, Fredericksburg, Round Rock, and San Marcos. Current bibliographic support for students at these sites consists of the following:

- Access to high school library books, electronic resources and periodical collections.
- Access to ACC LRS Online Public Access Catalog (OPAC) via dial-up or microfiche catalog.
- Periodical Article/Book Delivery Services (to and from high school sites and ACC libraries).
- Reciprocal agreements with local area libraries.
- Assistance from ACC library support staff during all hours of operation.
Internet email reference service.
Toll free telephone reference.

Extension Services at ACC also provides bibliographic support services to a growing number of distance learning students who are enrolled in "pure" distance learning courses. What we mean by "pure" are non-site-based courses offered through televised instruction or personal computer and modem (web-based). Current bibliographic support for students enrolled in these courses includes the following:

Internet email reference service.
Toll-free reference services hotline.
Reciprocal agreements with local area libraries.

Each semester, we mail these students an information packet welcoming them to ACC. Besides a welcoming letter, the packet includes the following free handouts:

- Step-by-step instructions on how to access and navigate the ACC OPAC
- A Materials Request Form for requesting books and periodical articles
- A summary flier listing all of the services that are available to them
- A variety of study guides covering different topics

The Austin Community College Open Campus Department

ACC Open Campus is not, departmentally, associated with Learning Resource Services Extension Services. Open Campus is responsible for all course offerings outside the traditional classroom setting at ACC. Extension Services is the branch of ACC’s LRS that offers service and support to all students enrolled in Open Campus courses.

ACC began its distance learning program in the spring 1979 semester with 2 courses and 225 enrollments to help meet the need of limited classroom space. The number of distance learning courses offered and their enrollments grew rapidly during the 1980s and into the ‘90s. Today ACC’s distance learning department, now called Open Campus, serves students throughout an eight county area surrounding Austin. Open Campus is now responsible for most instruction not directly under the supervision of a main campus regardless of the mode of instruction.

Recently in response to the growing demand for distance learning courses, ACC began to make major investments in telecommunications technology. The new Fredericksburg Vocational Nursing program using VTEL technology is an example of this type of development.

Fredericksburg Vocational Nursing Program

A local college closed a successful Nursing program in Fredericksburg in 1997. Because ACC already had a presence in Fredericksburg and a successful Nursing program in Austin, it seemed logical for ACC to continue the program.

The Vocational Nursing (VNG) students in Fredericksburg enroll at the same time, take the same courses and meet all the same requirements as the Austin students. Courses are offered through VTEL, a conferencing system.

ACC built two fully functioning VTEL classrooms: one in FBG and one in Austin to handle all instructional needs. Library support consists of small, on location collections supplemented by microcomputer link to the ACC Riverside LRC (nursing collection).
VTEL in Fredericksburg

The Fredericksburg instructional program is built around the VTEL technology. VTEL is conferencing technology that operates by sending two-way compressed audio and video over network and telephone lines. Use of the system allows for completely interactive classrooms. Instructors in one classroom can see, hear, and share material with instructors and students at the other location. Please see http://www.vtel.com/ for more information about VTEL.

Although the technology uses existing physical equipment, it does require considerable bandwidth. ACC leased a T1 line to link the Riverside VTEL classroom to the Fredericksburg VTEL classroom for that purpose.

The VNG site is housed in two dedicated buildings separate from our library operation in the high school. It consists of a dedicated interactive classroom and an adjacent school lab with some administrative space.

Current Learning Support Program

Overview

The installed system of library support follows the original plan very closely (Please refer to Appendix A for our original proposal). Because we were unable to use the Fredericksburg High School Library as originally planned, students do not have any on-site library assistance available to them. The ACC Library Assistant who works evenings in the Fredericksburg High School Library, where the original installation was scheduled, is not physically able to assist the VNG students. Consequently, we had to rethink our use of collaborative software in favor of simpler approaches (probably not a bad idea anyway).

Besides a small collection housed on site, library support for the Fredericksburg students uses the leased telephone line required by the VTEL system. This T1 provides for one channel of compressed video, four telephone lines, and a data connection to ACCNet. This data connection provides the students at Fredericksburg Site with access to the LRS CD-ROM Server, TexShare, EbscoHost 1000, a web site, the ability to submit requests for books, articles, and information through a shared Microsoft Access database, text-based chat with the RVS reference librarians, and remote printing from the Riverside LRC scanner to students in Fredericksburg.

The last item is what should make the program really work. Quick access to an easily operated scanner is what makes the process synchronous. It gives the librarian the opportunity to conclude the reference interview by providing an answer in print.

Equipment

Because we were given the opportunity to purchase new equipment for this project, we are using the following new equipment to provide library support to the Fredericksburg VNG students and faculty:
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<th>Item</th>
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<th>Quantity</th>
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</tr>
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<tr>
<td>Total</td>
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</tr>
</tbody>
</table>

*The computers came with Windows 95, Office 97 Professional, network, and soundcards.

**This money was used to add the existing collection left by the previous program.

**Student research**

- Links to resources – student computers (P133s), Internet access
- Reference email – student computers (P133s), Internet access
- Direct access to full-text resources – student computers (P133), printers (HP laser), Internet and/or network access.

**Direct contact**

- Desktop icon to initiate text-chat with reference librarian – student/librarian computers (P133s), network access.
- Telephone – Telephone (really proven technology).
- Email – student computers (P133s), web page mailto link, Internet access

**Information Delivery**

**Fast**

- Full-text resources – student computers (P133s), printer (HP laser), network or Internet connection
- Telephone answer – telephone
- Scanned reference material – student/library computers (P133s), scanner (HP 4c), printer (HP laser), network connection (in our case)

**Pretty Fast**

- Scanned article – student/library computers (P133s), printer (HP laser), scanner (HP 4c), request form or mechanism (database in our case)
- Book request and delivery – student computers (p133s), telephone, overnight courier
- Inter-Library Loan -- patience

**Windows NT Server**

We were already using a Windows NT 3.5 server running on a Gateway P133 with 96 MB of ram already to provide district-wide, campus access to a 14 drive CD-ROM tower when we started this project. The
server and tower run \textit{Windows NT}, \textit{CD-Net for Windows NT}, \textit{Meridian Slingshot}, and \textit{CD IntraNet}. The only two things we’ve added are the \textit{Microsoft Access} database that records, forwards and prints student requests, and the Fredericksburg VNG web page.

\textbf{ACCNet}

The Austin Community College Network or ACCNet is a TCP/IP based network that connects six of ACC’s campuses. Normally quite reliable, our Network Services department has suffered serious personnel shortages throughout this entire project. These personnel shortages forced us to concentrate our initial effort into learning enough Windows 95 and NT networking to put together a working system. Incidentally, we’re still concentrating.

It is the direct connection from Fredericksburg to ACCNet that allows us to provide students information and direct real-time contact with a reference librarian. This network connection allows direct data transmission from a Windows 95 computer and scanner at the Riverside LRC reference desk directly to student the three student machines in Fredericksburg. It’s not so much a virtual library as it is virtual reference desk.

As mentioned before, there is a similar program running in Australia called REDD: Regional Electronic Document Delivery Service (Taylor, 1997). REDD uses scanners, web pages, remarkable ingenuity and email to fill ILL requests quickly and efficiently. The only difference here is that we use our scanner to fill both article and information requests as a part of the reference process.

\textbf{Student Support}

Library support for the Fredericksburg VNG students can be divided into two general areas: Student initiated research and information requests; and direct support by librarians. Naturally, both support options result in some type of information resource being delivered to the student at Fredericksburg.

\textbf{Student Initiated Research}

\section{Fredericksburg LRS Support Web Site}

This web site is the starting point for students at Fredericksburg starting research and as the main source of instruction for the students. We designed this site strictly for this program. It contains links to all of Austin Community College’s online resources in addition to the ACC LRS Web Site, but we do not link to it from anywhere. Access to it is strictly through bookmarks on the browsers of the Fredericksburg machines or by direct URL.

The following is a list of links to library resources and services that are included in the web site:

- E-mail reference service.
- "Technical question" reference service (used for questions about the program or the machines).
- A link to a web medical resources page put together by the ACC LRS medical bibliographer.
- Telnet-access to our library catalog.
- Materials loan request forms.
- Subject locator guide to online/CD-ROM resources.
- ACC LRC locations and hours (includes collection information).
- Open campus area high school information.
- Guides to services, study aids, & documentation.
- Toll-free reference services hotline number and information.
- Brief introduction to LRS Extension Services personnel.
• Links to the main LRS page which includes subject guides to resources, our policies, and the usual library stuff.

Set up: We had some problems reaching the main ACC LRS Web Server from within our Intranet which we resolved by moving the web site to our own server.

Another reason for the move was that we are planning upgrade to NT 4.0 server software and a new version of Meridian Slingshot. Once installed, the Meridian software should allow browser access from the Fredericksburg web site to the resources on the CD-ROM tower running off the same server. Although it isn’t necessary that they be physically located on the same machine, ease of access to is extremely important during the set up phase.

In addition, our main source of technical support and resident smart person, Kyle Richardson, administers this CD-ROM server.

Form-let -- Because we do have support for CGI scripting on either the main LRS Server or on our own server, we use a Java applet to take book and article requests from the web page and automatically email them to the Riverside LRC. Form-let is shareware and is available from http://www.q-d.com for $19.

B. Direct or Desktop Access

Students also have the option of by passing the web page and going straight to resources by using desktop icons or shortcuts on the Fredericksburg machines. These shortcuts on the computer desktop take the student directly to online resources:

• CD-ROM Resources – These shortcuts link students directly to resources on the LRS CD-ROM server. Besides general study type of resources, students have access to medical indexing through CINAHL. Students request articles from the CINAHL index through a shortcut on the desktop that brings up a Microsoft Access database form. The database records the request and prints it out at the Riverside LRC. Staff at RVS then retrieve the article, scan, and print it directly to the Fredericksburg laser printer.

Set up: Setting up reliable access to the LRS CD-ROM server through the Intranet was and continues to be problematic. The machines at Fredericksburg are located on a different network segment than either the Riverside reference desk or the CD-ROM server. The way ACCNet is currently set up does not allow NetBEUI machine names to be translated and routed reliably between network segments. Access to our CD-ROM server requires that client machines map a path to the CD-ROM drives themselves. The routing issue was more or less resolved by using lmhosts and hosts files on the client machines. Lmhosts files match IP address to Microsoft networking computer names (WINS). Hosts files match IP addresses to remote host names (DNS). The problem with this approach is that if the IP address of the server or machine being contacted changes, the lmhosts and/or hosts files on the client machines must be modified to reflect that change.

There are examples of both types of files in your Windows directory: Lmhosts.sam and hosts.sam. The Microsoft Windows 95 Resource Kit is an excellent source of Windows 95 Networking information. It is located on the Windows 95 CD in the \ADMIN\RESKIT\HELPFILE folder.

• TexShare – This desktop shortcut starts Netscape 3.1 which opens at the TexShare Homepage. TexShare is a Texas library consortium that provides access to indexed, abstracts and full-text databases through OVID. Included are: ABI/Inform, Periodical Abstracts, Commerce Business Daily, Federal Register, Internet Grateful Med, and Pubmed.
• **Library Catalog Access** - A desktop shortcut that opens a telnet session to our Dynix LRS catalog. The catalog also includes newspaper and periodical indexes.

**Set up:** We use a freeware telnet program called *Tera Term Pro 2.2*. *Tera Term* supports pass through printing and simple logon scripting. It is available at [http://spock.vector.co.jp/authors/YA002416/teraterm.html](http://spock.vector.co.jp/authors/YA002416/teraterm.html)

• **Request Forms** - There are two desktop shortcuts: one for a book request and one for articles. Both shortcuts access the same *Microsoft Access* database. The database form first checks the student’s ID number as they enter it to see if they are registered. Once it verifies their enrollment, it then checks that the periodical title entered by the student is owned by the Riverside LRC. There is also a large comment field that students can use to cut and paste entries directly into from whatever source they are using at the time. Once the student completes the form, a button closes the form and updates the request table at the Riverside LRC. This initiates a query that prints out a report at the Riverside LRC that contains the request.

**Set up:** Requires drive sharing in order to function properly. The system may be a little too complicated for real-world use.

**Reference Librarian-mediated Research**

**Text Chat with Reference Librarian** - This desktop shortcut uses *Microsoft Chat* to immediately establish a chat session with the on-duty reference librarian at our Riverside Campus LRC where our nursing/medical collection is housed.

**Set up:** We use *Microsoft Chat* for three reasons: it's included with Windows 95 *on the Windows 95 CD in the 'Other\Winchat folder'; it can be started with a machine name from the shortcut command line as default connection address; and it's a simple, one button solution. For example: the shortcut command line C:\Windows\Winchat.exe \29695\RVS \26965\RVS automatically starts a chat session with the Riverside reference librarian whenever activated. Its one drawback is that it must use machine names and cannot establish communication with just an IP address. We looked at a couple of other chat programs that we liked (and not just because they were either free or inexpensive) notably ChitChat! (free [http://members.aol.com/chinyu/chitchat/index.html](http://members.aol.com/chinyu/chitchat/index.html) ) and CyberPaste ($5 [http://www.dc.net/dynamix](http://www.dc.net/dynamix) ), both of which are quite good. Unfortunately, ChitChat! cannot be started with a command line address as a default destination, but it does have the built in ability to post the host machine IP address to a finger site or web page on start up. CyberPaste seems to be a little too complicated for our everyday patron use. It does have built in file transfer and a way to send the contents of the clipboard to another network machine in addition to good chat features.

**Microsoft NetMeeting 2.1** - This is a very useful Intranet/Internet collaboration tool. However, we are not using it for the Fredericksburg project because of noise problems at the reference desk. It is also a little complicated for unaided patron use. We did use it to write this paper though. We are planning to use it to link the Extension Services reference desks very soon.

**Set up:** No issues. The Microsoft wizard does an excellent job of helping the user set up and adjust the program. Ambient noise from microphone conversations and the necessity to speak up create some problems in the library environment.
NetScape Conference – An excellent product, it allows for collaborative browsing or the ability of one user to lead or control another user’s browser. It also has voice, text, and whiteboard capabilities. We are not using it, however, because we do not feel that initiating the conferencing features is intuitive enough for our patrons.

Set up: No issues. Like NetMeeting 2.1, installation is pretty much automatic. The software adjusts audio levels, registers you as a user, etc.

Scanning – The scanner is a Hewlett Packard ScanJet 4c. We use the included HP scanning software and PaperPort to scan and print material. The scanner and the software are started by pressing a button on the scanner itself. Once scanned, staff or librarians have the option of highlighting and/or commenting on material before they drag and drop onto a printer icon for print out in Fredericksburg. This is a fast, easy to use scanner.

Set up: This involved installing a SCSI card in the host machine. The accompanying literature includes clear instructions. Printing to the remote printer involves establishing a reliable network connection capable of drive and print sharing. We had to have a static IP address (not assigned dynamically at bootup by the DHCP server) to the machine that the Fredericksburg laser printer is attached to. We could have avoided having to assign a static IP address had we used an IP poster program like Here. Here automatically posts the host machines IP address to either a web page or a finger file of the users choosing on start up. Nah, too much trouble.

Conclusion and Future Plans

The Fredericksburg VNG program only involves 16 students. We hope to expand, improve and to reinvent the system continuously on into the future. TCP/IP applications continue to be developed at an almost frantic pace. While it’s true that most of what is being developed is not designed with the librarian in mind, some at least some of the software and hardware can be adapted to our use. It can only get easier.
Bibliography


Appendix A

Original LRS Extension Services Proposal to Provide Library Support
(Note that the following is the original proposal; many variables have since changed due to updates in software, etc.)

Proposal for LRS support of Fredericksburg VNG program

Objective:

Learning Resource Services at Austin Community College seeks to provide the Fredericksburg VNG students with resources identical to those currently available to ACC's Riverside Campus VNG students.

Identification and evaluation of learning resources:

The following actions were taken to determine the specific research needs of the Fredericksburg VNG Students:

1.) A task group was formed, which included the Head Librarian for Extension Services, the Distance Learning Librarian, and the Head Librarian of the Riverside (health-science) Campus Library.

2.) A site visit to Fredericksburg was completed in order to assess and evaluate existing learning resources at the high school, hospital, and public libraries.

3.) A list of the learning resources that are currently available to the Riverside Campus VNG students was generated.

4.) A specifications spreadsheet was generated which identified the resources that the task group concluded were necessary in order to provide the Fredericksburg VNG students with resources identical to those currently available to the Riverside Campus VNG students.

Note: This learning support program is based upon generally accepted distance learning models.

Role of each task group member:

1.) Head Librarian for Extension Services: To provide learning resource specifications and to develop a spreadsheet depicting the learning resources that would be acquired in support of the Fredericksburg VNG Program.

2.) Distance Learning Librarian: To draft a narrative proposal on the provision of learning resources in support of the Fredericksburg VNG Program and to develop a specialized web site strictly for use by Fredericksburg VNG students.

3.) Head Librarian of the Riverside Campus: To provide a list of learning resources currently available to Riverside Campus VNG students and to assess and evaluate existing learning resources at the Fredericksburg high school library, public library and hospital.
Library resources access overview

Primary access to necessary learning resources for the Fredericksburg VNG students will be made available through core journal and reference book collections located in the Fredericksburg VNG classroom and through an Internet link to the ACC libraries. Two computer workstations will be purchased and placed in the Fredericksburg VNG classroom. Each workstation will be linked via ACCNet to on-line and CD-ROM resources and to a computer and scanner located at the ACC Riverside Library Reference Desk. Through this link, a Medical Reference Librarian at our Health Sciences Library at Riverside will be able to answer student questions, gather, and transmit material directly to students at Fredericksburg via telephone or Internet (email or chat). In addition to being able to transmit scanned material to Fredericksburg upon request, a book delivery service will also be available via overnight courier.

Summary of learning resources to be provided in support of Fredericksburg VNG program

Reference Books

A core collection of health science reference books will be purchased for placement in the Fredericksburg VNG classroom. The Fredericksburg VNG students will also have access to the Riverside Health Sciences collection via telephone and Internet link (email or chat) to the Riverside Reference Desk. This link provides for direct reference assistance as well as access to scanned reference materials.

Circulating Books

Students can search for circulating books via a telnet connection to Austin Community College's library catalog. They can then request books by emailing or calling a designated ACC librarian who will send the books by overnight courier.

Periodicals

A core collection of health-science periodicals will be purchased for placement in the Fredericksburg VNG classroom. Indexing for these periodicals as well as for those in the Riverside Health Science Collection will be available through CINAHL, as mentioned below.

Electronic Periodicals and Indexing

Access to periodical indexing will be on-line through ACCNet.

We will provide access to full-text periodical articles and indexing via two distinct databases:

- EBSCOHost's "Masterfile FullText 1000," an on-line database of over 1,000 full-text periodicals, will meet the general research needs of the VNG students.

- SilverPlatter's "CINAHL," a medical periodical indexing/abstracting service, will meet the medical and allied health research needs of the VNG students.

Materials not available on-line, but owned by the ACC Riverside Library will be scanned and sent through ACCNet to be viewed and/or printed out in Fredericksburg (SUBJECT TO COPYRIGHT RESTRICTIONS).

NOTE: Both EBSCOHost and CINAHL are currently available to ACC students. Extensions of the existing license agreements for both resources will be necessary to provide access for the Fredericksburg VNG students.
Word Processors

In addition to providing access to on-line and CD-ROM resources, the two computer workstations mentioned in the "Learning Resource Access Overview" section above will contain word processing and other related software.

Staffing

- One 12 hr/week clerk at the Riverside Library to provide logistical support for Fredericksburg High School. Students will have the option to either phone-in or email their reference questions to the clerk stationed at the RVS Campus during designated hours (to be determined) for immediate or next-day processing.

- Fredericksburg office personnel will provide student assistance in the VNG classroom.

Printer

A laser printer will be available to receive articles scanned/faxed from the Riverside Health Science Library as well as to print citations and abstracts from EBSCOHost and CINAHL.

Downloading

Fredericksburg VNG students will also have the option to download to disk (or attach to an email document) citations, abstracts, and/or full-text articles from both the EBSCOHost and CINAHL databases.

Reserve Collections

Reserve collections will be established with the assistance of the VNG program faculty and made available to students in the Fredericksburg VNG classroom.
Appendix B - Bibliography

This is a list of network and computer resources that we found helpful or at least amusing. The annotations indicate whether we consider the source a basic or advanced resource.

Basic, clear explanations of how different networks operate.

Advanced resource for detailed explanations of Windows NT networking.

Basic to intermediate Microsoft Access and other Office application information.

Basic to advanced HTML guide.

Basic Windows 95 operation and networking.

Basic Access information. Excellent source for ideas.

*Microsoft Windows 95 Resource Kit*. Windows 95 cd-rom.
Advanced Windows 95 and networking information.

Advanced hardware guide.

Great source of software and information.

Basic well-written, clear NT networking information.

Basic, quick guide.

Good basic information.

*Windows95.com*. [http://www.windows95.com](http://www.windows95.com)
Beginning and some advanced information. Excellent software source.
Merging Library, Educational Television, and Computing Services in an Extended Campus Environment

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Abstract: This paper discusses the two year process of merging the services, staffs, and technologies of a branch campus library, an academic, administrative, and student computing department, and the branch site of an educational television system. Leadership styles, professional cultures, group process models, team decision-making, and staffing are the focus.

Introduction

The merging of academic library services with campus computing and educational television services is quietly happening in higher education in the United States. The concept of bringing together into one administrative unit the several departments which are clearly involved with delivering "information services" was postulated in the early 1980's. Since then this integrated information services concept has been adopted in numerous academic and community college settings. This integration in health sciences universities has been assisted by IAIMS (Integrated Academic Information Management System) funds from the National Library of Medicine.

As libraries have grown increasingly automated and dependent on the networking services of the campus information technology group, librarians have discussed and written about the work of partnering with their colleagues in the computer technology and services groups. As distance education students become a high priority for higher education, libraries are finding that educational television and videoconferencing technologies are essential for delivering quality, cost-effective library instruction and reference services. In order to provide library services in a "virtual" world, libraries rely on highly responsive, effective services from other campus information services providers.

Extended campus libraries need solid technological solutions to help them provide access to and delivery of information resources. Additionally, these libraries are becoming intermediaries in the delivery of information to "very distant learners." Teleconferencing and video technologies are becoming essential in the creation of effective methods of providing reference and library instruction. It is clear that these libraries need a consistent and reliable working relationship with other campus information. An effective way to achieve this absolutely essential reliability and consistency is to merge these departments into one information service unit.

Background

Washington State University at Vancouver, an upper division and graduate level branch campus, was established in 1987 at Clark College, a junior college located in Vancouver, Washington across the Columbia River from Portland, Oregon. WSU Vancouver Library contracted with the Clark College Library to provide reference services for its faculty and students. The WSU Libraries in Pullman, Washington, three hundred miles to the east, provided document delivery services. In December 1990, a librarian was hired for the WSU Vancouver Library. This first Campus Librarian established the collection, developed faculty relations, hired 2.5 FTE staff including an assistant librarian, and designed the future
library building. In 1991 there were seventeen faculty members and 480 students (276 FTE) at WSU Vancouver (WSUV).

The WSU Vancouver Campus Library began in a 1,000 square foot double classroom in Bauer Hall on the Clark College campus. Access to the WSU Libraries online catalog was via microwave transmission of the WSU data network by the Washington Higher Education Television System (WHETS), which also provided the videoconferencing of courses between the WSU Pullman campus and the WSU branch campuses.

By 1995 there were forty-five faculty members and 880 students (566 FTE) at WSUV. In January 1995 WSU Vancouver branch campus and the WSU Libraries hired a new Campus Librarian, who came from a health sciences university that implemented an IAIMS project. At the time, the Campus Librarian reported to the Associate Dean who was responsible for the academic programs at the campus. The local units of the university's educational television system (WHETS), and computing services, Vancouver Information Technology (VIT), reported to the Director of Finance and Operations.

Computer Services Planning Group

In April 1995 the Campus Dean, Hal Dengerink, convened a task force (Computer Services Planning Group, CSGP) in response to a growing concern by the campus community that users' computing needs were not being adequately met by VIT (Vancouver Information Technology). He charged the CSGP with reviewing the current situation and developing proposals to better meet the needs of users. No restrictions were placed on the nature or form of the proposals, and, in fact, he encouraged the development of creative and innovative solutions.

Dean Dengerink stressed two factors for the CSGP to focus on as they considered the issues: first, the explosion of educational technology in academe and the need to position WSU Vancouver to take advantage of it; and second, the host of conflicting demands placed on computing services and the wide variety of possible organizational models with which to resolve those conflicts. In addition, he advised the group to remember that the role of computing services would necessarily have to follow WSU Vancouver's expanding role in the local community beyond the campus.

Members of the planning group included the Associate Dean, to whom the library reported; the Director of Finance and Operations, to whom computing services (VIT) and educational television (WHETS) reported; the Director of Student Services; the VIT computing professionals; the Academic Program Coordinator for the English program, an associate professor; an assistant professor of Management, who also chaired the Faculty Computing Committee; the Communications Coordinator; the Campus Librarian; and a library specialist. The Campus Librarian was asked to chair the CSGP's deliberations.

The CSGP began a series of weekly discussions delineating the nature and scope of campus computing needs. They examined these needs in terms of their functional requirements. They generated and considered different organizational models by which the functional requirements might be met, and finally recommended changes. During the discussions it became evident that computing services were extremely broad and diverse in nature. It also became clear that any discussion about the role of Vancouver Information Technology (VIT) in the community needed to be held in the larger context of "Information Services."

In June, 1995 the CSGP proposed to the Campus Dean that WSU Vancouver alter its present organizational structure by forming an Information Services Group consisting of the Library, VIT (computing) and WHETS (educational television) operations. A Media Services operation would eventually be created as well. A supervisory position, Director of Information Services, should be created to coordinate the operations and policies of the units. The Computer Services Planning Group
recommended that the Director of the Information Services report to the Campus Dean and assume a position on the Dean’s Cabinet. The CSPG felt that the Director should report to the Dean because of the strategic role that coordinated information services would play in WSU Vancouver’s future. The CSPG noted that its proposal was just the first step in an evolving process to meet the long range goal of integrating information services on the campus. In August, shortly before the fall semester began, the Campus Dean accepted the CSPG proposal and appointed the Campus Librarian to the position of Director of Information Services. He named the new department Vancouver Information Services (VIS).

**Vancouver Information Services: the Beginning**

In retrospect, appointing the Director of Information Services at the beginning of the academic year was very fortunate. No one had time to be anxious about the new organizational structure. VIS staffers were scrambling to prepare for the returning faculty and students. Everyone in the three departments simply continued doing their own jobs. The Director was engaged in library instruction and reference desk staffing, and three personnel searches. The entire WSU Vancouver staff and faculty were preparing to move out to the new 380 acre campus over the Christmas holidays.

All staff in the three VIS units (Library, VIT, WHETS) were organizing their department’s move plans. The Director and the computing staff (VIT) were members of the Campus Move Planning Committee. This pre-move environment afforded the new Director the opportunity to work with each VIS department on very practical issues, rather than on philosophical, corporate culture issues. The Director learned a great deal about her new department’s procedures and problems. By November a new Assistant Campus Librarian was hired. By early December 1995 it was clear that the completion of new campus construction would be delayed until the end of spring semester.

Also during this fall semester, the Director and the two computer services (VIT) professionals attended a staff development seminar on planning. Among the processes explored at this seminar were brainstorming and the Nominal Group Technique. The new Director had used both techniques before, and was pleased to see that her computer services colleagues were intrigued with their use in building the management culture of Vancouver Information Services (VIS).

**Vis Group Process and Team Building**

THE VIS staff members met in early 1996 for the first all staff meeting. There were three library technicians (2 fte), two librarians, two computer systems coordinators (VIT), one WHETS operator, one office assistant, and one student assistant/lab monitor representative, who was a graduate student in management. The agenda of the meeting included introductions and descriptions of current jobs, a welcome and vision statement by new Director, and a planning the future session which used brainstorming and nominal group techniques. The senior systems coordinator and the Director were co-leaders of the “futuring” part of the agenda. The brainstorming (all-ideas-are-acceptable-with-no-critique) rules were explained to the group. The process of combining similar ideas into single categories (with approval from the ideas’ owners), and the prioritization of the categories by everyone voting with the equal number of dots, was enthusiastically adopted by the group. Following is how the VIS staff envisioned their future:

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>24</td>
<td>Ability to deal with technostress and create a comfortable, non-intimidating atmosphere for students, faculty and staff, including ourselves</td>
</tr>
<tr>
<td>22</td>
<td>Standard information interface</td>
</tr>
<tr>
<td>21</td>
<td>Electronic training department; repetitive, continuous training</td>
</tr>
<tr>
<td>19</td>
<td>Bonding, communication, meetings for VIS</td>
</tr>
<tr>
<td>19</td>
<td>Happy, satisfied customers</td>
</tr>
<tr>
<td>18</td>
<td>Technical infrastructure to deliver information services</td>
</tr>
</tbody>
</table>
This first VIS staff meeting energized the staff. The collaborative style of priority setting which was modeled by the VIS Director and the senior VIT System Coordinator encouraged the staff members to participate with respect for each other’s ideas and professional competencies. This first group process found and affirmed the commonalities between the staff as information service providers in the academic community. VIS staff met again to create goal statements for its previous top priority “future” item - the ability to deal with technostress and create a comfortable, non-intimidating environment for students, faculty, and staff, including ourselves. Goals for this top priority were:

- Staff training during work time/more time to be trained on technologies and be up to date, and time to practice/explore
- Project teams; delegation, team environment
- Common technology orientation for students, faculty, staff, handouts for student orientations, more highlights, more signs, videos of various technologies, navigation tools, maps, user groups
- Helpdesk/resource center that has a clear process for reporting problems getting feedback.
- Sufficient appropriate staffing
- Common interface to information resources
- Service attitude, it’s okay not to know, there are no stupid questions, good manners, remember humor
- Ergonomic environment

The VIS staff was skeptical that their top priority goal of staff development, training and practice time could be achieved until more staff were hired. Their daily workloads were heavy and were essential for basic campus functions. There were two funded positions which were unfilled: a System Coordinator in VIT, and another WHETS operator. The move to the new campus at the end of the semester would require a huge coordinated effort by VIS to set up, shake down, and troubleshoot all the new computers, new servers, new phones, new data hookups, new LAN and WAN, new computer labs, new videoconferencing facilities, new library facilities, and all users’ workstations on campus before mid-August when faculty and students returned. The time frame for this was six weeks. VIS voted to postpone working on staff development until after the move and more VIS staff were hired.

The goal setting process adopted by the VIS staff ensured a “team” environment. As employees from separate departments with different priorities, they appreciated the opportunity to freely brainstorm their ideas. This freedom created a comfortable and collaborative environment where staff could discuss similarities and differences in their ideas. The voting created a very strong understanding that everyone had produced the VIS priorities. Work team naturally developed out of VIS meetings. This style of group
decision-making established the climate for pursuing the second goal of project teams, delegation, team environment.

Before spring semester 1996 the Director asked the Assistant Campus Librarian and a VIT System Coordinator to team up and organize a computing and library skills training program. It offered basic, short, frequently-repeated classes utilizing staff from both the library and the computing group. The classes used facilities in both computing and library venues (one with thirty computers and one with an instructor’s computer and projector) for hands-on and demo-only classes. These classes were available free to students, faculty and staff at WSU Vancouver and were called VIS Workshops. The project and its evaluation were presented at LOEX of the West in June 1996 by its two coordinators. The VIS Workshops, which continue to be a major part of the VIS program, served as a start toward achieving the third goal of a common technology orientation for all students, faculty and staff.

A smooth, coordinated move to the new campus became the main focus for the VIS team at the end of spring semester 1996. The school was to close for the move on a Wednesday afternoon and then open for summer session by the next Monday morning. VIS planned that all areas at the new campus would have at least one computer installed immediately Wednesday evening for electronic mail access throughout the four days of the move. During the move VIS implemented WSUVHELP, an email process for sending technology-related requests for assistance to a helpdesk. Initially, a technologically savvy clerical assistant staffed this fledgling effort. WSUVHELP constituted the beginning of work on the fourth goal of a helpdesk/resource center that had a clear process for reporting problems and getting feedback.

The VIS meeting process itself naturally revealed people with similar interests who could team up to initiate projects. The variety of skills within the staff and the small staff itself permitted each person to play important roles on each project. The need to organize the work requests as the campus set up for business compelled VIS toward adopting the email helpdesk. The VIS Workshops, a common technology orientation program for everyone on campus, was a team effort between library and computing services. As this program continued over the summer and into the fall semester, VIS staff themselves began to have time to attend classes to achieve some of their own staff development.

Management Issues and Professional Cultures

In her previous position at an IAIMS site, the Director had helped to merge the academic health sciences library, networks and computing, telecommunications, media services, training, and hospital information systems. This was good preparation for managing WSU Vancouver’s Information Services. The experience of working collaboratively in a tense and changing environment with other information access and service professionals, who had differing professional values, was valuable. The Director learned the diversity of the demands placed on the other academic information services providers. Disagreements between the various information professionals were most noticeable in the areas of service responsiveness, control of information access, and user-friendly technology needs vs. complex systems maintenance and standards.

The IAIMS experience also revealed that users of computing services and resources relate impatiently the computer technicians, and in a well mannered way with librarians. It also revealed the low regard with which computer helpdesk staff are held within their own larger profession while high regard is afforded to reference librarians from within their profession. Lack of a sufficient quantity of documentation caused by site license agreements created conflicts over control of this scant and essential information resource. IAIMS provided an excellent background for the VIS Director.

Immediately after Vancouver Information Services was established the new Director spent a substantial amount of time in the Library, doing campus-wide move planning, completing several personnel searches, and getting to know the staff, policies, procedures, and problems of the other two department in VIS. This "leadership style" was essential due to short staffing. It also served the useful purpose of not threatening
staff with a rapid change. The move planning process allowed the Director to demonstrate her intention to work respectfully and collaboratively with the computing (VIT) and broadcasting groups (WHETS).

The CSPG had indicated that the WSUV community was unhappy with computing services handling of interpersonal relations and timeliness of service response. This staff was unaware of what specifically they were doing which upset their users. A behavior modification process was adopted that pointed out interpersonal problems as they were happening. These behaviors could then be recognized and then, perhaps, modified. This process was very personal for both the VIT staff members and the Director. Both the Director and the computing staff benefitted from this process. The interpersonal problems were more easily modified than the problems with timeliness of service.

The VIS Workshops project was the first VIS “multidisciplinary team” project. The Assistant Campus Librarian and a Systems Coordinator were asked to design and implement the program. This caused stress in VIT regarding workload and training responsibilities. Preparations for the move, and the move itself, created a wonderful sense of teamwork among the VIS staff, but it also caused great pressures to get things done. In a difficult decision, the Director permitted the Assistant Campus Librarian and the Systems Coordinator to go Seattle for two days during the move to present the VIS Workshops paper at LOEX of the West. Absence of personnel during the move caused other VIS staff members to question the wisdom of integrating the departments. Attending the professional meeting was an academic imperative for the tenure-track librarians, but not understood by the rest of the VIS staff.

The initiation of WSUVHELP in July 1996 allowed VIS to channel the computer work requests to a central clearinghouse. Staffed initially by a clerical assistant, the WSUVHELP requests were assigned to the permanent and temporary System Coordinators and student workers via email. Soon this task assignment function was reassigned to the senior Systems Coordinator who felt there needed to be more order in the daily operations of the VIT group. The WSUVHELP requests, while still assigned to the staff by email were also recorded in a Helplog and on a series of individualized task lists which indicated the requester, the date of request, and the number of days the task had remained open.

This process eventually provided the information the Director needed to facilitate improvement in the timeliness issue. It also established a subtle, unofficial management hierarchy in the computing services group (VIT). For a while some members of VIT ignored the task assignments, taking requests from faculty and staff on-the-fly by roving throughout the new campus. Many of these requests were forgotten and not recorded. Eventually this problem was corrected and staff began to see the utility in having a task list to protect them from constant interruptions.

During the first year, VIS established its basic management styles and organizational culture. The entire staff established the goals for their future together, as a team. The different professional cultures met and explained themselves at VIS staff meetings. The individual departments did not dissolve into one big group. They worked together to present information literacy, computer skills training and the accompanying essential documentation. They all tried to be service-oriented. They gradually accepted leaders from within their own ranks. VIS saw the establishment of an coordinating team called VISIT. The Director meets with this group weekly.

Vis: After Two Years

The Director presently represents VIS on the Dean’s Cabinet, and represents library and other VIS departments on the Academic Council. VIS is represented on the campus Computing Committee, the Web Committee, the Faculty Governance Committee, the university-wide Academic Steering Committee for Computing and Telecommunications, and numerous local campus, and university committees. VIS meets bi-monthly to review its progress toward its goals and to set major work priorities together. Each of the three groups (Library, VIT, WHETS) meets each week with the Director to review specific work progress
and problems. Each staff member meets with the Director every two weeks to guarantee that everyone has access to the Director. Seven people have been hired in VIS since mid-1995. In Fall 1997, the Cabinet and the Academic Council recommended to the Campus Dean that three more permanent positions, plus additional temporary wages, be added to the permanent budgets of VIS.

VIS library and computing professional teamed up to develop an authentication system which allows non-traditional, non-residential, urban, older, employed student body to access the library’s databases from home via any ISP. The difficulties of the authentication procedures were dealt with by an integrated VIS team. This is a good example of how projects have been successfully implemented through the cooperative work of the VIS staff.

WSUUV is integrating information seeking and computing skills into the curriculum. During the fall 1997 semester several business and humanities professors required their students to attend VIS Workshops. New VIS Workshops are frequently requested by both students and faculty members. VIS is working with the new Electronic Communication and Culture program to provide students with the computing experiences the program promises. VIS is involved with the campus distance education program through WHETS. It has operational management of the campus website, and is responsible for developing desktop videoconferencing capabilities utilizing the bandwidth provided by the Washington State’s new K-20 network. VIS is working with faculty on the development of two online journals. It is also responsible for maintaining a web-based southwest Washington community information network. It provides technical support for a multimedia applications and research studio used by faculty interested in developing virtual education modules.

Soon there will be fourteen staff members in VIS (six in the library, six in VIT, two in WHETS). There are twelve student workers who are library student assistants, lab monitors, and backup WHETS operators. There are four temporary workers who each work fifteen hours a week in the student computer lab, at the reference desk, in interlibrary loan, or in the VIT offices. A senior citizen volunteer works fifteen hours a week in the computer lab.

Conclusion

A rapidly evolving program, like the branch campus at WSU Vancouver, benefits from an integrated approach to delivering information and technology services to the students, faculty and staff. In an environment where both the human and financial resources are limited coordination of departments with overlapping responsibilities enables each of these services to more easily meet the expectations of their customers. Computing groups are increasingly expected to train users, organize intranets and select search engines. Libraries are expected to provide access to a host of remote resources and services. Educational television is expected to integrate computing and web-based courses, including library instruction, into its repertoire. Merging these three units in an extended campus situation creates a strong team of professionals who can deliver these essential services. Consolidation of supervision allows for an efficient coordination of efforts between units and a integration of numerous essential functions.

In order to achieve success when merging existing information services the staff must be willing to join in the collaborative effort. At WSU Vancouver, with the creation of the Computer Services Planning Group, Dean Dengerink set in motion a process which fostered collaboration and representation. Staff feel included and assured that they will be heard and have influence as a result of the group process techniques adopted for VIS meetings. The campus move served a useful purpose. It allowed for the slow and measured development of the VIS organization while providing the group with a valuable training ground for developing their collaborative relationships. It compelled the group to focus on external concerns rather than dwelling on the internal process of change. Cooperation is promoted by the groups’ work being recognized and rewarded through increased funding and staffing. Enthusiasm creates a willingness to be flexible and creative while being understaffed. This enthusiasm needs to be carefully cultivated.
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