

Accelerating Learning & Discovery: Refining the role of academic librarians

Andrew Dillon

School of Information, The University of Texas

[White Paper commissioned by *Council on Library and Information Resources*, Fall 2007, as part of a series of eight essays examining the critical functions of research libraries in the 21st Century. To be published in Spring 2008. May be circulated with attribution, updated status on request]

Introduction

There is a reasonable case to be made that academic libraries have changed more in the last two decades than in the preceding two centuries. Of course technology is a major driver, of that there is no dispute, as are the rising costs of publications and services, but the real questions of interest are less the nature of these technological innovations, spectacular as they may be, and more the social impacts and processes that have resulted. Furthermore, we must address these changes with the recognition that they have only begun, and they are irreversible.

The 2002 National Academies report, *Preparing for the Revolution*, presented the challenge of universities operating in a completely digital environment, speculating on massive shifts in practices in the coming decades. The Taiga Forum, a group of academic librarians, issued a set of provocative statements about academic libraries that suggested rapidly shrinking physical collections in the near term, an influx of young, MBA-like professionals to the workforce who would be unrecognizable as librarians, and the merger of academic computing with libraries on most campuses within five years. Couple these predictions to the latest NEA report (2007) of further declines in reading rates and the shifts we face in both resources and users appear dramatic.

The preponderance of digital resources now demanded by researchers and students is certainly altering library collections and the data from our own school admissions reveals that the average age of graduate students in our program has dropped below 30 and stayed there for the last few years. But what does this really mean for libraries? Collections do not disappear and the paperless world seems less attainable now than a decade before. Special collections become more valuable over time. It can be argued that libraries are a means, not an end, yet we seem to be suffering from a lack of understanding of our means. Worse, it appears that the profession of librarianship as taught and practiced in many environments, is unclear how it can offer real value without retreating into the stock defenses of our role as the gatekeepers of quality, guarantors of access, and the sole possessors of the true knowledge of cataloging.

Library as system

While it has become popular in recent years to emphasize the library as place, an academic library better viewed is a complex socio-technical system that serves multiple stakeholders. Each stakeholder has expectations, needs, and understandings of the library but not all stakeholders are direct users. Consequently, there is a tendency to elevate the end-user perspective to the forefront of discussions of the library's future and, while it is important to be user-centric in design and implementation, to shape the form of successful future academic libraries we must address the broader context of all stakeholder needs. User-centered design in socio-technical terms is not a popularity contest; it's a process of informed decision making intended to advance a solution that serves the demonstrable needs of an intended community. In this realm, what people say they like is not always what works best for them, and what people tell you they need at one point in time almost certainly shifts once you begin to deliver the results. It is this dynamic interplay of need and solution in the evolution of new technologies that places academic libraries in such an ambiguous state.

Certainly the demands of university students for online anytime access will not lessen and it's clear that many libraries view their physical environments as social spaces for laptop-carrying, coffee-drinking learners, invoking terms like 'commons' and 'learning rooms' to convey the shift of emphasis from collection to user. All well and good as this is in bringing people to the space where their walk-in can be counted as a positive statistic, it's less clear how this bringing of bodies to a room actually impacts the delivery of information to enquiring minds when their first point of enquiry remains the Google box. As libraries become more concerned with creating social spaces, they should also be concerned with entering into the people space, the library as accelerator, where information is sought, communicated, shared, tagged, and mined. Without taking this second step, the library adds little value over a bookstore.

It might be argued that the quality of access to digital collections now is continually improving, so with more space for people and increased understanding of digital tools and collections, we are faced only with security and economic concerns to tackle while we proceed with business as usual. In this simple scenario, younger librarians will bring us the technology skills, shrinking collections will provide the new physical space, and those MBA-oriented professionals entering our field will help solve the management and financial problems. Once academic libraries merge with academic computing in a new tuition-supported model of service provision, we will have the 21st century academic library.

This pseudo-realistic portrait really has little substance. Shifts in technology cannot be treated as isolated vectors, divorced from the human and social practices in which they are embedded. No matter how much pressure there is to conceive it as so, students are not customers and academic libraries are not businesses. The explosion in digital resources reflects the rapid embracing of new tools and new techniques for knowledge production that have not followed the predicted paths; just read anything from the last twenty years of speculative writings on library and technology futures to know how narrow our understanding of this process can be (and, one wonders, if this set of essays will fair any

better). Yet, we are not helpless here and we have an ability to control our destiny in some, though definitely not all ways, if we conceive the challenges correctly.

Mission alignment

The academic library is tied to the academic mission of the university. In contextual terms, we must recognize the shifts in scholarship practices that are occurring in our universities and research labs, and then seek to understand how the library functions appropriately in this new world where large data repositories become a norm for some disciplinary practices, where many students never visit a physical campus let alone a library, where libraries adopt part of the role of publishers, where tenure decisions are loosened from the documentary formats we have known for decades, and where special collections become indistinguishable from museums. As holders of the intellectual record, we need to reconsider how libraries interface with scholars working in remote teams sharing server space. With digital collections becoming boundary objects between academics, librarians, students and designers in a manner that has no obvious historical parallel, the ability to engage in the most fundamental way with the mission of a university will define the importance of academic librarianship in future.

Add to this the forms of information we deal with intellectually in academic life and the convergences we can witness between text, graphics, audio and video forms. Libraries as collections of text are already challenged by the proliferation of mixed media. Data mined for meaning will give rise to dynamic representational forms of indeterminate temporal duration to be shared with distributed users, and museums, art galleries, and archives will increasingly lose the fixed walls of separation. Managing such information spaces will place emphases on interaction, organization, and curation in a manner that challenges existing practices. Success in this world is not measured by size of holdings or foot traffic, and control cannot be assumed through the provision of a catalog.

The academic library is anchored to an organizational form whose social contract and mission need not be radically altered by any technological advance. The future of academic libraries therefore will, I believe, be determined by the extent to which they amplify the mission of their host institutions and, ultimately, the mission of the university system at a national and international level. Since there is more than one type of academic institution, there will be more than one future for academic libraries. For those of us in research universities, the point can be made succinctly. Libraries must enable and accelerate learning and discovery. Only by understanding this essential component of the university's goal can we steer a path through the ambiguities of the future.

Library as the accelerator of discovery

So, what does it mean to enable or accelerate discovery? Ultimately, the acts of creation, learning, and discovery are fueled by the world in which we reside. The record of human knowledge ensures, at least in part, that humankind can make progress beyond the span of any one life. Newton stood on the shoulders of giants, but these giants left some clues. Broadly conceived, the modern academic library system is a repository of such clues as

to the workings of our world and its contents. Such a purpose is noble and to some extent, immune from shifts in technology, though one must accept both the threats and opportunities that such shifts might enable.

Among the threats we might expect are the economic costs of intellectual assets in a world where profit clearly follows control. When everyone is their own publisher, quality, and more likely, the ability to locate the quality among the dross, becomes vital. The tremendous opportunities involve much more than the clichéd 24/7 access to everything we are promised, but rest on the added value that comes from the power to mine vast corpora of data, the sharing of ideas independent of geography, and the genuine possibility of tailoring delivery in both form and rate to individual need and preference. It is not difficult to imagine how important a role an integrated system of academic libraries might play in both contexts, especially if we face up seriously to the thorny issue of assessing information quality.

As basic library functions shift from physical spaces to digital collections, the nature of reference work will adjust accordingly. Collection development, never an exact science, can be hugely important now in an age of increasing data and a shortage of sophisticated filters. Where the catalog offered a point of entry to a bounded collection, the seamless access of digital resources requires us to design for more dynamic, unbounded, and non-local information. Clearly, there remains a need for more intelligent searching than is provided by Google but we should not underestimate the power of technological advance to render current approaches to human guidance obsolete. The list continues. Take any attribute assumed core to the professional work of librarianship and you will find it altered on some level by the information world we now inhabit, bringing with it associated threats and opportunities.

Educating by design

The ambiguities introduced by the shifts in information landscapes demand curricular responses from LIS programs to facilitate the development of the next generation of information professionals. The education of future information specialists for academic library work is also pressed by these changes in the academic landscape. In a rapidly changing technological environment, it is never enough to teach people to use these tools; the education process must enable students to adapt with new tools on an ongoing basis, and even to create our own tools. This certainly requires basic technological knowledge but since much of what you can teach in a two-year masters degree will be out of date by the time a graduate has joined the workforce, the most important educational function is the inculcation of a disposition towards technological innovation and a critical sense of how technology can serve and advance an organization's mission.

For all these changes, we must avoid the simple view of technological innovation and diffusion as one-directional. Technological shifts can operate in a refining manner, one that is not only revolutionary but in a manner that returns us to the essentials of our craft. Librarianship is intellectual work, and the best practitioner's role is never solely determined by the technology (though generations of workers might have acted

otherwise). Consequently, though media and forms of information might shift, the professional's role may thus be enhanced, especially where the shifts enable a new focus on the mission of the larger organization. Again, if our goal is to enable discovery, the emerging information infrastructure can place information professionals who fulfill this role at the very center of activity.

It is possible to envisage a role for the information specialist as a true adjunct to the teaching mission by serving as a facilitator to students and researchers as they navigate information space. This is an established view of academic librarianship but it's not always clear how best to interface the library with the classroom when libraries occupy physical spaces separate from the teaching and learning spaces in which students normally reside. I don't wish to diminish the value of rethinking the physical space of libraries and using computers and coffee to attract foot-traffic, but the opportunity exists now to pull the collection into the temporal and physical environment of the classroom, or to shift the classroom from the lecture hall to the campus and beyond in ways that never could occur previously.

On the research side we have witnessed an explosion of digital resources in both the sciences and the humanities, and while the lone scholar model will not disappear, the collaborative nature of research in many domains has enabled distributed teams of scholars to work together, sharing data, creating resources, and co-authoring without ever meeting. The outputs of these endeavors will not always find their resting place in established publishing venues, yet scholars will still require quality control, refereeing standards, tenure and promotion reviews and grants. The process of enquiry will, in one sense, remain as it ever has, but the mechanisms involved, and the ability to engage and enable these scholarly activities will require more than the provision of a physical space. When collaboration is truly loosened from co-location, we need to think differently about the wider system of academic libraries in which any one node is part of the greater intellectual resources of our world.

As well as the transformation of intellectual materials, we must recognize the attitudinal and cultural shifts that have occurred throughout the academy and our world in how information is viewed. Beyond mere access, faculty also view the intelligent management of information as part of their own working practices, bringing with them concerns with repositories, privacy, copyright and migration across time and distance. Research publications now take many forms that tax previous understandings of process and protocol. Librarianship surely has a vital function in this.

Educating information professionals and librarians to thrive in this world is a question with which all forward-looking LIS programs are grappling. But in the spirit of refining our craft, the essential questions of information organization and navigation, quality assessment, and facilitation of discovery and learning remain. The opportunities we face now require, in my view, less a revolution in curricular type but more in curricular form. The accredited masters program built on classroom lecture and term papers is ill equipped to provide students with the type of skills they need.

There are no guaranteed right answers for many of the questions new information professionals face. We must learn to accept this. Therefore we need to educate practitioners who can tolerate these ambiguities and operate intelligently in the grey areas where intelligent trial and error may lead to the best outcomes. On the grounds that the best way to predict the future is to help design it, we must educate new professionals to be comfortable with technology, to be competent enough to participate in the design of new tools and services, and to have the necessary knowledge to evaluate their offerings in terms of how well they meet users' needs. Such an educational experience will involve technical skills that allow students to see beyond the surface of the digital environment even if they never become proficient in programming; an understanding of the psychology of learning, research, and creativity so they can truly understand the users they serve; a sense of the legal and policy implications of information provisions; and a set of values that emphasize the vitality of the profession's legacies of access and stewardship.

I believe the incorporation of studio-based education in LIS would be an important step forward. Taking learners out of the talking head dominated classroom environment into a new pedagogical model built on design and project experiences, at least as a complement to current forms, would offer budding professionals the chance to hone skills that will prove essential in the coming years. This form of curricular innovation would tie education to professional practice in a manner more akin to design school than classic library school. Projects involving real clients would become a testing ground for ideas and potential solutions, providing the emerging professional with opportunities to hear from the field, work with an expert, and offer concrete responses. Coupled with a strong theoretical education in human information interactions, we would educate a class of professional equipped to grapple with the ill-structured problems faced by academic libraries at this time.

Conclusion

Academic libraries will survive as long as there are universities. However, libraries cannot thrive without aligning their workings directly to the core mission of their host institutions. Augmenting the learning and research processes will require a deeper understanding of the underlying psychology and culture of these creative acts and experiences, coupled with an ability to experiment with and evaluate the effects of new tools. Libraries are not alone in this effort and a partnering with faculty in exploring new practices is necessary for real progress to occur.

The education of new academic librarians needs to be fostered through a more flexible, studio-based curriculum that builds the skills and knowledge required to participate intelligently in the changes impacting libraries. It will be vital to retain the values of the LIS field in each new generation of professionals while enhancing their abilities to accelerate human discovery. There is no one role for the future academic library, but there is one profession that addresses people's needs for information in a manner not

distorted by concerns with profit or control. Our collective prosperity rests on our advancing this profession appropriately.

References

Preparing for the Revolution: Information Technology and the Future of the Research University (2002), Report of the National Research Council of the National Academies, National Academies Press. <http://www.nap.edu>

To Read or Not to Read: A Question of National Consequence (2007) National Endowment for the Arts, Research Report #47, November 2007. <http://www.arts.gov>