

The Future of the Library

A Report to the Provost
University of Florida

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Summary

The somewhat daunting task posed by the Provost was to consider the future of the academic library, both in the national sense and, more specifically, at the University of Florida. Her interest in these issues was sparked by the rapid changes occurring in libraries over recent years, changes that present challenges and opportunities. Given the importance of libraries in the academic community, are the UF libraries responding accordingly or poised to respond? She asked the committee to consider the next decade: what critical issues should Central Administration focus upon for maximum benefit to the library? And of more immediate moment, the impending retirements of the library directors in both the Smathers and Health Center libraries mean new leadership, with potentially new directions.

Our charge was to prepare a report with recommendations. The committee began by educating itself on the current status of academic libraries by reading the latest literature, gaining input from knowledgeable faculty, staff, and students, and consulting with outside experts. From that study, five issues surfaced for detailed consideration. The body of this report offers details, data, and rationales that flesh out the following notes:

Comparative Analysis – detailed comparisons of UF libraries with relevant peers indicate UF’s spending lags theirs by roughly a third, illustrating a need for increased operating funds, as well as certain types of new space.

Librarians and Library Services – the increasingly more complex job duties of librarians calls for hiring those trained as experts in new technology, the recognition of this professionalism, and the introduction of programs to gain full use of such talents.

Collection Balances – the inevitable shift toward digital acquisitions should not mask the need for continued attention to printed materials, particularly in the humanities.

Role in the Capital Campaign – using as models the library targets in other academic capital campaigns, UF should assume an appropriate funding goal (suggested \$25 million) that recognizes the central importance of the library.

Integration of the UF Libraries – after a comparison of many important issues, advantages and disadvantages, the current separate system is favored.

The committee comes away with a renewed appreciation for the absolute importance of the library in a major research university, where it should occupy a central role. Indeed, the library has been called “the DNA of the academic institution,” determining our quality and directions. UF is fortunate to have a library that is vital and valued, but like many libraries, it stands in a precarious position. We believe that attention to the recommendations of this Report could strengthen the UF library system in these changing times that present both challenges and opportunities.

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Introduction

The “Library of the 21st Century:” An Evolving Institution

The “library of the 21st century” builds on a number of age-old and enduring traditions. As an institutional site, it continues to serve traditional roles such as the safekeeping, organization, classification, and dissemination of knowledge. “Knowledge” is to be understood as any potentially useful information that may find expression in traditional sources, such as print media (published and unpublished, private or government in origin), non-traditional sources, such as film, or audiovisual materials (records and sound tapes), historic or archival documents, and publications in print or digitized format.

The “library of the 21st century” also serves a number of new and ever-expanding roles enabled by a diverse array of new technologies. It is therefore simultaneously physical and virtual. As a physical place, it should serve as the “intellectual heart” of the modern research university, marked by the appropriate architectural signs of its importance. The centrality of the library is material (bricks and mortar) and symbolic. It signals the commitment of the institution to academic excellence, confirming and rendering visible the University’s missions in research, education, and public service. It is a set of buildings (consisting, at UF, of the main library, the Health Sciences Center Library, the Lawton Chiles Legal Information Center, and the branch libraries), but also a configuration of internal spaces within these facilities designed to respond to the changing nature of academic enquiry. Such sites might include, for example:

- spaces that foster interdisciplinary and collaborative research activities;
- spaces that offer university-wide wireless access;
- spaces that accommodate lectures, exhibits, and small colloquia;
- spaces that facilitate the activities of an innovative Library Support group, such as the Howe Society.

Consultant Ken Frazier, Director of the Libraries at the University of Wisconsin, pointed out the importance of communication between libraries and other spaces/places of learning on the campus. At UF, there is potential for collaboration between the library and, for example, the Florida Museum of Natural History, the Samuel P. Harn Museum of Art, and the Genetics Institute, among other sites.

As a virtual space, the library connects researchers and their communities through an ever-expanding global network. A modern research library facilitates new opportunities for research by integration of traditional sources with the opportunities made possible by technological advances. An excellent example of the enhancement of library research by technology can be seen at the University of North Carolina at Chapel Hill’s Health Sciences Library which enjoys a strong partnership with their Renaissance Computing Institute (<http://www.hsl.unc.edu/Collaboration/index.cfm>). At UF, possibilities for virtual enhancement of the library exist with, for example, the REVE (Research, Education and

Visualization Environment) and the NAVE (New Automated Virtual Environment) Lab of UF's Digital World's Institute in the College of Fine Arts.

The “library of the 21st century” is thus a time-honored site enabled by a diverse set of technologies that expresses and facilitates humanity's need to order and understand its world by recovering, analyzing, archiving, producing, and transmitting knowledge in both local and global contexts.

I. Institutional Comparisons

In considering what the future holds for UF libraries, it was first important to determine where we now stand, establishing a baseline for recommendations in this report. Traditionally, academic libraries have been ranked by the Association of Research Libraries (ARL). Currently, the ARL bases its rankings on five measures: volumes held, volumes added, current serial titles, total operating expenditures, and number of professional and support staff. As examples, the 2003-2004 rankings show Michigan State ranked as 39, Florida 38, Arizona 30, Ohio State 21, Wisconsin 11, Berkeley 4, and Harvard 1. Libraries with top ARL rankings are usually at large institutions and have histories of stable and adequate funding.

In this report we compare the University of Florida's library funding, both total and by major category, to that at other libraries. We choose two comparison groups. The first is ARL libraries at five large land-grant institutions (a “peer” group) with medical and law schools, and the second is all American universities that report data to ARL. Universities in the first group are close to us in size and mission, so that unadjusted expenditure comparisons are meaningful. That is not the case with the second group, which contains over eighty universities with more widely varying size and missions. To make comparisons meaningful, statistical methods are used to adjust expenditures for the number of students, the number of faculty, the presence of law and medical schools, and *U.S. News & World Report* rankings. For both comparisons, the latest statistics available represent the 2003-2004 academic year.

The institutions selected for comparison to Florida in the peer group are: Michigan State, Ohio State, the University of Arizona, the University of Minnesota, and the University of Wisconsin. For some comparisons, Arizona and Michigan State are omitted because their colleges in the health science fields are very different from ours.

Data Sources for Comparisons

Unless otherwise noted, the library data presented is from the 2003-2004 statistical data collected by the Association of Research Libraries. It is available at an interactive search site maintained by the University of Virginia Library at <http://fisher.lib.virginia.edu/cgi-local/arlibin/arlibin.cgi?task=setupreport> . The health science center library data is from the 2003-2004 ARL Academic Health Science Library

Statistics available at <http://www.arl.org/stats/lawmed/medindex.html>. Data for Michigan State does not include health science library statistics.

Library-Institutional Factors

In comparing libraries at the five peer institutions, we first present their major library user populations: undergraduates, graduate students, and faculty. Second, we compare their libraries' resources measured by research and instructional staffing, facilities, collection building, and expenditures. Finally, we normalize expenditures by degrees granted and by programs offered.

User Populations

In 2003-2004, the Association of Research Libraries statistical report [<http://fisher.lib.virginia.edu/arl/index.html>] indicated that the user populations for each university were:

Table 1. User populations at each institution, 2003-2004

	Arizona	Florida	Michigan State	Minnesota	Ohio State	Wisconsin
Full time students	30,149	42,042	38,355	35,071	43,796	36,672
Full time graduate students	5,932	10,825	7,657	8,898	10,212	9,493
Full time faculty	1,428	2,865	1,972	1,626	2,967	2,076
Total	37,509	55,732	47,984	45,595	56,975	48,241

Ohio State and UF have the highest major user populations, over 55,000 each, divided in similar proportions among undergraduates, graduate students, and faculty. Michigan State, Minnesota, and Wisconsin—though also very large – have user populations of fewer than that 50,000.

Library Staff involved in Research and Instruction

Table 2 shows the library professional and support staff at each university. In academic libraries, professional and support staff are the most heavily involved in providing instructional, reference and research services. The counts include staff at various branch libraries. Florida includes the staffing of all ten branches in its count.

	Arizona (L, M)	Florida (B,L,M)	Michigan State (L)	Minnesota (L,M)	Ohio St. (L,M)	Wisconsin (L,M)
Professional Staff*	100	112	81	98	121	217
Support Staff	159	208	123	200	159	185
Total	259	320	204	298	280	402

Includes: B (branches), L (law), M (medical)

Of note here is the fact that Wisconsin has almost twice Florida's professional staff, although UF serves approximately 7,500 more users. Aside from Wisconsin, UF's professional staffing is roughly in line with that of the other institutions, with a relatively large support staff.

Facilities

Only two data factors related to facilities are touched upon in this report: branch libraries and square footage of the main library. Branch libraries are important because of their staffing and collection implications.

	Arizona	Florida	Michigan State	Minnesota	Ohio State	Wisconsin
Branch libraries	3	10	14	5	20	40

With the acceleration in the use of electronic resources, square footage has become less useful as a measure of collection richness. Nonetheless, it does provide a heuristic measure of collection breadth and depth. It is also related to Frazier's concept of an academic library as a social-academic "collaboratory," or workspace. The size of each main library is given in Table 4.

Institution	Square Footage
Arizona	263,696
Florida	177,000
Michigan State	313,936
Minnesota	382,213
Ohio State	299,695
Wisconsin	363,085

Collection Building by Book and Byte

Another section of this report (**III Balancing the Collections**) analyzes the collections at UF. Here, we compare collection sizes and expenditures, though the availability of electronic resources has made total volume counts less meaningful for some purposes as we migrate to electronic access. This is especially true for some of the sciences. For many fields in the humanities and social sciences, however, access to large print collections still determines the richness of a library collection. Table 5 below shows total collection sizes reported in 2004.

Institution	Total Volumes	Total Medical Volumes
Arizona	5,201,065 (L,M)	233,682
Florida	4,075,290 (L,M,B)	348,046
Michigan State	4,747,959 (L)	Not included in ARL reports
Minnesota	6,374,293(L,M)	477,861
Ohio State	5,809,505 (L,M)	214,766
Wisconsin	7,807,097 (L,M,B)	315,657
Includes L=law, M=medicine, B=branch libraries		

Collection building in 2003-2004

Table 6 shows collection building during 2003-2004. Florida purchased fewer current serial titles (25,330) than any of its five peers. Ohio State, at 35,561, was next lowest. Wisconsin bought over 55,000 current serial titles. In terms of monographs purchased, Florida bought approximately 47,500 (third lowest); both Ohio State and Wisconsin each purchased some 20,000 more. Though we cannot say for sure without a more thorough look at monograph purchases, it is likely that the low monograph and serial purchases have the greatest impact on the humanities and social sciences. Electronic journal subscriptions may partially balance the serials situation portrayed here, but generally electronic journals are more closely aligned with science and technology.

	Arizona (L,M)	Florida (B,L,M)	Michigan State (L)	Minnesota (L,M)	Ohio St. (L,M)	Wisconsin (L,M)
Current Serials	36,060	25,330	37,880	35,801	35,561	55,164
Monographs purchased	56,666	47,528	30,693	37,161	67,671	68,483
Includes B (branches), L (law), M (medicine)						

Collection Building Expenditures

The expenditures listed below (Table 7) show the main classes of materials that were purchased in 2004. The total materials expenditures include formats beyond monographs and serials, but these are comparably insignificant. The total materials figure includes electronic journals, computer files (literature collections, periodical back files, etc.), and hardware and software.

	Arizona	Florida	Michigan State	Minnesota	Ohio State	Wisconsin
Monographs	\$2,683,130	\$1,695,403	\$1,802,797	\$2,280,527	\$3,507,436	\$2,638,090
Serials	\$8,874,139	\$7,217,600	\$6,570,003	\$9,291,150	\$9,113,712	\$6,727,764
Total materials	\$12,638,919	\$10,167,169	\$8,778,721	\$11,847,047	\$12,621,148	\$10,596,306

Electronic vs. Print Expenditures

Because electronic resources are often bundled for sale, it is extremely difficult to pull out individual number counts. Often several hundred electronic books and journals are available under one licensing agreement. However, some expenditure comparisons (Table 8) offer further insight into electronic vs. print formats.

Of interest in the serial situation is the fact that Florida and Wisconsin each spend less than two million dollars on electronic journals, while Arizona, Minnesota, and Ohio State spend about four million each. Initially, it appears that both Wisconsin and Florida may fail to acquire a large number of electronic journals; however, it is possible that consortial agreements have resulted in significant cost savings. It is unlikely, however, that Florida and Wisconsin have been in stronger bargaining positions than their peers.

	Arizona	Florida	Michigan State	Minnesota	Ohio St.	Wisconsin
Total Expenditure for Serials	\$8,874,139	\$7,217,600	\$6,570,003	\$9,291,150	\$9,113,712	\$6,727,764
Expenditures for Electronic Journals	\$3,905,137	\$1,801,347	\$2,581,546	\$3,946,325	\$4,247,736	\$1,605,662

Table 9 shows that Florida spends more on computer files than Ohio State and Minnesota, and less than Arizona, Michigan State, and Wisconsin. With respect to spending on computer hardware and software, Florida lags behind all of the peer

institutions and very far behind Wisconsin, spending only 24% as much as the average of the five peers. Even excluding Wisconsin, Florida spends only 36% as much as the average for the other four.

**Table 9.
Expenditures on Computer files and hardware/software for 2003-2004**

	Arizona	Florida	Michigan State	Minnesota	Ohio St.	Wisconsin
Computer Files	\$488,191	\$236,314	\$387,800	\$131,403	\$31,837	\$433,597
Hardware/software	\$544,980	\$227,038	\$778,925	\$676,862	\$553,375	\$2,168,246

Overall Expenditure

Table 10 compares overall expenditures. The striking difference in staffing by Wisconsin noted earlier is also reflected in the salary category. Wisconsin spends more than any other university on salaries, nearly \$10 million more than UF.

Table 10. Expenditures by main categories, 2003-2004

	Arizona	Florida	Michigan State	Minnesota	Ohio State	Wisconsin
Total Salaries	\$11,150,833	\$11,711,598	\$10,379,727	\$15,770,857	\$12,880,990	\$21,584,660
Total Library Materials	\$12,638,919	\$10,167,169	\$8,778,721	\$11,847,047	\$12,621,148	\$10,596,306
Other Operating Expenditures & Miscellaneous Materials	\$3,694,102	\$3,086,012	\$3,444,330	\$3,798,669	\$2,731,127	\$7,095,014**
Total Expenditures	\$27,064,875	\$25,112,380	\$22,557,590	\$31,640,604	\$28,509,784	\$39,251,812

Notes:

Includes L=law, M=medical, B=branch

*No university spent more than \$550,000 on miscellaneous materials.

**Wisconsin indicates that a substantial amount of Other Operating Expenditures was prepaid in 2002-2003.

Discussion

As noted earlier, the purpose of our comparison with a limited number of peer institutions is to avoid complications that arise from the differing needs of institutions with large differences in size and mission. To focus even more strongly on institutions that closely resemble Florida and have comparable medical schools, we now further limit the comparison group to Minnesota, Ohio State, and Wisconsin, with the caveat that Minnesota and Wisconsin have noticeably fewer undergraduates than either Ohio State or Florida. They do have more faculty, however.

We use the more restricted peer group to compare spending relative to the number of degrees granted and to the number of degree programs, which serve as additional

measures of user needs. In 2003-2004, UF granted more total degrees than Minnesota, Ohio State or Wisconsin. It lagged Minnesota and Ohio State in one category, professional degrees.

Table 11. Degrees granted 2003-2004

	Florida	Minnesota	Ohio State	Wisconsin
Bachelors	8,574	6,049	8,288	6,156
Masters	3,022	2,677	2,606	1,968
Doctorate	694	592	560	627
Professional*	539	715	782	631
Total	12,290	10,033	12,236	9,382

*includes dentistry, nursing, public health, law, medicine, veterinary medicine, and pharmacy

Also shown is a comparison of the majors offered for advanced research degrees. Counts were taken from the 2003-2004 graduate catalogs for each of the universities, when available online. The registrar’s office at Ohio State was contacted directly. The Table 11 counts do not include professional degrees in law and medicine, but do include the doctorates associated with health sciences.

Because Florida offers almost 100 more research majors at the masters level than any of the other three universities, we expected that the collection breadth and depth and the library services would be larger and be reflected in higher levels of funding. This is not the case, however. Florida’s spending is actually lower. Consequently, the spending per program at Florida is far below that at the other institutions.

Table 12. Majors offered for advanced research degrees, 2003-2004

	Florida	Minnesota	Ohio State	Wisconsin
M.A./M.S.	233	112	127*	155
Ph.D.	124	101	95	108

* as of Fall 2005

Table 13 below shows funding available to support the doctoral degree research programs, assuming that undergraduate needs are sublimated, and expenses for the law and medical libraries are removed. For Florida, before computation we have subtracted five doctoral research programs served by the medical library. That is, the funds available for non-law and non-medical programs are divided by 119 instead of 124 to obtain the \$153,655 average per program for Florida. For Minnesota, Ohio State, and Wisconsin, we have not subtracted programs that may be served by their medical libraries. Consequently their numbers may be biased downward. Even so, they average 68% more funding per program than Florida.

	Florida	Minnesota	Ohio State	Wisconsin
Total library expenditures	25,112,380	31,640,604	28,509,784	39,251,812
<u>Subtract</u> Medical library expenditures	-4,340,931	-5,044,351	-3,413,349	-3,805,672
<u>Subtract</u> Law library expenditures	-2,486,555	-3,414,887	-2,443,223	-983,935
Monies available for non-law/non-medical	18,284,894	23,181,366	22,708,171	33,002,917
Potential expenditures per program	\$153,655	\$229,518	\$239,033	\$305,583

The Longitudinal View

To add perspective to our analyses for 2003-2004, we present total inflation-adjusted expenditures for the years 1999-2000 to 2003-2004 in Table 14.

Fiscal Year	Arizona	Florida	Michigan State	Minnesota	Ohio State	Wisconsin
1999-00	\$24,870	\$25,597	\$20,268	\$32,963	\$28,876	\$34,390
2000-01	\$25,296	\$30,330	\$20,100	\$32,159	\$30,149	\$35,574
2001-02	\$26,528	\$26,190	\$20,298	\$33,839	\$29,019	\$35,046
2002-03	\$26,272	\$26,746	\$21,112	\$32,167	\$27,694	\$40,224
2003-04	\$27,064	\$25,112	\$22,557	\$31,641	\$28,510	\$39,252

Expenditures become more meaningful when compared to the potential user populations, as shown in Table 15 for the same years.

	Arizona	Florida	Michigan State	Minnesota	Ohio St.	Wisconsin
Total 1999-2000	33,781	43,574	42,693	37,636	51,040	45,416
Total 2000-2001	33,937	45,408	44,216	39,618	46,659	46,400
Total 2001-2002	35,796	52,910	45,058	41,428	52,606	47,258
Total 2002-2003	36,846	54,025	46,766	43,926	54,445	45,250
Total 2003-2004	37,509	55,732	47,984	45,595	56,975	48,241
Increase in populations 2000-2004	3,728	12,158	5,291	7,957	5,965	2,825
Total fulltime undergraduates, graduate students, and faculty						

From Tables 14 and 15 we calculate that while Florida's user population rose by 28%, more than at any of the other institutions, its inflation-adjusted total library spending fell slightly, by 2%, so that real spending per user fell by 30%. Minnesota and Ohio State also experienced spending decreases, of 3% and 1%, while their user populations rose, by 21% and by 12%. Thus they had real declines of approximately 24% and 13% per user (vs. Florida's 30%). Meanwhile, Arizona, Michigan State, and Wisconsin had real spending increases of 9%, 11%, and 14%. Their user populations rose by 11%, 12%, and 6%. Thus, Florida had a greater drop in library spending per user than any of the comparison institutions.

Comparison to a Larger Set of Universities

Though comparison to a select group of institutions has the strong advantage of requiring less worry about just how library needs vary according to such university differences as size and mission, there remains the concern that the results may depend strongly on the particular institutions selected. For this reason we include, in an appendix (See **Appendix 1**), a statistical analysis of library spending at more than eighty research universities. For the analysis, we augmented the ARL data from two other sources: the 2006 *U.S. News & World Report* rankings and spreadsheets on the web site of The Center, a research group at the University of Florida that compares research spending and other measures across a large number of universities. From results of four sets of regressions reported in the appendix, as well as many others run as checks of robustness and not reported, a conclusion that emerges is:

Florida's total library spending is lower than expected for a university of its size and quality, and spending on total electronic materials is remarkably low.

Another finding is striking:

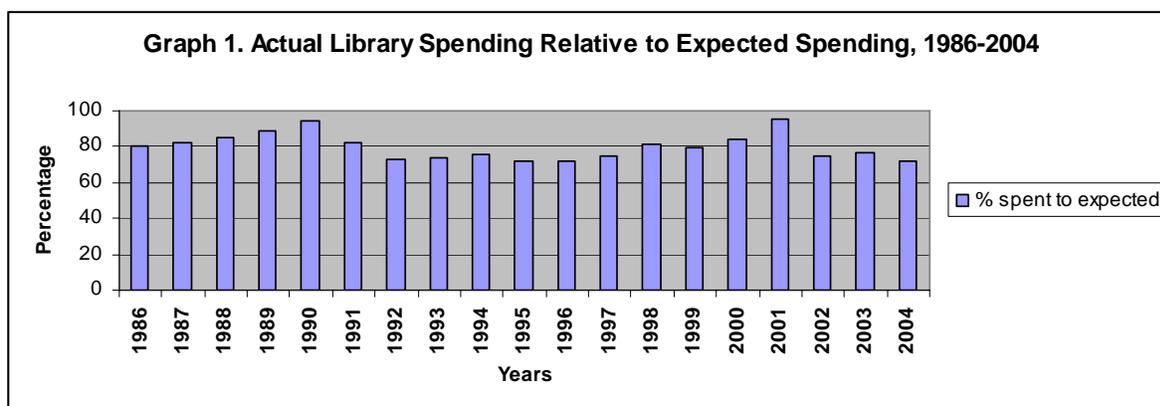
- An 18-point higher U.S. News rating is associated with about 36% more library spending, controlling for size and the presence of medical and law schools. Eighteen points represents the difference between, say, 59 (Florida, Texas, UC Santa Barbara, UC Davis) and 77 (Berkeley, Carnegie Mellon). The result is very similar using peer evaluations instead of the US News total.

Conclusions

Although ARL attempts to standardize its data collection instruments, we are aware that discrepancies in counts and terminology are inherent in any data set. Nonetheless, certain results are evident.

First in terms of user populations, Ohio State and the University of Florida are the most closely matched, although Ohio State's user population growth from 2000-2004 has been half (6,000) of UF's (12,000). As of fall 2003, they were very similar in numbers of full time students, graduate students, and faculty. Ohio State's main libraries have 120,000 more square feet and 1.8 million more volumes than UF's. From 2001 through 2004, their total library budgets exceeded UF's by 1 to 3 million dollars a year which was reflected in greater purchasing power for electronic journals, current serial titles, and hardware and software. Perhaps the most telling data is presented in Table 13, which indicates the average amount Florida, Minnesota, Ohio State, and Wisconsin could spend on supporting Ph.D. research programs, if all monies were allocated to that purpose. The other institutions could spend between \$80,000 to \$160,000 more per program. Drawing on our regression analysis (Appendix 1), of a larger number of institutions, we find that UF's total spending is 30% lower than would be expected for a university of its size and rating with law and medical schools. An increase of 30% in the 2003-2004 academic year would have given the UF libraries a total operating budget of \$32.6 million, or an increase of approximately \$7.5 million, an amount more in line with the spending at Minnesota and Ohio State.

As a final check of the funding situation and to verify that the 2003-2004 academic year funding was not an anomaly, a further regression was done for all years for which necessary data was present, using the preferred specification from the appendix. The results displayed in Graph 1 show the actual library expenditures as a percentage of the expected funding for a university of Florida's size and stature.



Since 1986, the library has never received the funding that would be expected, considering the size and mission of the University of Florida, and has more often than not received less than 80% of the amount that would put it in line with other institutions.

Inadequate funding has been an underlying factor throughout the history of the library system at UF. In 1982, Dr. Robert Mautz chaired a fact-finding Task Force on Evaluation of the Library Management Policies and Practices. He reported: "Most of the problems the library faces arise from the fact that operating resources have not been commensurate with the growth of the faculty, student body, collections, complexity of information, automation, nor to the addition of constituencies not previously served." Those findings are equally valid twenty-four years later.

The funding issues are exacerbated by the soaring costs of some electronic resources, by the development of a plethora of discrete information services on campus and beyond, and by changes in research, teaching and learning modalities in the university environment. These factors are impacting all facets of the university, not just the library.

Thus, summary recommendations are:

- 1) Increase library funding to appropriate levels to support programs, including new IT and digital functions.*
- 2) Support the development of a UF institutional repository by the library system as a university-wide service, and as an open access alternative for distributing research results.*
- 3) Revisit space issues, as current space does not appear adequate for collection growth or to create the "social-collaborative" workspaces suggested by Frazier.*

The Health Science Center Library

The coverage and services of health science libraries are extremely difficult to compare. For that reason, they have been omitted from the analyses described above. That is an important omission, and as partial compensation we add Tables 16 and 17 showing enrollments and expenditures per student for Florida, Minnesota, Ohio State, and Wisconsin.

Table 16. 2003-2004 enrollment for health related colleges

	Florida	Minnesota	Ohio State	Wisconsin
Dentistry	373	556	617	*
Medicine	906	1969	2,288	1322
Nursing	936	821	1,028	689
Pharmacy	1855	581	788	641
Public Health	1560	610	*	*
Veterinary Medicine	511	425	668	371
Total	6141	4962	5389	3023

* Ohio State and Wisconsin have Colleges of Medicine and Public Health; Wisconsin has no college of dentistry

Table 17. Expenditure per student in health science center libraries, 2003-2004

	Florida	Minnesota	Ohio State	Wisconsin
Total Expenditures	4,340,931	5,044,351	3,413,349	3,805,672
Total Student Enrollment	6141	4962	5416	3023
Expenditure per student	707	1017	630	1259

In 2005, UF's total enrollment in health related colleges was 6914, up 773 students from three years before. With a current budget of \$3,774,948, the average student expenditure has now fallen to \$546, which represents a 23% decline from 2003-04. Indeed, even without adjustment for enrollment or inflation, the decline in spending is 13%. Though we have not explored the causes of the decline and the categories in which it has occurred, we speculate that it would be difficult for the health science center libraries to improve or even maintain the quality of their services for long in this situation.

The University of Florida Health Science Libraries recognize a different set of institutions as peers, based size, diversity of colleges, and other factors. Information on those peers may be found in the Integration of this report.

II. The Role of the Library and Library Services

Librarians are essential to the research, teaching, and service missions of the University of Florida. Through innovative services, librarians provide access to information:

- they evaluate, acquire, organize, and annotate resources;
- they retrieve, evaluate, and process information for their clients;
- they teach faculty, students and staff to retrieve, evaluate, and use information to create knowledge; and
- they build new tools and resources to solve problems of information retrieval, storage, and management.

Liaison Librarian Programs:

New directions in academic libraries include that of the liaison librarian; that is, librarians who are expert in a particular subject area and provide focused, customized and integrated services as follows:

- they develop and teach course-integrated and stand-alone courses in their subject areas, perform collection development, expert searching, and subject-specific information consultations;
- they partner with the academic faculty to create cohesive information-related instruction and resources; and
- they integrate into their subject-related academic departments while remaining housed in and salaried by the library. Links with departments can include the following: joint appointments; attendance at faculty and departmental events; service on curriculum or dissertation committees; or, in the case of clinical or bioresearch information specialists, integration into clinical and research teams.

Recommendations to expand liaison library services:

- *that the UF libraries institute a liaison librarian program for the major subject disciplines covered at UF;*
- *that the HSCL explore the clinical and bioresearch information specialists in context models, and potential sources to fund such services; and*
- *that the UF libraries explore other areas in which discipline experts (librarian or non-librarian) could provide useful non-literature-based services to clients, and potential funding sources.*

Digitization services:

Digitization of resources is an essential activity for the library. Digitization requires librarians who are expert in preservation; numerous non-professional staff who perform the scanning; experts in meta-data and indexing who make the digitized material

“searchable” and “findable”; and the necessary equipment and space to perform the digitizing.

Recommendations to improve digitization services:

- *that the UF libraries continue to apply for funding to expand its current digitization efforts;*
- *that digitization efforts center on the unique UF specific collections currently housed in UF collection;*
- *that UF libraries be more proactive in terms of gathering and digitizing UF's history.*

Subscription to electronic journals:

Electronic journal prices are rising each year at a rate higher than inflation; UF (or any institution, actually) is unlikely to ever have a budget that can provide online access to every journal of interest to its clients, but efforts should address this problem.

Recommendations to increase access to electronic journals:

- *that the HSCL and Marston Science Library teach clients how to submit manuscripts to PubMed Central – NIH's freely accessible online repository of full text article;*
- *that the HSCL and Marston Science Library provide the service (actually submit the manuscript to PubMed Central for the client) as a convenience for its client;*
- *that the UF Libraries educate its users on open access and the relationship of tenure and promotion expectations and journals.*

Development of new information tools:

At many academic institutions (particularly academic medical centers) librarians are involved in the development of new information tools – often partnering with informatics or computer science faculty. Librarians are also engaged in designing better searching systems, the electronic patient record, interactive online tutorials, etc.

Recommendation to facilitate new search tools:

- *the exploration of partnerships with relevant academic faculty, such as computer science or informatics faculty, or increase the hiring of librarians who are trained in such areas.*

A Commentary on the UF Library Website

In this electronic age, a library's website can play an important role in user perception and evaluation. We offer the following observations in an informal comparison between UF's Library homepage and those of some of our peer libraries (University of Michigan–Ann Arbor; University of Wisconsin-Madison; Ohio State University; University of Minnesota; University of Illinois-Urbana-Champaign; Pennsylvania State University; University of Georgia):

- UF's Library webpage is too utilitarian (opens up on the catalog with links to mission, history, collections, etc.);
- It sets a negative tone—the first item on the home page is the announcement of journal cancellation;
- Elsewhere, the tone is often apologetic, as in the description of our collections: “our library is not comprehensive;”
- We do not sufficiently emphasize our strengths, for example our collections, such as the Latin American Studies collection, or the Baldwin Collection of Children's Literature;
- We do not include visuals on our webpage, and the colors could be more attractive.

Recommendations:

- *that we state the number of volumes in our library (as do all our peers);*
- *that the mission statement be re-written to convey more forcefully the importance of the library to the university and its academic mission. See, for example, the mission statement of the Wisconsin libraries, as well as the mission statement and vision of excellence found on the Ohio State pages;*
- *that a “Welcome from the Dean” be added, accompanied by a picture, as in the Penn State library pages;*
- *that we more emphatically feature our strengths. For example, in a rubric that could be entitled “Overview of the UF Libraries,” more detailed prose about our holdings. The University of Illinois is a good model here;*
- *that we make effective use of webpage visuals, as in the University of Georgia library webpages. For example, we could include pictures of the new Library*

West, the Special Collections Room in Library East, etc., along with pictures that convey the natural and architectural beauty of our campus.

Librarians as Faculty

Tenure and promotion criteria:

At the University of Florida, librarians are faculty, subject to the same tenure and promotion process as academic faculty. Librarian ranks – Assistant University Librarian, Associate University Librarian, and University Librarian – , are equivalent to Assistant Professor, Associate Professor, and Professor. Like academic faculty, librarians have three criteria for tenure and promotion: 1. Job performance; 2. Research; 3. Service; but the details and weight differ. Distinction must be achieved in criterion 1; 2 and 3 are considered to have equal weight, with distinction required in one area and “good” performance required in the other.

Recommendation to increase research productivity:

- *that the UF Libraries strengthen the “research” criterion, such that in order to be considered “good,” research results must be disseminated externally through publication or presentation.*

Hiring policies and procedures:

An expert workforce is required for the University of Florida Libraries to successfully move forward into the future.

Recommendations:

- *that the UF Libraries strive to hire established experts into their departments in non-administrative roles. Currently, the majority of non-administrative hiring is done at the Assistant University Librarian level, regardless of library/discipline need;*
- *that UF Libraries strive to retain its established experts. UF often loses its best people; the libraries appear to lack either the will or resources (or both) to make matching or better offers to these individuals, as might be done in an academic department.*

Administrative positions:

Although librarians have faculty rank at the University of Florida, the libraries run on a much more “administrative” and “hierarchical” model than academic departments. This arrangement is typical at most academic libraries; however, such arrangements can lead to stagnant administrations, a lack of vision, and an underutilization of individuals who are not “management”.

Recommendation:

- *that UF Libraries consider a new leadership model, in which department chairs are not “permanent”, but instead, rotate as they do in many academic departments. The current system fosters an environment of “us versus them”. If department chairs considered themselves more faculty than administration, and knew that they would return to the faculty after their stint as chair, it could bring vibrancy and cohesiveness to the departments and library as a whole.*

Status of library faculty:

The majority of library employees are not faculty (librarians), but instead are staff, including library technical assistants and student assistants. In most libraries, the person checking a book out to the user, or the person shelving the materials, is not a librarian, but is a hardworking and knowledgeable paraprofessional, trained to perform particular duties in the library but lacking the graduate level degree in library science. Although the libraries could not function without these paraprofessionals, it is important that library faculty be recognized as faculty first and foremost, equal to and partners with academic faculty. However, libraries often downplay the faculty status of their librarians (e.g., Smathers’ library faculty are required to wear badges that identify them as “staff” - a clearly non-faculty connotation that can be detrimental to building collaborative relationships with academic faculty.)

Recommendation:

- *that librarians (at least public services librarians) explore ways to effectively reach out to academic faculty as collaborators and partners, rather than solely as service providers; that they integrate more fully into the academic programs at UF and the university community at large.*

III. Balancing the Collections

The University of Florida is a comprehensive university offering 357 graduate degree programs¹ distributed among the sciences, agriculture, the professions, the humanities, and the visual and performing arts. We have operated on the premise that the University will continue to develop its broad-based research programs in both the sciences and the humanities to enable it to join the ranks of the elite public universities. To achieve this, the library system must support a range of research requirements providing strong holdings in each area of specialization, and it must do so in a way that satisfies the changing needs of diverse users. Thus, a careful balance must be struck in the development of collections and the way users access the library's resources.

Digital Resources

As a major research institution Florida has an obligation to make its resources available as widely and as efficiently as possible. The internet provides an excellent and cost-effective way to fulfill this obligation. The digitization of collections and online access to resources is imperative. While the University of Florida libraries have been productive in digitizing unique collections on campus efficiently, they lag behind the libraries of our peers in the acquisition of electronic resources. We thus endorse the previous recommendations in this report (p. 18) that urge the library to apply for funding to expand its current digitization efforts; to center digitization efforts on UF- specific and unique collections; and to be proactive in gathering and digitizing sources relating to UF's history.

As we move forward in digitization, we must do so thoughtfully. While it is crucial that we catch up with peer institutions in some aspects of the digitization process, we must also attend to the need for preservation of the physical resources entrusted to the university. Indeed, the physicality of information sources is important in many disciplines, especially in the arts, social sciences, and humanities. While we thus speak for the need to forge ahead in purchasing and producing electronic media, at the same time we stress the importance of print resources.

Content balance

Although some suggest the paring back of programs in the arts and humanities (see Reflective Note, p. 25), it is clear that the outstanding programs in the humanities and arts are crucial to the attainment of top ten status. In 2005 the University Senate established an Arts and Humanities Working Group as an ad hoc committee "to report on the state of the arts and humanities at the University of Florida and to make

¹ Florida offers 233 M.A. or M.S. degrees and 124 PhD degrees. See Institutional comparison section.

recommendations for the arts and humanities for incorporation into the University's strategic plan to move into the ranks of the nation's elite public universities."² The working group was organized both in response to the AAU report *Reinvigorating the Humanities: Enhancing Research and Education on Campus and Beyond*, which describes national concerns about the declining role of the arts and humanities at AAU institutions,³ and in response to perceptions among many UF faculty in the arts, humanities, and other disciplines. The Senate ad hoc committee report states that, "while the arts and humanities are crucial to the mission and vitality of the University as a whole, this segment of the University's intellectual infrastructure has received inadequate investment even relative to local standards, and that this must be redressed for the University to attain its stated goals."⁴ In another study, William G. Bowen, Martin A. Kurzweil, and Eugene M. Tobin state that "The leaders of America's major research universities, such as the members of the Association of American Universities, recognize clearly the importance of the humanities and continue to encourage efforts to improve teaching and scholarship in these critically important fields."⁵ They further state that "Academic libraries and their attendant resources in the United States have expanded greatly since the middle of the 20th century. Although these libraries devote significant resources to the sciences and engineering, their role in supporting the arts and humanities is paramount."⁶

Keeping in mind that the liberal arts are central to postsecondary education and that the best students gain from teachers who are also researchers, whether that research is in the sciences or the humanities or production in the arts, it is essential that balance be maintained in the developing of the library. The recognized collections at UF are strongest in the humanities, including, for example, the P. K. Yonge Library of Florida History, the Judaica Collection, the Latin America Collection, the Baldwin Collection, the Proctor Oral History Collection, the Belknap Collection, and the Africana Collection. Continued support of such collections and special libraries into the 21st century is critical to the role of the university as a comprehensive university.

Challenges

Funds for purchasing and staff and space for maintenance and processing are all necessary to meet the demands being placed on the library for ongoing acquisition and preservation of both printed and electronic media. In order to assess the way in which these concerns will make an impact on the University of Florida Library system, we have interviewed both library users and library professionals, reviewed appropriate literature, and drawn upon our own experiences in order to make the following

² Arts and Humanities Working Group, Preliminary Report, 4/18/2006.

³ AAU Task Force on the Role and Status of the Humanities, *Reinvigorating the Humanities: Enhancing Research and Education on Campus and Beyond* (New York: AAU, 2004). Available on-line at <http://www.aau.edu/issues/HumRpt.pdf>.

⁴ Arts and Humanities Working Group, Preliminary Report, p.1.

⁵ William G. Bowen, Martin A. Kurzweil, and Eugene M. Tobin, *Equity and Excellence in American Higher Education*, University of Virginia Press, Charlottesville and London, 2005, p. 63. [Bowen is the president of the Mellon Foundation and former president of Princeton.]

⁶ *Ibid.* p. 62.

recommendations.

Recommendations:

1) *The Library must increase expenditure on electronic journals and data bases. Today's students and scholars expect and should receive the most current information via electronic media. In a 2004 Graduate Student Task Force Information Gathering Meeting⁷ students who responded indicated that they characteristically connect to the library from their homes and rely heavily on electronic access to journals and other serials.*

2) *The library must continue the digitization of UF-specific collections. The University of Florida Digital Library is already well on its way in this complex process. Currently, it is said to be the most cost-effective producer of digitized material in the United States.⁸ As of the date of this report, the University of Florida Digital Collections (UFDC) holds 65,000 bibliographic units, the size of a small branch library, of which 20,604 items are available to the public.⁹ The library should continue sympathetic exploration of collaborative digitalization arrangements with Google, the Open Content Alliance, and/or other commercial entities. In negotiations with these commercial entities the UF library should retain a copy of the digitized material and the library should have free access to it.*

Despite the UFDC efforts to produce digital material, several problems impinge on their continuing effectiveness, most notably, shortages of full-time staff and necessary dependence on grant funds to carry out digitization projects.

3. *The Library staff should be encouraged to continue and expand efforts to enter into shared purchasing arrangements with respect to shared-access materials with other libraries and institutions.*

4. *Acquisitions of "big ticket" collections should be integrated into a carefully designed profile as defined by use patterns, mission, and relationship to existing holdings.*

5. *Close liaison between professional library acquisitions staff and faculty needs encouragement and perhaps to be put on a firmer and more explicit institutional footing than currently is the case.¹⁰ In particular, it is important that faculty have ongoing knowledge of library holdings, services, and capabilities with respect to both the research and teaching functions of the faculty.*

⁷ Graduate Student Task Force, Information Gathering Meeting, Summary, May 26, 2004, p. 2.

⁸ Erich Kesse, personal communication, October 17, 2006)

⁹ Ibid.

¹⁰ See page 17, Liaison Librarian Program.

6. *The library must maintain the unique collections that are already in place at the University of Florida. Special collections such as P. K. Yonge Library of Florida History, the Judaica Collection, the Latin America Collection, the Baldwin Collection, the Proctor Oral History Collection, the Belknap Collection, the Latin American Collection, and the Africana Collection play a unique role at a university that has the announced ambitions for elite status repeatedly proclaimed by the University of Florida. They are at the heart of scholarship in history, the social sciences, literature, religious studies, area studies, and the humanities generally. They have a distinctive claim on the University's resources. In addition, they have unique issues involving future collection, digitization, on-line access, and related matters. Digitization and on-line access should be encouraged (is proceeding with segments of the Baldwin and PKY collections; is virtually complete with the Proctor Oral History Collection) but these collections, along with University Archives, will have ongoing needs for labor-intensive curation and processing.*

7. *The library must be careful about going to an all-electronic policy with respect to journals. Journals with significant graphic content, for example, need to be acquired in hard copy. A policy of negotiating with vendors for hard-copy, storageable back-up should be pursued. This is especially so because of the problem of losing back runs if vendors go out of business or if other problems arise with vendors that may lead us to cancel contracts or switch vendors. It is critical that acquisition policies be sensitive to the particular needs of the various academic units. Thus, for example, the importance of acquiring hard copy issues of journals in the visual arts must be appreciated.*

We are cognizant of the problem that continuing need for hard copy of books and journals poses. The physical volume of our library materials is increasing perhaps 3% a year. In 25 years will we have twice the current space for storage and access?

8. *The library must continue to purchase books. With the current technology, electronic-only copies of standard monographs and other scholarly books will not do the job. In the Graduate Student Task Force Information-Gathering Meeting¹¹ students emphasized the current limitations of reliance on on-line copies of books, a view that book-reliant faculty overwhelmingly endorse. Electronic copies of books and monographs are useful as back up but not a substitute.*

Reflective note on the character and direction of the university and top ten status

We assume that the University will continue to regard the Humanities as integral to its efforts to join the ranks of the elite public universities. However, the Future of the Library (FOL) Committee should take note of an alternative view that appears to exist among some influential donors and political leaders.

It would be unwise to ignore the apparently widespread feeling among thoughtful people who are strong supporters of higher education, as indicated by their gifts or by their

¹¹ Graduate Student Task Force, Information Gathering Meeting, Summary, May 26, 2004, p. 2.

votes in the legislature, that in view of the fact that UF has a more limited budget than most flagships, severe prioritization is called for. This view usually translates into the idea that business and the Humanities should devote themselves more to teaching than to research, since research in those areas generates little outside funding. The research effort, from the hiring of stars to the funding of research facilities and library acquisitions, must be concentrated on the hard sciences.

A continuation of that line of argument would be that with a limited budget we need to bias our scarce library funds toward the digital resources needed by the sciences, not to the physical resources needed by researchers in the humanities. A related point is that since the physical volume of our library materials is currently increasing perhaps 3% a year and since the bulk of that physical growth is in holdings associated with the Humanities and related fields, reductions in Humanities-related library materials will serve the dual purpose of recognizing the new, reduced role of the Humanities and easing what promises to be ongoing space pressure.

The perception that this in fact is the University's trajectory is widespread among students and faculty in the Humanities. The recent response to budgetary overruns and the controversial Five Year plan in the College of Liberal Arts and Sciences (CLAS) are seen as pointing in the direction of diminishment of the Humanities. Recent communications from the science chairs quite understandably call for enhanced funding, calling attention to the sciences' role in grant (and hence overhead) acquisition. Given CLAS's budgetary problems and the stress on outside funding, many faculty see the distinct likelihood of the University reverting to a form of the old University College model in which Humanities units are regarded as service units. Centers as the Center for Latin American Studies and the Center for African Studies are recognized as premier world programs for area studies, and it is the humanities that essentially drive these centers.

In a sense, this issue raises a fundamental question for the Future of the Library Committee. The character and direction of the library of the future depends on the future character and direction of the University as a whole. Talk of building a "Top Ten" University, joining institutions such as Michigan, UC-Berkeley, UNC, UVA, and the like is misleading if indeed the University administration and trustees plan to move in the direction outlined above.

In this case, the University's outstanding and unique collections become something of an embarrassment rather than an asset. In order to continue to be nationally and internationally regarded as a research center in the Humanities, special collections such as the P.K. Yonge Library, the Latin American Collection, and others will require substantial infusion of funds for ongoing and backlog processing and digitalization. Yet it makes little sense to devote these resources to these collections if in fact the University is otherwise pulling back from its earlier commitment to build outstanding Humanities and Social Science programs, since it is the faculty and graduate students in these areas who use these collections. Digitization would of course make these collections available to scholars elsewhere, but it is unlikely that a BOT and University

administration engaged in limiting the role of the Humanities would be willing to support the special needs of these collections in the spirit of general scholarly benevolence.

IV. Role of the Library in UF's Capital Campaign

Like most major academic units, libraries at public universities are funded primarily by state allocations and secondarily by gifts and contributions. Adequate state funding is by far the more important of these two sources, and private fund raising can never be thought to compensate for shortcomings in public support. However, the acquisition of private funding often serves as a margin of excellence for outstanding libraries. State funding provides the basic day-to-day operating resources; successful private support permits those special initiatives otherwise not possible. Adequate becomes excellent. For the UF libraries to reach their full potential, it is imperative that both funding channels be enhanced. At present, the private initiative offers special promise.

A propitious confluence of opportunities exists for the UF library system. First, a Capital Campaign is already under way in its "silent phase" targeting an ultimate \$1.2 billion goal. Second, a search has begun for new leadership, a Dean of the Libraries, whose duties will include a major effort in fund raising. These are complementary opportunities to be seized and exploited for the future of the library. The library must have a position of first rank at the Capital Campaign table. Its role must be clearly stated and well publicized. Droppings from higher priority targets will not suffice. The library must be a priority, with well documented goals and aspirations.

Who speaks for the library? It must start with the president, because without his support, goals are not met. Of course, libraries are always "supported" by the administration. Who can not be on the side of the angels? But successful campaigns show that this support must be more than lip service; insightful presidents put themselves on the line when speaking with alumni, friends, and corporate donors. And when they do, people respond. It will be up to the president to make the library an important priority and to speak out in support throughout the campaign.

It is axiomatic in the development profession that libraries are a hard sell. Numbers sometimes are used to back this up, but it can also be a self-fulfilling prophecy. While libraries do not win SEC championships or cure important diseases, the general public can appreciate the importance of books in the academy. Successful library campaigns are often followed by comments like "They said it couldn't be done, but we did it." We should focus less on the difficulties and more on those campaigns that have been successful, using these as models. How were these campaigns successful? They started with strong support at the top and involved innovative strategies to focus attention on this critical component of the university.

Library Needs

How can a Capital Campaign make a difference, even produce a major impact on library quality? Today's library needs include those of longstanding duration, as well as new high technology concerns unimagined only a few years ago. Some donors still see libraries as they were and can help meet still existing needs. Other donors understand, or can be brought to understand, the truly remarkable transformations taking place in libraries today. Libraries have a gift need for every taste. How can donors help?

- bricks and mortar – libraries never have enough space, and new facilities designed for today's needs are always in demand;
- renovations – converting outdated buildings to handle the technology- driven library;
- endowments – libraries have critical needs for endowment funds (gifts that keep on giving by an annual return of interest), which can meet targeted needs such as special collections; particularly valuable are endowments that offer flexibility for greatest need;
- digital technology – costs of computers, scanning hardware, and trained personnel are rising rapidly;
- special needs – libraries always have new needs and opportunities to discuss with potential donors (see below, Thinking Beyond the Ordinary),

Library Strategies

The new dean will not need this committee to describe the elements of a successful fundraising campaign. She/he will have had experience elsewhere to serve as a base for developing a unique strategy at UF. But for whatever small value these may be, we include a few desiderata that have arisen during committee discussion.

- an activist Dean of Libraries with substantial fundraising experience - this is not the place or time to learn on the job;
- a dedicated and well chosen Library Capital Campaign Committee – to include at least a few people with Florida name recognition and

substantial personal resources;

- one 7-figure lead gift, with several 6-figure complements;
- presidential mandate to the Foundation re library importance;

- highly visible library campaign throughout the state and beyond – library should be in the news, for all the right reasons, not just to announce cuts in books and journals;
- fundraising dinners at Library West – small and carefully selected groups, hosted by the president or the provost to showcase what is and pitch for what is yet to be;

- exhibitions tied in with lectures open to the campus and the community – spotlighting our collections. Sunday afternoon collections talks to draw potential donors with specialized interests.

Campaign Goal

It is not the charge or the prerogative of this committee to suggest a library goal in the UF Capital Campaign. Still, it is difficult not to speculate. In Fall, 2007 the University of Florida will begin its “public” phase of the Capital Campaign, with an anticipated goal of \$1.2 billion. While this seems substantial, billion dollar campaigns among universities have become rather common. Reviewing information about campaigns that are either beginning or have recently been completed, the following cases may be useful to consider. As one bright example, the University of Virginia, much smaller than UF, is in the midst of a \$3 billion campaign with a library target of \$100 million. Other campaigns showing the campaign goal and library target include:

- | | |
|--------------------------------|-------------------------------|
| • University of Michigan | \$2.5 billion/\$52 million |
| • Penn State University | \$1.3 billion/\$36 million |
| • University of North Carolina | \$2 billion/\$35 million |
| • University of Maryland | \$1 billion/\$20 million |
| • University of Kentucky | \$1 billion/\$64 million |
| • University of Pittsburgh | \$0.93 billion/\$33 million |
| • Brown University | \$1.4 billion/\$30-35 million |
| • Duke University | \$2 billion/\$60 million |
| • University of Miami | \$1.25 billion/\$55 million |

So what might be a worthy target for the library system at UF within the \$1.2 billion goal? What is the value of a library? For a prospective Top-10 public university, what percentage of a funding campaign would seem appropriate? Some would contend that a library might constitute 10% of university value, which would project a campaign goal of \$120M. Too much? Perhaps, but *we believe that a \$25M target (2%) is highly appropriate, indeed almost modest, compared to our peer examples.* Given our highly public aspirations, we should not lower our sights here. A bold campaign for the library, enhanced further under the state matching program, will greatly aid in meeting suggested goals in this report.

The type of gifts received can affect the net success of fundraising. Donors will, of course, give what and how they wish. Most valued (and most rare) are those gifts that allow use by a Dean of Libraries for whatever is the greatest need. More problematic can be “gifts in kind”, such as collections of books, films, papers, etc. These may greatly strengthen library holdings, but they normally do not include money for processing the materials. Indeed, it may involve added cost to already scarce resources. However, the assessed value of such gifts, which may be substantial, counts against the campaign goal and can make a unit appear to be better funded than is the case. Raising the library endowment, now at an inadequate \$9.2M, is quite important, for which hard funding (e.g., cash, real estate, stock, etc.) is required.

Fundraising for the Health Center Libraries has not been included in the Smathers operation. Please see the Integration section of this report.

Thinking Beyond the Ordinary

The main library of a major research university should contain both external and internal spaces that focus the attention of the public on the central importance of the library. Thus, it is in keeping with the significance of the library, on both literal and symbolic levels, for it to have a dramatic and inspiring presence, one that announces the prominence of this enterprise to the beholders, whether they are a current part of our university community, alumni of the university, or visitors to the core campus. If we are to be perceived by both the outside and inside worlds as a place where important intellectual work is being done, it is necessary to have a presence that is, in its own way, as impressive as those that house our athletic facilities. In short, the main library should become both a focal and a destination point on the university campus, the signature place that embodies its academic values.

Currently, the appearance of the library complex is uninspiring, to say the least. The main entrance of the newly-renovated Library West, for some inexplicable reason, is almost completely obscured from view; and the facade of the newly-renovated Library West is crossed by a rectangular grid of aluminum I-beams that seems visually devoid of any architectural or aesthetic purpose. It appears as though an attractive, finishing

facade of some kind may have been meant to be hung from this armature, but the work has been abandoned. A crumbling, mildew-stained colonnade stretches in front of Library West, obscuring the entrance to the building. Trash containers, often overflowing with debris and foraging squirrels, are haphazardly placed within the colonnade which, in its turn, is lined with garishly lighted soft-drink machines, battered newspaper boxes, and bulletin boards with countless strata of stapled, fluttering announcements. Move back into the Plaza of the Americas, the setting for the library, and one finds oneself on broken, mis-matched sidewalks, dirt paths, or untended grass that has been extinguished by countless frisbee games and the mid-day traffic from the daily crowds that come to the Plaza for a free lunch provided by one of the town's religious groups. A brick seating area off the colonnade, next to Library East, has gone fallow as well. It is unshaded, unkempt, and unused – save for the occasional staff member who braves the sun and one of the splintered benches to find a place of refuge in the Plaza.

With this in mind, we propose that the main branch of the library feature a dramatic, architecturally significant facade and entrance that celebrates the academic mission and intellectual aspirations of the University of Florida. This project should involve an entire redesign of the Plaza of the Americas, to include an equally stunning landscape design that would be respectful of the historical dynamics of the Plaza, while at the same time creating a unified space that would be singularly attractive, inviting and useable and that would provide a meeting place for the entire university community.

Such an amplification of the library's footprint on the terrain of the university should be one of the projects included in the Capital Campaign. It would become a very attractive development possibility if a major, public architect like, say, Frank Gehry – who is most notable for his design of the Guggenheim Museum in Bilbao, Spain – were to be approached for such a commission. (It should be noted that Gehry is currently designing the new performing arts complex for the University of Connecticut.) The University of Florida should think in larger national, and even international term, than the university has previously done regarding the significance of its academic profile. This proposed new design for the library facade, entry, and the Plaza would provide a highly visible naming opportunity for potential donors, who could participate in the funding of various portions of the entire project.

A related project that is desperately needed on the University campus is a research center that would be an extension of the University's Special Collections and that would provide the University community and visiting scholars with a concentration of spaces dedicated to the academic enterprise. Such a state-of-the-art center would include a central reading room, meeting spaces of various sizes for holding conferences, seminars, and colloquia; exhibition spaces for the on-going display of significant materials in the University's library collections; office space for university centers and institutes; and a dining area that would serve as a faculty center. Once again, the University of Connecticut provides an example, in their Dodd Research Center, for this kind of facility. A project like this should also be included in the Capital Campaign, and

it, too, would represent a superb naming opportunity, especially if a renowned architect were to be commissioned to create its design.

Marketing the Library

The new Capital Campaign and the imminent hiring of a new Dean of Libraries provide an unprecedented opportunity for the library to achieve its financial goals. To best take advantage of these circumstances, however, the Library needs to market itself better. It should be a given that the Library is central to the University's mission of teaching research and service, but this has not received the attention it deserves. Faculty and students need to be made aware of the centrality of a good research library to the academic enterprise. The library serves a number of constituencies who have a variety of needs, but these should not be viewed as mutually exclusive. While undergraduates may prize collaborative space within the library, graduate students and faculty may want more access to individual volumes and collections and more private study space. All of these groups need to be made aware of the fact that the current funding structure is not adequately meeting the needs of the library and that many of the things they prize could be lost or restricted if they do not emphasize their need for and support of the library. Because the library belongs to the University as a whole, the President must take the lead in emphasizing its importance in his Capital Campaign directives. Strong leadership from the top will ensure that the Foundation is aware that the library is a priority for a University seeking to enter the tier of top-10 Universities. Alumni and the general public also must be made aware of the resources and needs of the library, and greater emphasis placed on the Library's role as the intellectual heart of the University.

V. Integration of the UF Libraries

The impending retirements of the Directors of the Health Science Center Libraries (HSCL) and the Smathers Libraries (Smathers) at the University of Florida create an opportunity to take a fresh look at the relationship between the two library systems in conjunction with the process of recruiting and hiring their successors. An obvious component of rethinking the relationship between the two systems is to consider whether they should be more formally integrated. We explored this question from a number of different perspectives, including: the history and culture of both institutions; the specialized needs of professional school libraries; the opinions and experiences of professionals in the area; financial considerations; and personnel management issues.

To do this, we read a number of articles on professional school and medical libraries; collected documents concerning HSCL (such as consultants' reports, LibQual data, mission and vision statement, and proposals for funding); collected data for comparison

from a number of authoritative resources (including AAHSLD, AAMC); reviewed the 2004-05 comparative data received directly from peer institution libraries; and, finally, interviewed a number of expert consultants, library and Health Science Center leadership and those librarians who would be affected by a merger.

Three potential approaches became apparent:

1. The library systems retain their current level of autonomy and integration, but if this model is retained, it is recommended that the Director of the HSC Libraries report directly to the Senior Vice President for Health Affairs (SVPHA) and serve on the SVPHA's Dean's Council.
2. The libraries integrate their budgets and reporting structures, but HSCL retains autonomy to serve the needs of its clients. It is recommended that this model would include a "dotted line" reporting relationship between the HSCL Director and the SVPHA, and that the HSCL director serve on the SVPHA's Dean's Council similar to the situation at the University of Minnesota.
3. HSCL is fully integrated into the Smathers system and becomes, in essence, a branch library.

We considered the arguments for and against each of these models, in light of what we had learned. We also assessed the probability that the benefits of each model would be achieved against the particular risks that each approach occasions.

For reasons set forth below, *we recommend that UF retain the first model*, but strongly urge the University Administration not to accept the status quo, but to address the existing problems that will diminish the likelihood that any of the approaches will succeed. In order for HSCL to achieve its potential and continue to provide necessary services at acceptable levels, adequate recurring funding, well-supported, visionary leadership, and a coherent reporting structure will be required. We believe that if progress is made on these fronts, the second model may also be viable. Even with adequate funding and new leadership, however, we do not believe that the third approach is desirable or workable because of the specialized mission of HSCL, its size, and the vulnerability of its autonomy in a fully integrated model with as yet unknown leadership.

Background

The HSC libraries are as large and varied as their mission. They comprise the main HSCL on the Gainesville campus, as well as the Borland Library¹² at UF's urban

¹² The Borland Library in Jacksonville serves primarily the clinical missions at the urban campus, including residency programs and the hospital.

medical campus in Jacksonville. The Gainesville library meets the information needs of research and clinical faculty, students (including professional, PhD, MS and undergraduates), post-doctoral associates, staff and administrators from the six HSC colleges (Dentistry, Medicine, Nursing, Pharmacy, Public Health and Health Professions, and Veterinary Medicine); residents from three colleges (Dentistry, Medicine, and Veterinary Medicine); and three teaching hospitals (Shands at the University of Florida, Shands at AGH and Shands at Jacksonville) with 5 additional affiliated hospitals¹³. A total of 7,225 students¹⁴ and 2,377 faculty¹⁵ work at the HSC. HSC brings in 52% of the research funds at the University of Florida and 54% of the indirect costs from grants.

About 50% of medical libraries at universities throughout the country are fully integrated with the university's main library system; the others are, to varying degrees, autonomous (e.g., report to the senior leadership of the academic health center or the College of Medicine).¹⁶ In the ways we describe below, HSCL is mostly autonomous and currently operates separately from Smathers, but is also functionally integrated in several significant respects.

The two library systems have completely separate budgets. The reporting structures of the libraries are different—the Director of the Smathers Libraries (Dale Canelas) reports to the Provost, while the Director of HSCL (Faith Meakin) reports to the Assistant Vice President, Administrative Support, who is within the office of the SVPHA, but two-steps below the SVPHA on the organizational chart. Sabbaticals are awarded to the librarians under two separate procedures. The Smathers system uses a sabbatical committee composed of senior level librarians, whereas HSCL's sabbaticals are awarded through the SVPHA's office. Each system administers its services separately and each has different policies and procedures that are appropriately based on the unique needs of their respective clients. Examples of these services include interlibrary loans, the HSCL's Liaison Librarian Program, loan periods, hours of operation, etc. Smathers employees are part of UF's bargaining unit, whereas HSCL employees are not.

Notwithstanding the foregoing, the two systems are functionally integrated in some significant respects, and their librarians collaborate with one another to a large extent. The libraries share costs on a number of electronic resources, and access is available to clients of both systems. The materials owned by HSCL are included in UF's online library catalog and UF library users may check out materials from either systems. Duplicate journal subscriptions have been cancelled to conserve funds. Strong collaboration exists among librarians from the two systems. HSCL librarians are part of

¹³ Shands at Vista, Shands Rehab, Shands at Lake Shore, Shands at Live Oak and Shands at Starke

¹⁴ 1,585 undergraduates, 1,567 MS/PhD, 3,007 professional and 1,066 residents

¹⁵ 1,956 traditional faculty, 235 postdoctoral fellows and 186 adjunct faculty

¹⁶ Because of the difficulties in finding true comparators for the HSC at UF and the subtleties of integration and variations in reporting structures, this statistic may not be particularly meaningful or helpful to our inquiry.

the Smathers mentoring program. The faculty from both library systems go through the tenure and promotion process together, through the “virtual” “College of Libraries.” Under the current system, however, HSCL is guaranteed a separate seat on this College’s Tenure and Promotion Committee each year. In the 2005-2006 academic year, for the first time, an HSCL librarian was voted into one of the four faculty senate seats for the “College of Libraries.” A nascent Library Faculty Assembly is being created, which will include library faculty from Smathers, the Legal Information Center and HSCL. A separate HSCL faculty assembly is being created, however, to deal with issues of interest only to HSCL.

Issues and Analysis

An understanding of the following issues is a necessary prerequisite to the integration decision and critical to an accurate assessment of the impact of merging the two systems.

1. **Indirect Costs and Funding.** The issue of indirect costs is a complicated one. Currently the libraries receive a total of 1.53% of the university’s indirect cost returns, with 16% of that total going to HSCL and 84% going to Smathers libraries. The current distribution scheme raises some fairness concerns. The majority of the indirect cost returns received on campus (54%) come from the Health Science Center. The current distribution of DSR funding is based, not on student FTEs, but rather on the number of PhD research programs. The HSC obviously has a vibrant research program, but its “reason for being” is to teach students – 7,225 of them of which 1,567 are MS/PhD degree program students. By its very nature, the HSC generates a great deal of revenue through its research programs, but because the majority of its educational programs are professional, rather than research oriented, its library does not reap funding rewards at an equitable level. An unfortunate irony is that even though the majority of students at HSCL are professional students (who are left out of this indirect fund equation), HSCL is nonetheless responsible for meeting the research needs of the thousands of research faculty, post-docs, and graduate students that it serves.¹⁷

A further irony is that the journal collections of Smathers and HSCL are so tied together that a reallocation of indirect costs from Smathers to HSCL would end up hurting HSCL in the end. If Smathers cancels journals due to lack of funding, HSCL’s users lose them as well. If HSCL then chooses to pick up certain individual journal titles that have been canceled, not only will HSCL have new expenses for these titles, but these titles will actually cost more than if Smathers had been able to keep the package; once titles are purchased on a title by title basis rather than in bulk, they cost substantially more. A

¹⁷ HSCL splits the molecular biology, biochemistry, genetics, and other basic science material purchases with Smathers, but receives little DSR money to fund these materials.

greater percentage of indirect funds for HSCL may be justified, but it is unclear whether this would happen under any approach. If the Committee believes the current distribution may not be fair, one determination to be made is which integration model is most likely to produce greater equity.

Because the two systems' collections are so integrated and duplication has been reduced wherever publishers allow, it does not appear that any type of monetary savings would be realized through integration. Dale Canelas, Faith Meakin, Beth Layton (Deputy Director, HSCL), and Linda Watson (Director, HSCL, University of Minnesota) believe that a merger would not reduce the need for a Director of HSCL at the same level of experience and salary as the current HSCL Director, and given the state of the library, it is reasonable to believe that any candidate worth hiring would require a larger salary (not to mention increased budget and staffing). Furthermore, Dale Canelas made it clear that, in her opinion, the size and diversity of the main UF campus and the HSC would make it nearly impossible for the Dean of Libraries to be much concerned with the issues or management of HSCL. Moreover, duplication in the administration of certain services (Interlibrary Loan and Technical Services) are tied directly to clinical needs, where speed and accuracy can actually mean the difference between a good or poor clinical outcome.

2. **Shands Health Care.** Shands has resources available for distribution to HSCL and the perception (among those at both library systems) is that Shands should play more of a role in resolving some HSCL's funding problems. The hospital and its personnel rely upon HSCL. Shands uses HSCL for JCAHO and resident accreditation purposes. HSCL reports that those associated with Shands use HSCL's library collections and services extensively, but, when the question of support arises, Shands discounts the extent to which its employees use the library. Smathers is unlikely to provide increased monetary support for HSCL under a merged system, in part, because of the perception that the medical community on campus, could, but is not, "taking care of its own." Similarly, in a merged system it may be less likely that Shands Health Care could be convinced to fund the HSCL appropriately. HSCL could provide expanded services to Shands and be an integral partner in terms of ensuring evidence-based medicine, quality assurance, etc, if additional library funding were provided. Resolving this problem, however, will likely require some type of intervention from the highest levels of leadership at UF, irrespective of whether the libraries are integrated.

3. **Capital Campaign.** A new or remodeled HSCL provides a high-profile naming opportunity, and should not be overlooked in the university's campaign effort. Additional HSCL opportunities for the campaign include endowed librarianships, purchasing and licensing of expensive bioinformatics and genomics resources, and numerous equipment needs. Fund-raising efforts for the libraries are not integrated. HSCL will not be included in Smathers' capital campaign. The current plans of the

SVPHA do not include assisting HSCL with fund-raising. Although the SVPHA, has indicated that HSCL may hire its own development officer if it wishes, HSCL's budget does not make such a hire possible at this time. In a merged system, HSCL might provide potential donors and benefit from the public relations and fund-raising efforts of a combined system.¹⁸

4. **Services.** Academic health sciences libraries serve the same clients as those of other campus libraries (students, faculty, researchers, administrators) with the addition of the clinical enterprise. Services such as Interlibrary Loan and loan periods of materials must reflect the time-sensitive nature of patient care. Cataloging is carried out under the National Library of Medicine's system, which is built for health-related collections, unlike that used by most non-medical academic libraries (Library of Congress system). Public services, such as reference and instruction, must be tied closely to the needs of the clients, and require an integration into the academic departments and programs that extend far beyond those of traditional subject bibliographers in most non-medical academic libraries. Libraries that support professional programs, such as health or law, take a "boutique" approach to services – integrated, personal, customized, responsive. HSCL currently has a Liaison Librarian Program that is a model for academic health center libraries throughout the country. HSCL was one of the first medical libraries in the country to provide library-based bioinformatics services and this program is also a model. While these approaches are specific to the HSCL and meet the needs of its clients, there is also substantial cooperation among the librarians who work in the two systems, particularly between those at Marston Science Library and HSCL. Cooperation in collection development, instruction, and reference services has fostered innovative services, allowed librarians from both systems to learn from each other, and provided opportunities for shared assistance to multi-disciplinary researchers.

5. **Tenure and Promotion.** Librarians at HSCL (as at Smathers) undergo the mid-career review, tenure and promotion processes as part of the "College of Libraries". Although the three basic criteria for tenure and promotion - Job Performance, Research, and Service – are the same for librarians whether they are part of Smathers or HSCL, the way these criteria manifest are very different. As described above, librarians that serve academic health centers must integrate very closely with their clients' research and educational programs, especially in terms of their public services librarians. To be successful, they ideally spend less time on library-related committees, and more time on focused, specialized, personal services with their clients. Those who work at academic medical centers have a service responsibility to local and regional professional societies, as well as those at the national level, and librarians are credentialed through the Academy of Health Information Professionals (AHIP; currently required by the

¹⁸ If the libraries are not integrated, it is recommended that the SVPHA's office fund a part-time development officer for the HSCL.

HSCL). The focus of the HSC Librarians is significantly different from those of their Smathers counterparts and it is, therefore, desirable to ensure that HSCL is guaranteed a seat on the Tenure and Promotion committee each year.

Obviously, the integration decision may be made from a number of problem-solving approaches: management theory/ideology; historical/organic/cultural; a quasi-cost/benefit analysis with the option of quantifying the costs and benefits; and finally, a pragmatic approach which borrows and blends from all of the other approaches. It may also be made through inaction, by not making any decision or attempting to analyze the problem in a coherent way. We chose to be pragmatic, and thus the question became: given what we have learned, what are the potential benefits and detriments of greater integration?

Some of the potential benefits of integration are:

- Integration may provide greater opportunity for innovation and revitalization;
- May allow an “Information Czar” structuring of UF’s libraries;
- Interaction and collaboration may be enhanced among librarians across disciplines; interdisciplinary research may be facilitated.
- Public relations and fund-raising efforts could be combined, including capital campaigns;
- The ability to use the possibility of integrating and restructuring the two systems in the process of recruiting the new Dean;
- HSCL might have a better advocate in the new Dean of Libraries (i.e., HSCL would be more of a presence on the collective radar);
- The tenure and promotion process might be more streamlined and have more oversight;
- The starting salaries and other salary inequities for HSCL librarians may attain parity with those of Smathers.¹⁹

Some factors arguing against a greater degree of integration between the two systems include:

- Potential negative impacts upon HSCL’s funding and staffing—merger, in and of itself, is unlikely to improve the financial posture of HSCL;
- Having the HSCL Director report to the new Library Dean may diminish the close working relationship between the Director and the Health Center deans;
- HSCL may have less autonomy – the library may become less able to meet the unique needs of their professional users and may move from “boutique” services to a “Wal-Mart” approach;

¹⁹ This could require increased funding to Smathers; if the HSCL received increased recurring funding it could raise the salaries regardless of integration.

- HSCL might lose the ability to control how its resources are managed and how its services are prioritized;
- HSCL librarians and other staff may be forced to become more “library-centered” rather than “user-centered” and expected to work on more library committees and spend less time with their clients;
- A major decrease in travel and CE funding for HSCL librarians is likely (HSCL librarians get \$1500/year for travel to conference and \$500/yr for CE; whereas Smathers librarians compete for \$400/year for conference attendance); such travel and continuing education are important for librarians to meet AHIP credentialing standards;
- The Liaison Librarian Program, a model for medical libraries throughout the country, might be imperiled;
- HSCL may lose its seat on the tenure and promotion committee; and
- Moving faculty from non-bargaining unit to bargaining unit may introduce additional complexities.

Conclusions

Wendy Lougee (Minnesota) identified three conditions that she believes are critical to a successfully integrated university library system: the support and cooperation of the Provost; adequate funding for the libraries; and finally, forward-looking, positive, and accountable leadership. We trust that the first of these conditions will be met, but have concerns about the latter two. Long-term, chronic under-funding of the UF libraries in general, and HSCL, in particular, has taken its toll and will likely continue to do so.

While it is difficult to compare budgets on a dollar by dollar or program by program basis due to the complexity of funding systems, number of colleges and campuses served, and a number of other factors, 2004-2005 data suggest that UF’s HSCL is severely underfunded compared to its peers (University of Minnesota, the University of Michigan, the University of Maryland-Baltimore, the University of North Carolina Chapel Hill and the University of Washington.) These institutions have been chosen because they are public institutions that have representations of colleges closest to those of UF’s HSCL. In terms of number of Colleges, only the University of Maryland-Baltimore has less than six; the University of Minnesota is the only peer to have a College of Veterinary Medicine; and although UF does not have a separate College of Public Health, its combined College of Public Health and Health Professions ensures that it is the only one of these institutions to serve these seven disciplines – Allied Health (Health Professions), Dentistry, Medicine, Nursing, Pharmacy, Public Health, and Veterinary Medicine. The UF HSC serves approximately 2500 more students than its closest peer (University of Maryland-Baltimore) and has a budget fully \$1,000,000 less than the University of North Carolina-Chapel Hill and almost \$500,000 less than the University of Washington.

Based on 2004-2005 statistics reported by our peers, the University of Florida HSCL has the smallest budget per student:

University of Florida	\$545.99
University of Maryland-Baltimore	\$901.95
University of Michigan	\$927.23
University of Minnesota	\$874.43
University of North Carolina – Chapel Hill	\$1,258.26
University of Washington	\$975.16

UFHSCL again falls toward the bottom when number of students/librarian are calculated:

University of Florida	494
University of Maryland-Baltimore	211
University of Michigan	281
University of Minnesota	300
University of North Carolina – Chapel Hill	156
University of Washington	296

The University of Florida library systems have evolved separately and each has its own adaptive mechanisms to cope with scarce resources. In such an environment, merging the two systems is likely to exacerbate anxiety about the fair distribution of resources and power. In the absence of trustworthy leadership, competitive attitudes may dominant and undermine any positive effects of merger. While it is clearly possible to recruit such leadership, this dispositive factor is currently an unknown variable in the integration equation.

One value that must be fixed and heavily weighted in this formula, however, is the operating autonomy of HSCL. Colleges with the responsibility for training and serving professionals require a high (or, at least, particular) degree of autonomy. The ABA Standards for accrediting law schools are instructive. Standard 601 provides, in relevant part:

A law library's effective support of the school's teaching, scholarship, research, and services programs requires a direct, continuing, and informed relationship with the faculty, students, and administration of the law school.

Standard 602:

- (a) A law school shall have sufficient administrative autonomy to direct the growth and development of the law library and to control the use of its resources.

Interpretation 602-1:

This Standard recognizes that substantial operating autonomy rests with the dean, the director of the law library and the faculty of a law school with regard to the operation of the law school library. The Standards require that decisions that materially affect the law library be enlightened by the needs of the law school educational program. This envisions law library participation in university library decision that may affect the law library. While the preferred structure for administration of a law school library is one of law school administration, a law school library may be administered as part of a general university library system if the dean, the director of the law library, and faculty are responsible for the determination of basic law library policies.

We conclude that given UF's history and current culture, and irrespective of formal structures, HSCL should retain a high degree of operating autonomy. Ken Frazier (Wisconsin) cautioned that we should not sacrifice substance to form and that there are no "necessarily structured" solutions to the challenges posed by integration opportunities. He also suggested that combining one "stressed" system (Smathers) with one that is "even more stressed" (the HSCL) is no key to success. The penultimate inquiry for the Committee is whether we can achieve benefits from integration (efficiency, lack of redundancy, better service for clients, improved support for personnel, etc.) without compromising the expert form of timely "hands on" service HSCL librarians currently provide.

At this time, the benefits of increased integration seem idealized and generalized. The potential detrimental effects, on the other hand, are quite specific and in sharp focus.²⁰ Therefore, the ultimate query may be whether those benefits might also be achieved through greater functional integration without enduring the risks and potential upheavals of a more formal, structural merger.

²⁰ This may be an understandable consequence of, in essence, comparing a known present to an unknown (and given the degree of scarcity and neglect, unknowable) future.

Appendices

Appendix 1:

Comparative Library Regressions

In the text of the report, we compare the University of Florida's libraries on several dimensions to those at six peer institutions, all large land grant universities with law schools and medical schools. As additional support for the findings reported there, in this appendix we broaden the comparison group to include all of the American institutions of higher education whose libraries gather expenditure and staff figures for the Association of Research Libraries. We use the most recent numbers, those for the 2003-2004 academic year. We augment the ARL data from two other sources: the 2006 *U.S. News & World Report* rankings and The Center spreadsheets at the University of Florida.

Ideally, we would compare the library services provided by the University of Florida to services provided by other institutions: how effectively compared to others do the libraries at UF aid our teaching, research, and service missions? Since we know of no practical way to do that, we look at inputs instead. We estimate what might be roughly thought of as "demands" for various library inputs as functions of various university characteristics. The characteristics are the number of students, the number of faculty, the presence of a medical school, the presence of a law school, and, as a crude measure of quality, the *U.S. News & World Report* scores. We expect the demand for the various library inputs to vary positively with each of these measures.

The input measures we use are total library spending, total library salaries, the number of professional library staff, spending on electronic materials including software, all library spending on materials, spending on journals (serials), and spending on monographs. Our method is ordinary least squares regression. All of the variables are in logarithms, except for the US News rating, and dichotomous indicators of the presence of a law school or a medical school. Primarily for ease of exposition, we add a dichotomous variable UF, which takes the value one if the observation is for the University of Florida and zero otherwise.

We report results from four sets of specifications of the regression equation. In the first set the independent variables are the log of the number of students, the log of the number of faculty, the *U.S. News* rating (on a scale of one to 100), and the dichotomous variables for medical school, law school, and UF. With this specification, we have data for 82 institutions (only 79 for total spending on electronic materials). As a minor variation, we impute values for the *U.S. News* ratings for an additional 20 institutions, using a standard imputation method that avoids inducing bias.

Next, returning to the original 82 observations, we assume that in providing library services, universities experience constant returns to scale in the sense that an institution with 40,000 students and 3,000 faculty requires twice the library services of one with 20,000 students and 1,500 faculty. This assumption is counterintuitive, especially with respect to acquisitions and undergraduates. Few academics would encourage a high school graduate to go to LSU instead of Swarthmore because of LSU's larger holdings. Even for faculty, the increase in their number will result in more people per discipline, not just more disciplines. Our first and second sets of regressions strongly reject constant returns, and suggest that a doubling of university size is associated with an increase in total library spending of about sixty percent. Since UF is a very large institution, not allowing for economies of scale makes our spending look especially low relative to our peers. We include this specification in case economies of scale are being rapidly eroded by changes in information and communications technology and by the determination of the publishers of commercial journals to seek perfect price discrimination, to charge what the market will bear, which may rise in proportion to size.

Finally, we go to the other extreme, and add a host of new variables to the first specification for the 102 institutions. These variables, from The Center, are (in logarithmic form) the number of postdoctoral fellows, annual giving, the number of members of the National Academy of Sciences, and total research spending. We also add the peer component of the *U.S. News* rating. These extra variables generally have t-statistics less than one, indicating they do not belong. The inclusion of this extra noise biases the coefficient of UF toward zero, making it appear that UF is closer to average spending holding other things constant. Even with this method, the University of Florida's total library spending is 18% below the amount predicted.

The conclusions that emerge most strongly are that (1) Florida's total library spending is lower than expected for a university of its size and quality, and (2) spending on total electronic materials is remarkably low. Spending on monographs is also very low, but the *number* of monographs purchased is not much below the number expected. *Spending* on serials, in contrast, is close to the expected value (except for the probably inappropriate constant-returns-to-scale specification), perhaps reflecting the ability of the publishers of commercial journals to price discriminate against (extract a lot of money from) large institutions.

The results of our preferred set of specifications are summarized in Table 1. The column for total spending serves to illustrate how to interpret the results. It suggests that:

1. A 10% higher number of students is associated with 4.8% more library spending, other things the same. The coefficient is over five times its estimated standard error (0.09), suggesting it is estimated with reasonable precision.

2. A 10% higher number of faculty is associated with 1% higher library spending, other things the same. The effect is not only small but also statistically insignificant. The estimated coefficient is only slightly larger than its standard error.

3. An 18-point higher U.S. News rating is associated with about 36% more library spending, controlling for size and the presence of medical and law schools. Eighteen points represents the difference between, say, 59 (Florida, Texas, UC Santa Barbara, UC Davis) and 77 (Berkeley, Carnegie Mellon). The result is very similar using peer evaluations instead of the US News total.

4. Having a medical school is associated with 8% higher spending.

5. Having a law school is associated with 18% higher spending.

6. UF's total spending is 30% lower than would be expected for a university of its size and rating with law and medical schools. The coefficient is not very precisely estimated, however. The calculation is $1/e^{.36} = .70$.

Table 1: Regressions Explaining Total Library Spending and Categories of Library Spending by the Number of Students, the Number of Faculty, the *U.S. News & World Report* Rating and the Presence of Medical and Law Schools.

Variable	Spending	Salaries	Staff	Electronic	Materials	Serials	Monos
Students	0.48 (0.09)	0.53 (0.10)	0.33 (0.12)	0.41 (0.17)	0.36 (0.09)	0.22 (0.08)	0.67 (0.20)
Faculty	0.10 (0.09)	0.16 (0.10)	0.23 (0.11)	0.04 (0.17)	0.09 (0.09)	0.12 (0.08)	-0.05 (0.19)
USNews	0.020 (0.002)	0.022 (0.002)	0.018 (0.002)	0.017 (0.004)	0.016 (0.002)	0.010 (0.002)	0.028 (0.004)
Medical	0.08 (0.06)	0.05 (0.06)	0.08 (0.08)	0.16 (0.11)	0.08 (0.06)	0.10 (0.05)	-0.02 (0.13)
Law	0.18 (0.06)	0.20 (0.06)	0.20 (0.08)	0.01 (0.11)	0.18 (0.06)	0.13 (0.05)	0.16 (0.13)
UF	-0.36 (0.22)	-0.40 (0.25)	-0.26 (0.30)	-0.55 (0.43)	-0.29 (0.22)	-0.11 (0.19)	-0.67 (0.50)
Constant	10.04 0.59	8.26 (0.67)	-1.78 (0.81)	9.28 (1.16)	10.67 (0.60)	11.74 (0.51)	6.49 (1.34)

N	82	82	82	79	82	82	82
R ²	0.78	0.77	0.64	0.35	0.33	0.69	0.49

Note: Data are from the report of the Association of Research Libraries, described in the text, and from the *U.S. News & World Report* web site (subscription required). The dependent variables are (across the columns): the logarithm of total library spending, the logarithm of the number of total library staff, the logarithm of all spending on electronic materials including software, the logarithm of all total library spending on materials, the logarithm of spending on serials, and the logarithm of spending on monographs. Three institutions did not report their spending on electronic materials separately. The independent variables (down the rows) are the logarithm of the number of students, the logarithm of the number of faculty, the *U.S. News* rating, the presence of a medical school, the presence of a law school, an indicator for UF, and a constant term. Standard errors are in parentheses. To differ significantly from zero in the standard statistical sense, the magnitude of an estimated coefficient should be about twice its standard error. The standard errors for UF are relatively large partly because Florida is much larger than most universities, which is a reason we emphasize comparisons with other very large institutions in the text.

Table 2: The University of Florida's Share of Its Predicted Measures of Library Inputs, Using Four Sets of Specifications

Input	Short 82	Short 102	Long 102	Constrained 82
Total Spending	70%	76%	82%	52%
Salaries	67%	74%	80%	54%
Staff	58%	83%	89%	57%
Electronic	58%	58%	54%	39%
All Materials	75%	82%	86%	51%
Serials	89%	96%	102%	57%
Monographs	51%	56%	58%	39%

Notes: The columns represent the various sets of regression specifications. Short 82 has short sets of regressors representing the number of students, the number of faculty, the presence of medical and law schools, and the *U.S. News & World Report*

ratings. Short 102 has the same regressors except that the number of observations is expanded to 102 by including imputed ratings for 20 institutions. Long 102 is the same as Short 102 except that regressors representing the number of postdoctoral employees, the number of members of the National Academy of Sciences, total research funds, total giving, and the *U.S. News* peer rating are added, imputed when necessary. Constrained 82 is the same as Short 82 except that the coefficients of Log Total Students and Log Faculty are constrained to sum to one, thus imposing the assumption of constant returns to scale.

The 70% in the cell representing total spending and Short 82 says that the University of Florida's total library spending is only 70% of what the specification Short 82 predicts it would be based on the other 81 institutions.

Appendix 2:

The Health Science Center Library at UF has made some comparisons with medical libraries identified as serving similar clientele and colleges: University of Maryland-Baltimore, University of Michigan, University of Minnesota, University of North Carolina-Chapel Hill, and University of Washington.

Data on health science college enrollments is taken from enrollment figures from each of the universities: Office of the Registrar, University of Wisconsin- Madison http://registrar.wisc.edu/students/acadrecords/enrollment_reports/Stats_all_2003-2004Fall.pdf; University of Minnesota, Institutional Research and Reporting <http://www.irr.umn.edu/stix/fall03/f03stixtab1.pdf>; Ohio State figures are available at <http://www.ureg.ohio-state.edu/ourweb/srs/srscontent/intadobe.html>; and University of Florida Enrollment http://www.ir.ufl.edu/factbook/i-02_hist.pdf .

Facility size and branch data were taken from the web sites of the universities, building data collected in 1993, and email responses from appropriate staff at the universities.

Degrees granted information came for the University of Minnesota came from **2005-2006 University Plan, Performance, and Accountability Report** [Retrieved 10/22/2006 at <http://www.academic.umn.edu/accountability/reports/20042005.html>]; **Ohio State: Degrees Awarded by College Offering Major, Summer 2003-Spring 2004** [<http://www.ureg.ohio-state.edu/ourweb/srs/srscontent/degree/majcollege/Adobe/cnts0304.pdf>]; **Wisconsin's 2003-2004** figures [Retrieved 10/22/2006 at <http://www.wisc.edu/about/facts/#degrees>]; and UF's figures from **Degrees, Grades, & Graduation/Retention Rates** [Retrieved 10/22/06 <http://www.ir.ufl.edu/factbook/degree.htm>]

Other library data for this section was obtained from:

Association of Academic Health Science Libraries Data for FY 04/05; personal communications with Jane Blumenthal, Director, University of Michigan Health Science Library; Linda Watkins, Director, University of Minnesota Health Sciences Library, Carol Jenkins, Director and Steve Squires, Library Administration, University of North Carolina Chapel Hill Health Sciences Library, Terry Ann Jankowski, Head of Information and Education Services, University of Washington Health Sciences Library, and from personnel at the University of Maryland Baltimore Health Sciences Library.