Libraries Address The Challenges Of Asynchronous Learning

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ABSTRACT

As asynchronous learning becomes the norm throughout academia, changes are taking place in campus information systems. Academic libraries, as the entity responsible for serving the information needs of the university, have little choice but to change dramatically. In fact, academic libraries have a history of being aggressive in adapting state-of-the-art technologies. One can point to decades-long involvement with the development of online catalogs and the use of shared cataloging utilities. Libraries continue to serve academic teaching and learning by taking on new roles, revising traditional services, and time and space constraints.

Libraries have, however, been slower to adjust organizational structures and processes to leverage the potential of technology. Replies to a recent survey of Association of Research Libraries (ARL) indicate that change in the responding libraries at this time is incremental rather than dramatic. Patterns are emerging, however, relative to resource reallocation and the formation of partnerships with other university units that reflect new priorities.

This article describes two examples of innovative information delivery initiatives. VIVA, the Virtual Library of Virginia, was proposed by the state's Library Advisory Council in 1993 to encourage collaboration among the Commonwealth's institutions of higher education and to support the electronic dissemination of information. Academic libraries are also leading the way by providing new and unique sources of online information such as Electronic Theses and Dissertations (ETDs), by developing electronic submissions, online archiving, and Web access, as well as bringing to the forefront discussions about issues such as copyright and publishers' control of academic publications. Network-based access to information resources such as these is changing higher education, and the opportunities offered by asynchronous learning networks are challenging libraries to adjust their policies, processes, and services.

KEYWORDS

library services to distance learners
extended academic library services
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I. THE INSTITUTIONAL CONTEXT

In recent times most institutions of higher education have had to reconsider policies and procedures in the face of closer scrutiny. Traditions such as tenure, shared governance, and the focus on conventional degree programs are being challenged and modified as a result of pressure from governing boards and state legislators. Rising costs and declining budgets demand increased efficiency while changing demographics require programs that are responsive to a more diverse population of learners. The result is that academia is being compelled to operate more like industry in considering the needs of its clients. Reductions in state support at a number of public universities combined with additional regulation are leading to a renegotiation of institutional roles as state agencies. Both the benefits and constraints that state support imposes are being reconsidered in light of new economic realities [1][2].

Computing and telecommunications technologies are perceived by many to have the potential to deliver asynchronous instruction that will enable higher education to respond to its critics, meet assessment requirements, and garner sufficient revenue to remain viable in a new century. In response to user needs and demands coupled with changing computer technologies, academic libraries have moved beyond automated access tools (online catalogs and indexed databases). Libraries also deliver network-based journals, theses and dissertations, images, class materials, and regional and international news reports. Libraries collaborate with others in the academy and with commercial publishers to provide access to materials that support all learners, whether on campus or off--the traditional teacher and learner as well as those using networks for asynchronous education.

Until the early 1990s Virginia Tech's learning community operated primarily in the time-honored manner. Faculty-centered education was imparted to students who resided locally. Extension services were provided by field faculty and staff in the conventional way throughout the Commonwealth. Library services were largely delivered in the customary, building-centric manner.

More recently, however, innovators throughout the university, including those in the library, have developed new processes that use the network to provide access to extended campus learners. A thoughtful and well articulated reason for this change can be found in the document entitled *Update to the University Plan, 1996-2001*. Under the category "planning assumptions," Virginia Tech President Torgersen states

> . . . we must not only anticipate but lead the *revolution in information technology* that gains momentum daily. The end of distance as a determining factor in the cost of communication; the advances in teaching and learning made possible by interactive digital technology; the opportunities to combine knowledge in new ways to create new visions; and the power to reach out to the community, the Commonwealth, and the world--all of these afford us enormous opportunities but also risks if we fail to take advantage of them. Finally, *changing demographics as well as shifting patterns of education and employment* require that we become more agile and responsible to the demands for our services--statewide, nationally, and internationally [3].

Participation in the technology "revolution" as prescribed in the university plan update requires a transformation of policies, processes, and the interactions among the constituent groups that make up the university community. Through the use of technology during the next ten years, Virginia Tech is afforded as President Torgersen stated "enormous opportunities" while at the same time the members of the university community are confronted with tremendous challenges. This article describes just two of the opportunities as they relate to libraries.

A. Institutional Change

It is one thing to have the technological potential to extend educational programs and improve instructional quality and faculty productivity, but quite another to re-engineer the Academy. In recent years many books have been published that point to a decline in the quality of universities, especially relative to undergraduate education. These range from constructive, thoughtful critiques like Ernest Boyer's *Scholarship Reconsidered* [4] and Derek Bok's *Universities and the Future of America* [5], to the shrill polemics of Charles Sykes' *ProfScam* [6]. In all cases, the fundamental thrust of these works is that America's colleges and universities must be convinced, in the words of Ernest Boyer, "to rethink their relevance in today's world" [4].

This call for relevance and change reflects the fact that universities have delivered instruction, and their libraries have delivered resources and services in the same way for decades. The causes are many, including the lack of resources for rewards which, despite efforts to the contrary, continues to emphasize research to the neglect of undergraduate education and a user service orientation.

One more factor that makes the response to current attacks so difficult is that critics are applying corporate values as a measure of success to higher education's restructuring efforts, not those criteria by which universities are accustomed to judging themselves. Donald Kennedy, former president of Stanford University, wrote,

> [T]he traditions of the academy strongly favor individuality and creativity. Freedom of action is highly valued. Accountability is viewed as much less important than independence. The introduction of norms that emphasize hierarchy, team loyalty, and discipline is difficult, not because they are not worthwhile values, but because these values are not deemed especially important for teaching or scholarship. They create a dissonant kind of bewilderment, if not outright hostility" [7].

Asynchronous instruction and the delivery of information through the network are by their nature collaborative, not solitary activities.

B. The Market

If in fact digital technology prevails and institutions of higher education are able to extend their reach and deliver networked learning materials throughout the world, then the market will be another factor driving the transformation of higher education. A national or international information infrastructure permitting the distribution of quality instructional materials that may be purchased from a number of sources and transmitted to an individual's workstation, will eliminate time and space constraints and allow structured but asynchronous learning. Up to this time, students have been a largely captive audience, and educators have considered the market for networked, electronic course materials to be primarily non-traditional students or "distance learners." In the future, efficient cost-effective learning for traditional as well as non-traditional students will be delivered on demand by access to remote learning resources through affordable

communications and information technology. In that case, one might speculate what the impact on colleges and universities will be if the best calculus course originates at MIT, the best statistics course at Virginia Tech, the most effective language teaching at Middlebury College, and these classes can be delivered anywhere on the globe at a reasonable cost.

In such an environment, a number of questions arise concerning the relationship between students and universities:

- Will students choose to purchase and enroll in open market, widely available networked courses regardless of institutional affiliation?
- Will students continue to be content having all or most of their courses taught at a particular institution?
- Will a calendar of semesters, summer breaks, and credit-for-contact hour continue to be the rule?
- What will a plan of study look like in a networked environment? Who will design it? And, who will award the degree?
- Will institutions assist students in choosing appropriate instructional materials from outside sources rather than providing an entire program of study?
- What about tuition payments and residency requirements?

In considering these questions, it becomes clear that information technology will increase the amount of choice students have relative to instructional content and style by changing the way students, educators, and educational institutions interact.

What about the relationship between students and libraries in this new environment? In fact, learners often realize before teachers, the importance of the role libraries play for students engaged in distance education, as revealed in two recent surveys [8][9]. Accreditation is another factor in motivating universities to provide strong library support of distance education, according to both the Southern Association of Colleges and Schools' accreditation criteria (1988) [10] and the Association of College and Research Libraries' "Guidelines for Extended Academic Library Services" (1997 draft revision) [11]. The changes in information technology will modify the mechanics of higher education's degree-granting process, which in turn will require educational support services such as those provided by libraries to be delivered through the network.

C. Academic Libraries

What does this mean for academic libraries? As the entity responsible for serving the information needs of the university, academic libraries appear to have little choice but to change dramatically. Like the institutions with which they are affiliated, some factors making change inevitable include:

- increased costs
- pressure for additional productivity and accountability
- network-based information delivery
- changing patterns of scholarly communications
- asynchronous and off-campus instruction
- importance of computer and telecommunications expertise

Libraries are responding to these factors. Unlike higher education in general, however, academic libraries have been aggressive in adapting state-of-the-art technologies. They have been involved for decades with

the development of online catalogs and shared cataloging. As these online catalogs moved from in-house to Internet access systems, libraries took the initial steps to extend many traditional resources and services beyond the campus. Other recent improvements include electronic reserve systems providing online course materials, hosting works such as online journals that the faculty edit and graduate student works such as electronic theses and dissertations, and automating document delivery and interlibrary loan systems. At a 1997 meeting of the American Library Association, it was reported that the revision of the 1990 "Guidelines for Extended Academic Library Services: A Draft," included the statement:

> The library has primary responsibility for identifying, developing, coordinating, and providing library resources and services which meet both the standard and the unique information needs of the extended academic community [11].

Despite encouraging technology initiatives, libraries have been slow in adjusting organizational structures and processes to leverage their potential. In the words of Vartan Gregorian, former president of Brown University, "The new technology per se is not a revolution--the revolution is the difference that technology makes in how we organize, structure, and empower our lives" [12]. Replies to a 1996 Association of Research Libraries (ARL) survey indicate that change in libraries at this time is incremental rather than dramatic. (See Appendix A.) It is possible, nonetheless, to see patterns emerging particularly relative to resource reallocation and the formation of partnerships with other university units that reflect new priorities and emphasize networked resources and services.

II. THE VIRGINIA EXPERIENCE

In the state of Virginia and at Virginia Polytechnic Institute and State University (Virginia Tech), there are two initiatives currently underway that move libraries a giant step forward in the delivery of networked information. The first, the Virtual Library of Virginia (known as VIVA) involves all of the state's academic libraries, while the second, the Electronic Theses and Dissertations Project, is a nationwide effort led by Virginia Tech.

A. Virtual Library of Virginia (VIVA)

In the early 1990s Virginia began to build support for the lifelong learning essential to promote economic development of the Commonwealth in the information age. During the summer of 1993 the Subcommittee on Networking of Virginia's Library Advisory Council (LAC) proposed the foundation for the Virtual Library of Virginia. The LAC includes representation from all of the Virginia's academic libraries, public and private, research universities, four year colleges and two year community colleges.

VIVA's mission is two-fold. It seeks to improve access for its faculty and students to collections, both shared access to online library resources and coordination of collection development by Virginia's academic libraries. It also supports enhanced interlibrary sharing among VIVA libraries. Its goal is to accomplish this through equitable, cooperative, and cost effective ways. LAC received $5.24 million in 1994/96 for VIVA.

VIVA is a consortium of the 39 state-assisted colleges and universities: nine four-year comprehensive colleges and universities, 24 community and two-year branch colleges, and six doctoral institutions. Participation by the community colleges was particularly important since there is a branch of the Virginia Community College System in every legislative district. With the added participation of the 28 independent/private institutions, all of Virginia's institutions of higher education benefit from cooperative purchases. The VIVA Steering Committee is led by the library directors of the six doctoral granting

institutions, plus representatives from the four-year colleges, the community colleges, and the private institutions.

1. VIVA Implementation

VIVA's leadership developed "Principles of Selection Criteria." to address some of the difficult, pragmatic issues involved in such an ambitious undertaking. Establishing a model for asynchronous learners, the "Statement of Principles" says that "VIVA seeks to provide students and faculty anywhere in the Commonwealth [with] convenient access to the information resources needed to support the missions of its parent institutions, including distance education and other evolving programmatic initiatives" [13]. A goal is to position VIVA strategically to exploit rapid changes in scientific and scholarly communication, to be a catalyst for such change, and to facilitate the cost-effective acquisitions and distribution of intellectual resources that are specialized or lend themselves to shared access. The task of supporting the electronic dissemination of VIVA's information resources is the responsibility of the libraries at the six doctoral-granting institutions. These hubs service their regions and operate as the central archive and the single source of access for purchased databases stored at the individual sites.

The twelve "Selection Criteria" provided substance to the VIVA philosophy and near-term as well as long range goals. For example, widespread access to general bibliographic databases was an early priority, while a later goal was to identify basic electronic titles to which all libraries should have access.

VIVA interlibrary loan (ILL) guidelines also benefit all the participating institutions. Specific practices include not charging members for ILL services; completing ILL transactions within 48 hours; and being as responsive as possible. An explicit standard is to act in accordance with the US copyright law.

2. Early Success

Within the first year of operation VIVA established the technology base necessary to deliver information in all electronic formats to all the academic libraries. VIVA also purchased a number of electronic collections, including online indexes, full-text English and American literature databases, the *Britannica Online*, and the *Oxford English Dictionary*. Negotiations for additional collections are ongoing; most recently, *CIS Congressional Compass* and *Dow Jones Academic Edition* were added.

Once basic virtual library user needs had been met, VIVA acquired more specialized scientific and scholarly resources. The participating institutions also contribute unique Virginia materials scanned into digital formats, preserving and expanding access to historical and at-risk resources. Library staff, contributing significant amounts of time providing these new resources and services, enhance VIVA resources.

3. Progress To Date

As conceived at the initial LAC meeting, VIVA would meet important criteria. It strengthens the core value of Virginia's academic libraries, responds to societal needs, and looks beyond organizational boundaries. VIVA has improved access for Virginia's faculty and students to collections, both shared access to online library resources and the coordination of collection development with enhanced support for interlibrary loan. In building the case for continued support of VIVA, Gordon Davies, former director of Virginia's State Council of Higher Education, declared: "The virtual library project provides evidence that investment in cooperative technologically based projects can produce new ways of doing business and dramatic changes in efficiency and effectiveness" [14]. VIVA received approximately $5 million for a second biennium, 1996/98.

Through VIVA, databases that would have cost $12.5 million if purchased by individual institutions, are available for statewide use at one-third the cost [15]. From the first funded biennium to the second, the focus of VIVA moved beyond the initial goals of working together, eliminating unnecessary duplication, and avoiding creating a new central bureaucracy. Focus at this time is on improving interlibrary loan, expanding electronic collections, encouraging cooperative collection management, and providing access to special collections.

Because of VIVA, academic institutions in Virginia have received support to develop online access to many unique historical resources. The VIVA Special Collections homepage links to finding aids, inventories, and guides. VIVA funding supports digitizing, the purchase of equipment and software, and employs student workers who scan and identify digitized images. The participating institutions are digitizing materials that can be used by schools in the celebration of the Commonwealth's 400th anniversary in 2007.

User authentication has become more of an issue as increasing numbers of students use independent Internet service providers. Because of licensing agreements with information vendors, initially access to some VIVA resources was dependent on students using their campus networks so that IP (Internet Protocol) addresses could be validated. Spring 1997 saw the implementation of three different prototype 'user authentication' projects at Virginia Tech, George Mason University, and Old Dominion University. To validate students who are using network access outside of Virginia Tech, for example, they can configure the Netscape proxy, using their campus PID (Personal Identification) or email userID and password, to reach restricted VIVA resources.

4. VIVA Conclusion

The combined benefits to VIVA's 39 public institutions of higher education on 52 campuses means that both purchased collections as well as unique digitized materials are available through additional VIVA-funded equipment, services, and technical assistance. Cooperative electronic collection development and management has led to financial benefits for the institutions and, therefore, for the state. The Library Advisory Committee's second budget proposal summarizes well the role Virginia's libraries play in the state's efforts to revitalize higher education through technology.

> As institutions of higher education restructure to improve faculty and staff productivity, use technology, enhance learning, and avoid duplication, VIVA enables libraries to play an important role in that transformation by providing networked information resources that can be used by teachers and learners in a 'virtual' learning environment [16].

B. Scholarly Communications Project

A complement to VIVA resources are Electronic Theses and Dissertations (ETDs), available through University Libraries at Virginia Tech's Scholarly Communications Project (SCP). Since 1989 SCP has created a variety of partnerships with units and individuals largely within its university community to produce networked resources and to support asynchronous learning. Through partnerships with individual faculty, the SCP publishes electronic journals, designed the electronic reserve system that delivers online class materials, and maintains a growing digital image database, among other things. In a partnership begun four years ago with the Graduate School, SCP developed and implemented procedures for online student submission of approved theses and dissertations that resulted in permanent archiving and timely public access to Virginia Tech's graduate students' research. As of September 1997, over 500 ETDs were available through the World Wide Web.

For decades university libraries and archives have stored and occasionally circulated the final products of graduate students' education--doctoral dissertations and masters' theses. The dissemination of the graduate research is being strongly influenced by the availability of ETDs on the Internet. As a result, access issues have come to the fore, including online archiving, unrestricted access vs. limited access, and intellectual property rights. ETDs also generate questions about who should control academic publications and library resources at institutions of higher education.

1. How the ETD Initiative Operates

Begun at Virginia Tech but now being adopted by nearly two dozen universities nationwide and abroad, the assumptions of the ETD initiative are many, including:

- Universities learn about digital libraries, as they collect, catalog, archive, and make ETDs accessible to scholars beyond the host academic community.
- Universities unlock the potential of their intellectual property.
- Technology and knowledge sharing moves forward more rapidly as graduate research results become more readily available.
- Graduate students learn about electronic publishing and digital libraries, applying that knowledge as they research, build, and submit their ETDs.
- Graduate education improves through more effective sharing, including literature reviews and bibliographies.
- Students save money producing their final research projects.
- Libraries serve more users without increasing demands on staff, eliminating the need to bind, stamp, security strip, and label, as well as to circulate and reshelve materials.
- Timely public access to current research is available all day, everyday--never checked out and never overdue.
- University libraries and archives do not need more shelf space.

Asking for ETDs in a format such as Acrobat's PDF (Portable Document Format) is important so that authors and their readers are not tied to one computer type (e.g., PC or Mac) nor to a single word processor (e.g., Word, TeX, Word Perfect). In addition, the Acrobat notes feature enables the exchange of editorial comments without requiring the exchange of the full document over the potentially crowded. ETD drafts that are networked eliminate the off-campus student's problem of trying to meet with various faculty members as well as the communication problem encountered when a committee member leaves town on sabbatical. Asynchronocity need not inhibit progress toward completion of graduate studies when electronic theses and dissertations are the accepted form of the terminal work.

What does it take to move discussion about ETDs into a practical application? Grassroots support from faculty as well as students and collaboration among various university units is necessary. Support through many channels of university decision-making is important as is encouragement for faculty and graduate students to learn new procedures and to develop new techniques that will exploit the potential and creative expression that an ETD could be. (See two innovative ETDs [17][18].)

Advice and guidance on ETD policies and procedures comes from two main sources, local and international advisory groups. At Virginia Tech there is a committee with representatives from each of the eight colleges. The Networked Digital Library of Theses and Dissertations, the NDLTD, has a steering committee of representatives from a variety of professional associations (e.g., the Council of Graduate Schools and the Coalition for Networked Information), institutions (e.g., Online Computer Library Center), government agencies (e.g., National Science Foundation and the US Department of Education), and

businesses (e.g., Adobe and UMI). Together these two groups effect both local and international progress toward networked access to theses and dissertations.

2. Catalyst for Change

Another role that ETDs play is as a catalyst for change among commercial enterprises, such as publishers and aggregators. Some publishers fear the competition that unlimited access to an ETD may give a derivative article in a commercial scholarly journal. This concern has received national attention through reports on National Public Radio [19], the *Chronicle of Higher Education* [20], the *New York Times* [21], as well as various newspapers. Contrary to popular press reports, there is generally a vast difference between the dissertation chapter and the same material rewritten to become a scholarly, peer reviewed article. The article and the ETD complement each other, rather than competing for readers, especially when the ETD is a reference citation in the article giving interested readers the Internet address of the larger work.

Some graduate students have published articles prior to including them as chapters in their dissertations. This causes problems when authors relinquish *all* their copyrights to the publishing agents. For these graduate students to complete their dissertations, they must seek permission from the publishers (or other copyright holders) to include their articles as chapters in their own dissertations. Universities feel that publishers should not dictate when or how graduate students' works are made available. After all, the mission of a research university is to disseminate the knowledge that is gained as a result of the study, teaching, and research of its faculty, students, and staff.

When publishers continue to feel threatened by the exposure of the full ETD on the Internet, access can be restricted to the originating campus. This limits the work of other researchers who are denied online access and eliminates libraries sharing works previously available through interlibrary loan. Every learner then becomes a slave to place, if not time constraints, that are even more limiting than traditional library services. This situation benefits only commercial enterprises and does a disservice to academic researchers expecting at least the level of access equivalent to the works on paper (e.g., interlibrary loan).

3. Electronic Theses and Dissertations Conclusion

ETDs are an example of how libraries effectively address some of the factors that make change in higher education inevitable, such as the pressure for additional productivity, network-based information delivery, and the importance of computer and telecommunications expertise. The processes and procedures now formalized were developed by library staff, thus establishing the foundation of the Networked Digital Library of Theses and Dissertations. This demonstrates the library's importance in moving teaching and learning beyond the constraints of time and place.

IV. CONCLUSION

There are a number of actions that recommend themselves to academic libraries as they address the challenges of serving asynchronous learners in addition to the traditional students:

- Develop partnerships with other institutions, vendors, and publishers to create new technology-based information delivery systems.
- Develop partnerships with computing and telecommunications units on campus.
- Invest in equipment and training for library personnel.
- Work with academic faculty to support the development of network accessible courseware.
- Realign the reward system to match new priorities.

- Design, develop, and implement new assessment measures and processes.
- Exploit the potential of electronic libraries and reserve systems to support designated courses and to offer 24-hour consultation.
- Provide improved facilities for the introduction of new technologies.

Always remember, "the network is the center of the universe" [22].
David Roselle
former Virginia Tech Provost
current President of the University of Delaware

In years to come there will be more options for people who want an education beyond high school and many of these students will have different constraints and aspirations than do today's students. Technology-mediated asynchronous learning and network-based information delivery hold great promise for future learners. The innovation required to meet their needs is changing what academic libraries do and the way they do it. Libraries have demonstrated that they are up to the challenge.

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Electronic Theses ans Dissertations (ETDs): http://scholr.lib.vt.edu/theses

Appendix A

SPEC KIT 215 SURVEY: LIBRARY REORGANIZATION
1996 ARL SURVEY

I. REORGANIZING/RESTRUCTURING

1. Has your library recently completed within the last 3 to 5 years, or is your library currently planning or engaged in, a library-wide reorganization?

17	Yes
36	No

2. Has your library recently completed with the last 3 to 5 years, or is your library currently planning or engaged in the reorganization of specific units?

34	Yes
18	No
1	No Response

If you answered NO to both 1 and 2, please stop and return this survey.

2a. If you answered Yes to question 2, which units were affected? Check all that apply.

27	77%	a. Reference
24	69%	b. Acquisitions
25	71%	c. Cataloging
22	63%	d. Interlibrary Loan
13	37%	e. Computing Services
19	54%	f. Circulation/Reserve
8	23%	g. Special Collections/Archives
11	31%	h. Media Services
14	40%	i. Branch Library Services
18	51%	j. Collection Development/Management
14	40%	k. Other (Please specify)

II. FORMAL PLANNING PROCESS

3. Does the library have a formal planning process?

25	71%	Yes
10	29%	No (skip to question #7)

4. Who is involved in the formal planning process for the library? Check all that apply.

21	84%	a. Librarians
23	92%	b. Library administrators (including director/dean)
17	68%	c. Library support staff
5	20%	d. Academic faculty
10	40%	e. Outside consultants/facilitators
8	32%	f. Members of a university/college wide library committee
4	16%	g. Other (Please specify)

5. How long has the library had a formal planning process for the organization?

15	60%	a. 1-5 years
4	16%	b. 6-8 years
4	16%	c. 9-12 years
2	8%	d. more than 12 years

6. Is the library's plan reviewed/and or updated on a regular basis?

22	92%	Yes
2	8%	No
1		No Response

7. Which of the following factors contributed to your restructuring/reorganization?

	Library-Wide		Specific Units	
a. Declining resources	16	46%	15	43%
b. Increasing resources	0	0%	4	11%
c. Networked information	14	40%	11	31%
d. New patterns of scholarly communication	12	34%	9	26%
e. Information technology	18	51%	13	37%
f. User demand	9	26%	8	23%
g. Institutional change	10	29%	3	9%
h. Curricular change	4	11%	3	9%
i. Interdisciplinary research	2	6%	4	11%
j. Distance learning programs	3	9%	2	6%
k. Institutional mandate	5	14%	1	3%
l. Other (Please specify)	7	20%	8	23%

III. OUTCOMES

8. What actions has your library taken as a result of restructuring/organizing? Check all that apply.

25	71%	a. Reallocation of personnel

11	31%	b. Movement of personnel from technical services to public services
2	4%	c. Movement of personnel from public services to technical services
5	14%	d. Reallocation of monies from the materials budget to the operating budget
4	11%	e. Reallocation of monies from the operating budget to the materials budget
9	26%	f. Entered into partnerships with other academic libraries
9	26%	g. Applied for grants from outside agencies
17	49%	h. Increased allocation of funds for training and staff development
17	49%	i. Reallocated resources to automation/networking units/activities
6	17%	j. Hired professionals without an accredited library degree
8	23%	k. Other (Please specify)

9. Has the library lost any support staff (non-librarian) positions within the last 5 years as result of restructuring/reorganizing and/or decreased resources?

23	66%	Yes
11	31%	No
1		No Response

9a. If yes, how many support staff (non-librarian) positions have been lost?

Range 1-23 Mean 10.5 Mode 4 and 20

# of positions lost	# reported	# of positions lost	# reported
1	2	13	1
1.5	1	15	1
3	1	16	2
4	3	19	1
4.5	2	19.5	1
5.5	1	20	3
6	1	23	1
10	1		

10. Has the library lost any professional positions (librarians and administrative staff) within the last 5 years?

20	38%	Yes
13	26%	No
2		No Response

10a. If yes, how many professional positions (librarians and administrative staff) have been lost?

Range .3-35 Mean 5.5 Mode 2

# of positions lost	# reported	# of positions lost	# reported

0.5	1	8	1
1	3	9	1
2	5	10	1
3	2	12	1
5	2	16	1
7	1	35	1

11. What have been the results of your reorganization? Check all that apply and list or explain where applicable.

26	74%	a. Combining of specific units within the library
11	31%	b. Entered into partnerships with other university (non-library units)
19	54%	c. New or expanded user services
8	23%	d. Privatizing of some services or functions
13	37%	e. Eliminating of some services or functions
19	54%	f. Placed greater emphasis on networked information
8	23%	g. Decreased emphasis on the collection of print materials
9	26%	h. Decreased emphasis on catalog maintenance
5	14%	i. Taken more active role in electronic publishing/scholarly communications
4	11%	j. Other (Please specify)

IV. DOCUMENTATION

12. Does the library have a vision statement?

24	69%	Yes
10	29%	No
1		No Response

13. Does the library have a written statement/document as a result of restructuring/reorganizing?

8	23%	Yes (please enclose a copy)
22	63%	No
5		No Response

14. Did you have an organization chart of the library before your reorganization?

31	89%	Yes
2	5%	No
2		No Response

15. Do you have an organization chart of the library after your restructuring/reorganization?

25	71%	Yes (please enclose a copy)
8	23%	No
2		No Response

V. EVALUATION

16. Does the library regularly evaluate its services?

17	49%	Yes
17	49%	No
1		No Response

17. Does the library have a formal evaluation plan for the restructuring/reorganization?

2	5%	Yes
30	86%	No
3		No Response

Please enclose copies of past and current organizational charts of the library and/or units that have been reorganized.