

Academic Library Data from the United States:

An Examination of Trends

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Abstract

There is no doubt that there have been changes in recent years in academic libraries, their institutions, and the behaviors of their users. The literature in librarianship offers opinions and forecasts on a number of trends in services, resources, and personnel within libraries. Writings outside of librarianship also offer ideas about libraries and scholarship. The trends can be examined in the context of data reported by libraries. Data collected by the U.S. National Center for Education Statistics provide the opportunity for the analysis of a number of academic library service, collection and access, and personnel matters. Since the analysis can take into account changes over time, an integrated and holistic examination can be conducted.

Introduction

Occasionally, articles appear in the literature of librarianship (and sometimes higher education) that question academic libraries' being (see, for example, Campbell, 2006 and Wisner, 2001). Some of the points made can be valid; concern regarding the decline in reference transactions, for example, is not without foundation (this phenomenon will be discussed shortly). Such things as declines in reference questions asked and circulation can lead to concern about the place of academic libraries on their campuses. The concern is manifest in a number of ways and those ways might be located along a continuum. At one end of the continuum is evolution: those expressing concern in this way ponder the changes libraries undergo as a series of steps which, over time, can transform academic libraries (Abbott, 2008 and Martell, 2008). At the other end is revolution; those who see change as revolutionary may not want to proceed through stages, but leap to different states. Analysts must be careful to avoid overstating the locus of concern. That is, an individual may favor an evolutionary transformation for, say, the nature of a particular service, while simultaneously favoring a revolutionary

transformation for the delivery of the service. Holding differing views regarding services and their operation is by no means inconsistent of necessity. Providing effective services in a specific college or university may require flexibility. There may be no virtue in adopting an absolutely evolutionary (or revolutionary) vision, and no vice in examining each element of the organization as it presently exists and could exist.

The rhetoric of change that is frequently expressed in higher education writings (see Duderstadt and Womack, 2003, for instance) may be sometimes characterized by lack of rigorous examination. Claims about academic libraries' place (or absence of place) in the academy should be looked at closely. When the roles of colleges' and universities' libraries are discussed, one word tends to recur—transition. There has scarcely been a time since the middle of the twentieth century, though, when libraries have not been in transition. Fremont Rider's 1944 book, *Scholarship and the Future of the Research Library*, looks quaint now, but his central theme was not conceptually different from calls to provide all materials in digital media and not physical packages. Too often, perhaps, writings on academic libraries' present and future contributions to their institutions' missions are guided by opinion and selective glimpses of data. A more comprehensive examination is needed in order to understand the complex dynamics of libraries' activities within a transforming landscape of higher education. The present examination focuses on a large set of data on academic library operations, with the aim of discerning trends that could inform the ways we think about what libraries are and what they do. Since this aim is to provide benchmarks for trends (that can be used, along with other things, to envision the future), no hypotheses are stated.

Recent Literature

There has been speculation about causes for the decline in uses of such things as libraries' reference services. One of the works that started the conversation was journalist Scott Carlson's (2001) "The Deserted Library," which argued that libraries were more marginalized on campuses than they used to be. A. Ben Wagner and Cynthia Tysick (2007), librarians at the University at Buffalo, have written, "The age of the Internet has brought many advances to libraries, but at a cost. Technological advances have eliminated many of the traditional reasons for which patrons actually visit the physical library with its carefully maintained collections, helpful staff, and well-designed service points" (p. 60). The tone of the paper suggests that collections, staff, and services are expendable, but few reasons for the *outré* status of those things are given. They mentioned that ready access to rich online resources constitutes one cause for altered behavior on the parts of, especially, students. Wagner and Tysick (2007) then altered their language and also reported on efforts at meeting needs of people at locations outside the library, specifically in an academic department's building. Among other things, they found that the location within a department "demonstrated that face-to-face encounters

have significant advantages over e-mail and virtual transactions” (pp. 63-64). Their work suggests that looking for additional, and possibly heretofore unexpected, places to locate services has the potential to expand learning opportunities for students and faculty. Their initial premise, quoted above, is shared by others (see Campbell, 2006 and Gayton, 2008): technology has made the library—as place—less attractive to students. It is a premise that should be questioned, not for the purpose of proving it wrong, but to examine what the library is in fact providing to its community, and how learning, teaching, and research can best be enhanced. Examining data trends can be incorporated into the questioning.

The issues faced by academic libraries are numerous and complex. Julie Banks and Carl Pracht (2008) surveyed librarians to determine features related to the use of personnel at reference desks who do not have accredited master’s degrees. Among their findings are that there is attractiveness in the cost effectiveness of such personnel and the willingness of them to work on weekends and at night (p. 58). As a profession, we do not know if these kinds of staffing patterns affect the numbers of questions asked at reference desks (that is if it matters to students and faculty who responds to their questions). Some other work points to an affirmation of services and facilities that have existed for some time. For example, Ziming Liu (2006) found that more than 75% of students responding to a survey reported that they will continue to look for information in traditional libraries (p. 588). Survey respondents offering comments said that traditional libraries provide (counter to the assumption of Wagner and Tysick) the detailed and complete treatment of topics in books, have knowledgeable people to help with needs, allow for browsing, and have space available for individual and group study (p. 589). An inference one can draw from Liu’s work is that there is a need for multiple kinds of resources and services. Along with exploration of service and resource possibilities, librarians will have to examine the costs of every possibility—on its own merits *and* relative to its usefulness and to the costs of other possibilities. The cost element is crucial; the expenditures on physical materials, for example, are examined in considerable depth. What is more elusive is assessment of benefits; more could be learned, say, about the contributions of electronic access to information to students’ performance on assignments. There could be conflicting desires on the parts of some librarians and academic communities—to maintain resources and services as they have been, and/or to seize the advantages that emerging technologies offer. In striking some balance (which could certainly be skewed towards effective technologies), both purpose (such as learning outcomes) and the means to achieve the purpose should be foremost.

Christina Cardina and Donald Wicks (2004) detailed some of the changes to services, but in their effort to conduct comparisons over time they counted activities in terms of the earlier state that defined work. For example, they found that, between 1991

and 2001, time spent on “online search” had increased, but the meaning of online searching may have changed over that time (p. 137). They reported that the traditional core services are still those activities most frequently engaged in. James Marcum (2003), in looking to the future, suggested that most alternatives will be focused on distributing resources and services (reaching people where they are), enhancing user instruction, and building upon success of consortia. Marcum’s review of a set of papers written around the theme of the academic library in 2012 showed that people’s visions (at least those of the authors of the papers submitted) tend to extrapolate from recent past trends and current actions, so changes may be more of differences in scope and magnitude than in kind. His attention was on quite specific actions, aimed at quite specific outcomes. Jerry Campbell (2006) urged more immediate initiatives aimed at change: “Over the next decade, colleges and universities will have to make critically important practical and policy decisions about the function of libraries, about the space devoted to libraries, and about the roles of librarians” (p. 30).

A potentially transformative alteration in services in academic libraries is the introduction of the “embedded librarian.” Librarians on some campuses, usually subject specialists, are being relocated to academic departments; that is, their offices are placed within the buildings of those departments. The objectives of the relocation are to integrate librarians in teaching and learning, to foster rich collaborative environments, and to enhance the use and usefulness of information resources. The shift from library-located reference and consulting services to embedded librarians is fundamental. As David Shumaker (2009) has written, “You’re building a collaborative relationship—a partnership. . . . In a partnership, it’s not just what I can do for you; it’s about what we can do for each other” (p. 241). The shift also represents commitments from all parties; success will require sustained effort, and it is not without costs. The embedded-librarian initiative is quite new; a considerable amount of evaluation, especially of meaningful outcomes, remains to be done. John Rodwell and Linden Fairbairn (2008) emphasize some of the considerations that will have to be addressed as part of future inquiry, including sustainability, benefits for departments, and effects on traditional services, among others.

Determination of future services, access, space, and other elements of libraries’ contributions to academic communities must also take into account the communities themselves. Opinions of people on the inside of the communities do vary, but they are proffered from experience and knowledge. For example, Anthony Grafton (2009) has said, with regard to the proliferation of information resources and the assistance available to make effective use of them, “the expert time required to choose among the thousands of available databases, add links to library web pages, and guide faculty and students must be provided by a staff that is often declining in numbers” (p. 90). Grafton

recognizes that complex structures, by their nature, will not be self-evident, even to those who are expert in the meaning of what is published and produced. Andrew Abbott (2008) has also weighed in on the subject: “given what library research aims to do and how it actually works, most of the moves toward the technologization of library practices are either neutral or harmful to the enterprise as it has been conducted” (p. 542). Abbott emphasized that those, including librarians, who would facilitate inquiry, must become aware of the nature of the inquiry and the ways it is conducted.

The source data

The foregoing represents only a portion of the expressed concerns regarding academic libraries and factors that should be considered. In addition to what is said about the present and future (and all of the concerns should be taken seriously and addressed critically), there are data that are available for examination. The data in themselves can only indicate trends and actions in libraries; their meaning is subject to interpretation, and they should not, in themselves, determine purpose. What follows is some interpretation of the selected data; these interpretations are intended to be as rational as possible, and are offered holistically. The holism of interpretation depends on examining all pertinent data, not trying to extract too much potentially erroneous meaning from any single datum, and not presuming that the data have inherent meaning. Directions and magnitudes of change are the principal sources of interpretation here. Campbell (2006) strongly advocated asking questions about future direction and purpose (p. 20); the data can provide grounding for some time-sensitive reflection inserted into forward-looking planning. Comparative (temporally) interpretation of data precludes initial hypotheses; there are limitations to formal inferential statistical analysis since the data do not permit extensive longitudinal analysis. Understanding of trends, as measured in quantitative terms, does require avoiding imposing preferred expectations on the data. The examination here is limited to the changes that are quantitatively evident in substantial sizes. Following Steven Ziliak and Deirdre McCloskey (2008), the magnitude and direction of changes are the fodder for interpretation.

The data sources for the present examination are compiled by the U. S. National Center for Education Statistics (NCES) (“Academic Libraries Survey, 1998, 2000, 2006, 2008”). An advantage to using these sources is the distinctions among institutional types that are made by NCES (based on Carnegie Classification (see <http://www.carnegiefoundation.org/classifications/index.asp>)). A problem with the data sets is that the numbers of responding institutions varies from year to year; the variance could have an effect on the numbers. Also, there is no data summary for the year 2002, so there can be no examination for that year. The trends in research libraries, those serving master’s-granting institutions, and those at baccalaureate colleges can be examined separately. Since the institutions vary by type when it comes to mission, scope,

enrollment, funding, and other constitutive elements, the trends may be influenced by factors that are not likely to be universal. The data can be looked at in the context of the idea of transition that was mentioned earlier; that is, they can be examined along with opinion, speculation, and inquiry about changes that are occurring in academic libraries. The data indicate, at a glance, that some changes are indeed occurring. Inferring meaning based on interpretation of the data necessitates the holistic examination described above. To repeat, the inferences are not probabilistic.

Data examination

There are a variety of data points that are available for analysis. Some of the data are accessible from a variety of sources, such as the database provided by the North American Association of Research Libraries. Other items are unique to the data set used here. The continuous collection of data also allows for some longitudinal analysis; alterations (and similarities) over time can be discerned. These data, and the analyses, can be employed to evaluate claims about the present and future states of academic libraries. The future is, of course, difficult to predict, but behaviors represented by the data over time can be used to inform predictions. The data in Table 1 report Trends in Services; Table 2 report Trends in Materials, Table 3 Trends in Interlibrary Sharing Activity, and Table 4 Trends in Personnel.

Trends in reference services

The data in Table 1 following includes data for reference transactions (Ref. trans), class presentations (Pres.), and participants (Part.) and Gate Counts.

Table 1

Trends in Services

<i>Activity</i>		<i>1998</i>	<i>2000</i>	<i>2004</i>	<i>2006</i>
Ref. Trans.	Doc/Res	4,090.4* (n=234)	2,401.8* (n=235)	1,910.1* (n=255)	1,215.4* (n=255)
	Master's	705.4* (n=521)	707.1* (n=519)	545.5* (n=584)	388.2* (n=582)
	Bachelor's	235.7* (n=603)	207.9* (n=598)	166.5* (n=499)	154.7* (n=499)
Pres.	Doc/Res	563.7 (n=234)	554.5 (n=235)	609.0 (n=255)	577.5 (n=255)
	Master's	153.9 (n=521)	160.0 (n=519)	159.3 (n=584)	175.3 (n=582)
	Bachelor's	84.8 (n=603)	87.1 (n=598)	99.1 (n=499)	73.6 (n=499)
Part.	Doc/Res	7,729.0 (n=234)	8,083.3 (n=255)	9,327.8 (n=255)	9,819.3 (n=255)
	Master's	2,825.8 (n=521)	2,813.3 (n=519)	3,010.1 (n=584)	3,089.3 (n=582)
	Bachelor's	1,496.9 (n=603)	1,510.9 (n=598)	1,745.2 (n=499)	1,201.8 (n=499)
Gate Count	Doc/Res	23,321.8* (n=234)	23,097.5* (n=521)	28,129.4* (n=255)	25,693.8* (n=255)
	Master's	7,309.1* (n=521)	7,141.6* (n=519)	7,314.0* (n=584)	7,309.8* (n=582)
	Bachelor's	2,994.2* (n=255)	3,075.7* (n=598)	3,562.5* (n=499)	3,856.8* (n=499)

* In a typical week in the fall semester

A starting place for the examination is the activity usually called *reference transactions* (Ref Trans.). There has indeed been a precipitous drop in reference transactions in recent years. The number of transactions in a “typical week in the fall” of 2006 (the terminology used in the Academic Libraries Survey) at doctoral/research universities was only about 30% (on average) of those in a similar timeframe in the fall of 1998. [Note: the Tables will present the figures for all four years that are examined, but the text will report the changes from 1998 to 2006.] The declines were a bit less steep at master’s (55% of 1998 levels) and bachelor’s (66% of 1998 levels) institutions, but were also dramatic. The readily accessible, relatively easy-to-use resources (electronic databases and full-text materials) that people can employ to get answers to many questions have, of course, expanded greatly since 1998. Also, if there has ever been any reluctance on the parts of people, perhaps especially undergraduate students, to approach librarians for assistance, the reluctance can now be resolved by people turning to resources that at least appear to be simple and effective. Fewer questions asked of librarians can be a function of people making heavy use of resources that are alternative to traditional reference services. These data will not surprise academic librarians. Many libraries have already altered the nature of reference services in order to make *them* (electronic resources) more accessible and easy to use. Discussion of de-emphasizing, or even eliminating, reference desks in favor of more mobile services is not uncommon. Sarah Barbara Watstein and Steven Bell (2007) debated the issue recently. Expanded telephone, e-mail, chat, and text-message services have also been quite widely adopted. Locating services in dormitories, student unions, and other physical locations (see Wagner and Tysick and discussion of embedded librarians) are also occurring.

The data on reference transactions point to a change in the demand for the particular service. A question that arises is: What lies behind the demand? The data relating to the decline in reference transactions are empirical evidence of a trend that pervades institutions and institutional types. The reasons why people are not availing themselves of the services can also be subjected to empirical analysis. The literature does not include those kinds of empirical studies, though. Speculation as to reasons can include the aforementioned ease of by-passing traditional service points, made possible by the number and accessibility of electronic resources. If one were able to examine past reference transactions that were limited to questions as to locations of basic resources, one might find that those questions were quite numerous. That study may, or may not, be possible; if libraries have retained reference transaction statistics in sufficient detail from previous years, some light would be shed on trends. A clearer understanding of the trend could be enhanced by locally conducted studies of current undergraduate students. Research, perhaps in the form of focus-group interviews, can inquire into the students’ proclivities with regard to asking questions of librarians, including what kinds of questions they are likely to ask, how they might ask those questions, and their level of

reluctance to ask questions. In short, the trends examined here suggest some inquiry that could shed light on reference services, and the uses to which students might put them.

There are some additional data on library services related to reference that should be examined. In many institutions there has been growth in the number of *class presentations* (Pres.) made by librarians and in the numbers of students reached by this action. In research/doctoral universities the increase in presentations was 2.4%, and the increase in *participants* (Part.) was 21.2%. At master's institutions the increases were not quite as large—13.0% in presentations and 9.3% in participants. At bachelor's-granting colleges there were actually declines. Presentations were down 13.2% and participation was down 19.7%. The variability among types of institutions suggests that individual libraries might want to look closely at local trends in both staffing and presentations, since class presentations will be personnel intensive. A purpose of presentations is usually to inform students of available resources and how to make the best use of them. If that objective is accomplished, there may be *some* reduction in questions asked relative to students participating in presentation events. Of course no amount of success with presentations would account for the entirety of the decline in reference transactions, but it is one additional factor to consider. Looking ahead, again, to additional inquiry, interviews with participants in presentations could inform librarians about the effects of presentation sessions. Also, faculty members who request presentation could be interviewed to determine if the context of the presentation sessions affect the information-related instruction that they employ.

Data are also collected on *gate counts* (the numbers of passes through the doors of the building(s)) in a typical week in the fall semester. As is the case with presentations, some libraries have experienced increases in traffic. The research/doctoral universities had an increase of 10.2% in 2006 over 1998. As Table 1 shows, this translates to more than 2,300 more people coming into the libraries, on average, each week. (Note: The number does *not* equate to different individuals entering the library, since some people may visit the library more than once per week).

Master's institutions saw an even bigger rise; 28.8% more entrances to the libraries were recorded. The bachelor's-granting colleges once again exhibited a different trend; there was no change in gate count. Libraries have taken actions in recent years that are likely to have contributed to the increases in gate counts. These include facilities improvements (such as renovations and new construction), user-centered changes in facilities (including the creation of information commons), and additions of amenities (comfortable furniture, group work spaces, and coffee shops, for example). In other words, librarians have made some institutional alterations in the spaces to make them attractive and useful, especially for students. We must remember that gate counts have

increased as remote access to many resources and services have also increased. The decisions of people to go into libraries are also intentional actions; there are purposes and reasons underlying choices to enter libraries. Once again, inquiry could be designed to find out students' reasons for choosing to use the physical facilities. Do information commons attract students to the library? Investigation could seek to discover if some people are entering the library frequently and/or such changes are attracting people who would not otherwise have entered the library. Looking into the actions of people could be accompanied by research into what people do once there (the intentional purposes they have for using that space). This particular phenomenon also suggests another line of inquiry—the difference that the library may be making in student learning. Lisa Given (2007) has made some suggestions related to undergraduate students' use of physical space, including listening to the students to incorporate their own uses into potential redesign of libraries (pp. 185-86).

Trends in materials

The data in Table 2, Trends in Materials, below, contain statistics on the number of serial subscriptions (Serials Subs.), the number of volumes added to a library's collections/s (Vols. Added),

Table 2

Trends in Materials

<i>Category</i>		<i>1998</i>	<i>2000</i>	<i>2004</i>	<i>2006</i>
Serials Subs.	Doc/Res	18,760.4 (n=234)	15,509.0* (n=235)	22,634.8 (n=255)	27,918.1 (n=255)
	Master's	5,205.6 (n=521)	3,644.9* (n=519)	7,659.6 (n=584)	6,769.7 (n=582)
	Bachelor's	1,996.4 (n=603)	1,138.2* (n=598)	2,706.7 (n=499)	4,647.3 (n=499)
Vols. Added	Doc/Res	50,420.5 (n=234)	51,653.7 (n=235)	49,873.7 (n=255)	44,214.6 (n=255)
	Master's	10,704.8 (n=521)	9,611.1 (n=519)	8,724.7 (n=584)	7,699.7 (n=582)
	Bachelor's	4,647.3 (n=603)	4,920.7 (n=598)	4,981.9 (n=499)	4,450.7 (n=499)

* Serials subscriptions for the year 2000 include only print and microforms.

The dynamics of resources and resource use have also changed over time. Some of these data will, as is true of what is presented above, offer a few unexpected trends. For a set of reasons (including complex financial reasons) libraries have tended to acquire fewer books and monographs recently (Vols. Added). In this instance, bachelor's-granting colleges have fared a bit better than their counterparts; on average these libraries' acquisition of books has declined 4.7%. Research/doctoral universities have experienced a 12.2% decline, and master's institutions have seen an average decline of 28.1%. This trend is not new; it has been documented for some time. The literature does include some responses to the trend. For example, David Lewis (2007) suggested that the migration from print to electronic media, already well underway for serials and some other types of materials, should accelerate for books (p. 421). Lewis's recommendation should be questioned (in the manner outlined above) according to holistic examination in two ways: (1) are electronic media useful for book-length works from the perspectives of users, and (2) would the migration to digital have any effect at all on the financial aspect of acquiring information? There is a larger issue here that perhaps librarians and faculty should examine jointly. Is the decline in book acquisitions affecting teaching and learning (for example, are faculty compromising their desired learning outcomes for students because of the phenomena)? Further, inquiry into the impact on faculty scholarship can be investigated. It is more than likely that the decrease in the acquisition of books is related to the next trend.

Another complicated set of factors has influenced libraries' *subscriptions to serials* (Serials Subs.). Between 1998 and 2006 more titles became available electronically, usually through aggregating services. Numerous information providers added full-text and full-image accessibility through their products. The time period also saw enhancement to, and creation of, consortia. Library cooperation, also discussed in Table 3 following, has been growing and developing for some time; one outcome is enhanced negotiating ability so that consortia members are able to gain access to much more than they could afford on their own. Sharon Bostick (2001) provides a concise overview of the development of consortia in the United States. Economies of scale are certainly still a *raison d'être* for consortia, but they also consolidate and create services that further enhance the abilities of individual members to meet the needs of their communities. The data illustrate an element of the outcome. Doctoral/research universities were able to increase serials subscriptions by 48.8%. Master's-granting institutions experienced a 30% increase. Bachelor's-granting colleges had the largest increase, 132.8%, perhaps because they started from a much lower 1998 base than did the other libraries (see Table 2).

The enhanced accessibility appears to have resulted in increased use of serials literatures. At the University of Florida the number of full-text downloads of electronically accessible items increased by 32% in 2006 over 2005 (Botero, Carrico, and Tennant, 2008, p. 65). The increase may justify the fact that the University of Florida paid US\$2.6 million in 2005-06 (27% of the entire materials budget and 54% all electronic materials expenditures) for what is called Big Deals with just three providers (Elsevier, Wiley, and Springer/Kluwer) (Botero, Carrico, and Tennant, 2008, p. 62). The increases in the numbers of subscriptions do come with a high price tag.

Trends in interlibrary sharing activity

The data in Table 3 Trends in Interlibrary Sharing Activity report returnable and non-returnable items loaned: Lend. Ret. and Lend (Non) respectively, items borrowed returnable (Borrower (Ret.) and non-returnable (Borrower (Non), and items circulated (Circ.).

Table 3**Trends in Interlibrary Sharing Activity**

<i>Category</i>		<i>1998</i>	<i>2000</i>	<i>2004</i>	<i>2006</i>
Lend. (Ret.)	Doc/Res	8,721.9 (n=234)	8,333.6 (n=235)	10,899.4 (n=255)	11,980.3 (n=255)
	Master's	1,854.7 (n=521)	2,008.8 (n=519)	1,947.3 (n=584)	2,117.6 (n=582)
	Bachelor's	1,000.7 (n=603)	1,164.3 (n=598)	1,519.6 (n=499)	1,686.8 (n=499)
Lend. (Non.)	Doc/Res	10,766.9 (n=234)	11,883.1 (n=235)	11,556.7 (n=255)	11,515.4 (n=255)
	Master's	1,673.7 (n=521)	1,729.4 (n=519)	1,396.2 (n=584)	1,471.8 (n=582)
	Bachelor's	638.9 (n=603)	639.9 (n=598)	648.3 (n=499)	610.2 (n=499)
Borr. (Ret.)	Doc/Res	6,335.7 (n=234)	6,869.3 (n=235)	9,099.4 (n=255)	9,800.4 (n=255)
	Master's	1,372.3 (n=521)	1,729.4 (n=519)	1,526.1 (n=584)	1,692.1 (n=582)
	Bachelor's	918.3 (n=603)	1,019.7 (n=598)	1,103.0 (n=499)	1,547.0 (n=499)
Borr. (Non.)	Doc/Res	8,677.9 (n=234)	8,796.0 (n=235)	9,026.6 (n=255)	8,748.9 (n=255)
	Master's	2,057.5 (n=521)	1,946.0 (n=519)	1,605.1 (n=584)	1,771.1 (n=582)
	Bachelor's	947.7 (n=603)	893.6 (n=598)	915.4 (n=499)	915.8 (n=499)
Circ.	Doc/Res	452,778.0 (n=234)	411,264.6 (n=235)	417,168.8 (n=255)	297,779.4 (n=255)
	Master's	61,095.1 (n=521)	66,778.1 (n=519)	60,884.2 (n=584)	43,747.8 (n=582)
	Bachelor's	33,990.7 (n=603)	31,480.8 (n=598)	35,267.5 (n=499)	35,857.6 (n=499)

The phenomena just described—more extensive and effective consortia and individual libraries having more local access to serial literatures—affect another activity. Interlibrary lending and borrowing trends hold some interest in the holistic analysis. The data sets provide figures for both *returnable* (Lend (Ret.)) and *non-returnable* (Lend (Non)) *items loaned* and borrowed. Non-returnable items are usually copies of journal articles that are sent to borrowing libraries or are transmitted electronically to those libraries. The returnable items are physical materials that must be delivered to, and shipped from, libraries. Books are likely to comprise the largest category, but anything that the lending library must have returned to it could be included as returnable. Once again, previously mentioned factors may influence interlibrary lending and borrowing action, perhaps especially the decline in books and monographs acquired by libraries. Actually, the relationship between serials and books is complicated and interrelated.

Botero, Carrico, and Tennant (2008) attributed the increasing costs of serials, particularly electronic accessibility, to the reduction in the monograph budget at the University of Florida (p. 67). The connection, though, is dynamic and is manifested by way of difficult choices that librarians must make in the face of limited budgets and increasing prices. The most effective decision making is likely to occur when holistic analyses are undertaken and, when it comes to some specific matters, librarians at cooperating institutions collaborate on solutions. Chrzastowski and colleagues (2007) have examined subscriptions to print serials by academic libraries in Illinois. To illustrate the above point, their list of the most frequently held titles (titles subscribed to by multiple libraries) numbers only twenty-eight, but the total cost to libraries of those subscriptions was US\$227,841.63 in 2005. Moreover, the libraries had electronic access to all twenty-eight titles. They also found that, overall, a total of 73.8% of all paid, non-gift subscriptions were available online (p. 528). The duplication may well be warranted for several purposes (including the need to provide access to the most recent journal issues in the face of embargoes), but the amount of duplication suggests the need for close examination of funds expended by each of the libraries.

For doctoral/research universities, libraries *borrowed* and lent more *non-returnable* (Borrower (Non)) than *returnable items* (Borrower (Ret.)) in 1998. That dynamic was reversed in 2006. Lending of returnable items increased by 37.4%, but lending of non-returnable items increased by only 7.0%. Returnable items borrowed increased by 54.7%, while non-returnable items borrowed increased a bare 0.1%. The trend was similar for master's-granting institutions: returnable items lent increased 14.2% and non-returnable items loaned declined by 12.1%; 23.3% more returnable items were borrowed and 13.9% fewer non-returnable items were borrowed. Bachelor's-granting colleges also fit the trend. Lending of returnable items rose 67.5%, while lending of non-

returnable items fell 4.5%. Returnable items borrowed increased 68.5%, but non-returnable materials borrowed decreased by 3.4%. It was this last category of libraries that had the largest increase in serials subscriptions as well; the greater access to serials literature may be related to the interlibrary sharing activity. Physical materials do appear to be important to libraries' communities. It should be noted that these aggregate data may not indicate trends in specific libraries when it comes to interlibrary lending and borrowing; local demand and use could affect the numbers. Beaubian, Kuehn, Smolow, and Ward (2006) examined actions among the libraries in one consortium and found considerable variance from library to library. Their results emphasize the need for librarians to be sensitive to local campus conditions and needs

Assessing the importance of physical items is marked by challenges, though. Another phenomenon that has garnered some attention is the decrease in numbers of items *circulated* (Circ.). To an extent, that phenomenon is borne out by the data. Libraries in doctoral/research universities did see a 15.7% decline in combined general and reserve circulation. At master's-granting institutions the decrease was 22.9% for the combined circulation. However, libraries at bachelor's-granting colleges experienced a 5.4% rise in total circulation.

These data may not be sufficient to put the lie to claims that the academic community wants and needs only electronically accessible materials. They may, though, be a necessary component to any careful and serious examination of support for teaching, learning, and research. The decreases in volumes added, by institutional classification, are quite similar to the decreases in circulation. The coincidence of trends does not mean that a flat monographic acquisitions rate would have resulted in a flat circulation rate, but there may be a relationship between the smaller numbers of current books acquired and the need for current books by the community. Local investigation could focus more specifically on the activities connected to each subject area. Such analysis could indicate curricular and research dynamics that are important to be aware of.

Trends in personnel

All of the access, services, and other actions that libraries provide depend on skilled and knowledgeable staff and the data for trends in this area are shown in Table 4 following.

Table 4**Trends in Personnel**

<i>Category</i>		<i>1998</i>	<i>2000</i>	<i>2004</i>	<i>2006</i>
FTE Staff	Doc/Res	187.3 (n=234)	186.7 (n=235)	175.6 (n=255)	175.4 (n=255)
	Master's	38.0 (n=521)	38.0 (n=519)	32.7 (n=584)	32.5 (n=582)
	Bachelor's	18.1 (n=603)	17.6 (n=598)	17.4 (n=499)	17.3 (n=499)
Librarians	Doc/Res	44.7 (n=234)	45.1 (n=235)	44.8 (n=255)	45.3 (n=255)
	Master's	45.3 (n=255)	10.1 (n=521)	9.4 (n=584)	9.5 (n=582)
	Bachelor's	4.5 (n=603)	4.7 (n=598)	4.8 (n=499)	5.0 (n=499)
Libns. as Percentage of Total Staff	Doc/Res	23.9 (n=234)	24.2 (n=235)	25.5 (n=255)	25.8 (n=255)
	Master's	26.5 (n=521)	26.9 (n=519)	28.6 (n=584)	29.3 (n=582)
	Bachelor's	25.2 (n=603)	26.8 (n=598)	27.8 (n=499)	28.9 (n=499)
Salaries as Percentage of Total Expend.	Doc/Res	46.6 (n=234)	46.4 (n=235)	45.8 (n=255)	45.0 (n=255)
	Master's	52.4 (n=521)	51.8 (n=519)	53.8 (n=584)	52.5 (n=582)
	Bachelor's	49.4 (n=603)	49.8 (n=598)	50.0 (n=499)	49.3 (n=499)

One thing that has been almost constant over the time period examined here is the percentage of the libraries' total budgets dedicated to personnel; only doctoral/research universities saw any change at all, and that was a decrease of 1.6% (45.0%, down from 46.6%). One trend that all categories of institutions shared is a decrease in the average total staff (FTE staff in Table 4) size of libraries. The decline for doctoral/research universities was 6.6%; for master's-granting institutions it was 14.5%; for bachelor's colleges it was 4.4%. The numbers of professional librarians (Librarians in Table 4), on average, were mixed. Doctoral/research universities experienced a rise of 1.3%; master's institutions had a decrease of 5.9%; bachelor's-granting colleges realized an increase of 11.1%. As Table 4 illustrates, though, the changes in numbers were quite small.

Also, for all institutional categories, professionals, by 2006, constituted larger portions of the total library staffs than they did in 1998 (Librarians as percentage of total in Table 4). Some technological advances, perhaps most likely in technical services and information systems, may have contributed to shifts in staffing. At the same time, though, enrollments did not remain static. For example, the mean full-time enrollment at members of the Association of Research Libraries (<http://www.arl.org>) rose by 17.7% from 1998 to 2006. To relate these figures to other trends, the potential for participation in class presentations and in libraries' instruction courses (the increases in enrollment) increased, while the professionals available to engage in such activities did not keep pace with enrollment.

Summary

There are more than enough challenges facing academic libraries today; it is easy to become caught in one issue, or one set of issues, and lose sight of others. For example, Campbell (2006) has written, "Today, however, the library is relinquishing its place as the top source of inquiry. The reason that the library is losing its supremacy in carrying this fundamental role is due, of course, to the impact of digital technology" (p. 16). Campbell's claim seems to be more of a dictum: technologies usurp libraries' roles. A fact that librarians are fully cognizant of is that much of the digital informational resources available to academic communities is brought to them by libraries. Also unfortunately, his advice mentioned above displays some myopia in its focus on physical space. There is no doubt that discussions among all concerned on campuses should take place, but the direction of the discourse should not be directed by any single matter, including space or technology. All of those things are means to ends. Space is much more than storage; it can be a locus where learning and discovery can be enhanced. It is important that librarians ignore (or refute, as Given does) pronouncements, such as that by William Wisner (2001), who said, "we must accept that the historic mission of libraries is finished, that our buildings will disappear gradually over the next 100 years, and that the portable e-book, once perfected, will drive the last nail in our collective coffins" (p. 68). The data examined here do not point to a simplistic conclusion.

The above criticisms present a dichotomy—a world of the past where physical collections, study space, and human interaction within the traditional space, and a world of tomorrow where individuals have all they need in the form of personal devices. Both premises omit consideration of higher education’s purposes of teaching, learning, and inquiry. The purposes constitute the starting point; the means to accomplish them should then follow. Further, Wisner (2001), Campbell (2006) , and others tacitly accept the law of the excluded middle, wherein only two possibilities are deemed legitimate for consideration. For them the choices are either the status quo or a radical technology-based difference. In many instances the law is actually a fallacy; the two possibilities exist on a continuum on which many alternatives also reside. Excluding the middle creates a false choice. The profession of librarianship should take care not to limit itself to false choices, especially where alternatives can be informed by data and their interpretation.

The data that are available, and that can be analyzed in an holistic way, point to a complex dynamic that does not automatically illuminate a single path that the profession and its spaces must follow. More people come into libraries now than they did a few years ago. More resources are available at all sizes and types of institutions. The amount and complexity of the resources available does not equal simple access to precisely what is needed and wanted. Guidance, direction, assistance—in short, instruction—in the complexity is more needed than ever. The 2006 data set included a question of libraries that deserves some special attention in light of the overall examination of the data. Libraries were asked to report whether they have incorporated information literacy into the institution’s mission. A total of 40.0% of doctoral/research universities replied in the affirmative; 39.2% of master’s-granting institutions said yes; 31.5% of bachelor’s-granting colleges stated that they do. While “information literacy” may be a somewhat contested term, the ideal of educating students who are able to frame questions, locate needed information, and evaluate sources effectively is not contested. Any concentration solely on individual elements such as space, or circulation, or reference statistics will likely miss the point that is central to higher education today. Further, any search for improvements to libraries must consider institutional purpose first. As Jeffrey Gayton (2008) pointed out, structural alterations to libraries have tended to enhance cafés, classroom spaces, and the like, while space for such related functional enterprises as writing labs have not been appreciably increased (p. 63). Gayton’s position should be included in examinations of the future of libraries.

Conclusion

An analogy suggests itself here. Technology enables the possibility for mediated learning that can occur without buildings. Higher education at large has necessarily considered the place of such a structure within the context of teaching and learning. The possibility for the structure, however, does not equal a desirable strategy. Technologically mediated learning is incorporated into what colleges and universities do, but it has not replaced every means of educating students. There is still interaction in real time within physical spaces. A focus on a few elements of libraries' actions would be similar to advocating the replacement of classrooms and buildings with online media for teaching and learning. Higher education has not, by and large, excluded the middle, though. The entirety of the educational enterprise is dynamic, but the purpose remains the development of students' potential as thinkers, communicators, doers, and citizens. Abbot's (2008) assessment should be taken seriously: "there is no truly formal or theoretical consideration of library research as an enterprise and, consequently, of whether the current transformation of libraries is good or bad for scholarship" (p. 526). The purpose should be the guide for all aspects of that educational endeavor. The trends related to libraries' actions are informational items that can be incorporated into anticipation of the future. Analysis of the trends is necessary to that anticipation.

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