Against the Grain

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Academic Libraries After Print

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This article evolved from an analysis I did of two e-content surveys that **ebrary** sponsored one in the spring of this year and another in the fall. There were two general implications concerning the future of academic libraries that I took away from the surveys that confirmed views I have held for some time. First, e-content will supplant print for academic libraries but the efficacy of the librarian will remain and probably increase long after the research value of the physical collection is relegated to historical significance. Second, the academic library function will not be outsourced. The three primary foci of the academic library will be acquisition, instruction, and publication.

Only the most stalwart believers in the primacy of paper distribution systems can at this point deny the probability of its disposition by electronic counterparts. Distribution of print information resources will likely slow to a drizzle at the point wireless Internet access becomes ubiquitous. The eclipse of paper distribution by electronic requires anytime-anywhere access to the Internet. The advancing merger of cellular and IP technologies driven by the promise of interactive marketing and distribution of goods and services will provide the mechanism for the distribution of information resources currently distributed physically. There are converging technologies and economic exigencies that mitigate in favor of this view. The appearance of **Kindle** by **Amazon** and **Android** by **Google** and **T-Mobile** are recent evidence of the progression. The promise of interactive marketing and distribution through a proliferation of constantly evolving Internet access devices along with all of the services and products that can be marketed through them is driving the development of the Internet toward this economic nirvana with ever accelerating energy.

The critical mass point for the change to electronic distribution is dependent upon the percentage of the target population that has wireless access to the Internet with devices suitable for reading documents. At the point income from electronic distribution outweighs the income from a tandem print/electronic distribution strategy, print will be eclipsed. Paper will likely be available on demand at premium prices. Electronic counterparts will drop significantly in price as the costs of maintaining print distribution are removed from the equation.

I do not believe that the disappearance of print means that the need for librarians in higher education will be eclipsed by vendors. Some librarians envision the demise of the academic library. They see the future library component of higher education as an outsourced service provided by vendors who aggregate curriculum relevant resources from the disparate set of publishers across the Internet. In this vision, vendors broker library access to electronic resources and knit them together through increasingly sophisticated, effective, and personable interfaces that provide the students, administration, and faculty with the best available information for whatever task is at hand. In this vision of library services in academe, there are no more libraries as physical places. Only archive copies of books remain in local, state, and national level depositories that function primarily as museums rather than as primary information resources.

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The academic library, I believe, has a more prominent place in the future of higher education in the context of electronic resources. The transition from physical to electronic distribution of information is changing the nature of library operations. There are indications apparent in those changes which suggest that the integration of the use of information resources into the curricula of all educational endeavors by librarians will become more important as information increasingly becomes the raw material of modern culture and economy. In general, the library will become an even more integral and dynamic component of the endeavors of its academic community as the library operations associated with the provision of electronic resources evolve.

Librarians generally do not dispute the ascendancy of electronic distribution in academic libraries. And most librarians, I believe, welcome the increased access that electronic organization and dissemination of information affords as well as the increased power of the research tools they provide. Many, I also believe, look with some measure of expectation toward the improved information equity this implies at least potentially. Librarians are postured between the promise of improved information access for all and portents of the demise of their profession.

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It is my view that the fate of librarians who have been the keepers of the paper based distribution systems in higher education is not likely to be that of book museum curators.

Most of the library operations associated with print resources will have electronic counterparts. Some remain but diminish — i.e., circulation scales down to authentication. Some expand — i.e., acquisitions, instruction, and publication. Librarians are likely to be engaged in intensified efforts to identify Internet based resources relevant to the specific needs of their institutions, to integrate information literacy comprehensively throughout the curriculum, and to develop content management systems to assist the academy in organizing and providing access to its own production of information.

Acquisition

Acquisition of resources have and will continue to shift from activities focused on purchasing and processing physical materials to those associated with providing access to electronic resources. The acquisition activities will be associated with coordinating access to procured electronic information as well as identifying curriculum relevant resources openly available through the Internet. Cooperative acquisition of electronic resources will extend the principle of a library as a shared resource. Cooperatives of electronic information resources may form as they serve the needs of their joint constituents regardless of where they reside geographically. The identity of any given library with respect to the source of funding for the cooperatively purchased access may eventually be a complex blend of different governmental and private agencies.

The services of librarians were required in the two dimensional world of print because of its volume and complexity over manuscript production. Librarians brought specialized mediation to the task of acquiring the increased volume of resources provided by the printing press. The environs of the electronic information sphere require the same interventions on the part of professionals albeit using the developing technologies of the evolving sphere of information and communication. The dramatically rising volume and complexity of information resources distributed via the Internet necessitates change in the methods of mediation. **Google** and search tools like it will handily assist in the provision of focused answers to surprisingly wide types of information needs. It will not systematically identify curriculum-relevant Internet resources for integrated use within the missions associated with

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institutions of higher education. The acquisition function of librarians will be engaged in identifying the subset of information across the spectrum provided over the Internet that is relevant to the curricula of their particular institutions.

It could be argued that the tools evolving on the Internet to identify the subsets of information relevant to an individual will also evolve to automatically identify those that are relevant for an institution. Conversely, it can be argued that those tools, even for the individual, will continue to require ongoing mediation and decision making with respect to purchasing options and constantly changing information needs. The same mediation and decision making processes will be required within the institutions of higher education. The past ten years of expanding cooperative purchasing arrangements in the typical academic library provides evidence. Universities purchase resources from a growing list of vendors and within a growing complexity of cooperative relationships. The processes required in the ongoing evaluation of those resources are also expanding.

The acquisition role of the library professional extended into the electronic realm will also have to accommodate an ever increasing volume, diversity and complexity of open source and freely available Internet-based information resources. The expansion of the electronic information sphere is accelerating in both breath and depth. Commercial, corporate, government, academic, organizational, and personal sites are proliferating. Their pages are not just simple, flat presentations of pictures and words. Websites are employing increasingly sophisticated content management systems (CMS) that connect to increasingly diverse and complex data sets. The information sphere and the tools and systems for navigating and using it are multiplying. Many university library Websites, as an example, currently organize by program area hundreds of links to information sources available without charge over the Internet. These resources also require the acquisition processes of discovery, evaluation, and communication.

Instruction

The shift in information access because of the Internet has increased the need for instruction in the rapidly expanding global information sphere. The days of a library tour that centered on the catalog and how to find things in the library are gone. Instruction in and assistance with the use of continuously evolving information resources will ascend in importance in the academic library. Instruction will increasingly become the focus of efforts to systematically and comprehensively provide information literacy instruction horizontally and vertically throughout the curriculum. The need for students and faculty to become more information savvy in an increasingly information dependent culture will be reflected in the ongoing efforts of librarians to integrate instruction in the use of relevant information resources into the various academic programs. Librarians will need to stay abreast of the expanding content of the information infrastructure as well as the continually evolving electronic tools for accessing, organizing, and using information.

Different views of appropriate basic information literacy at the moment include instruction in the use of general eBook and e-journal databases like **ebrary** and **EBSCO Academic Premier**, an introduction to concepts of peer review, evaluation of Internet information resources, discussions of plagiarism and copyright, instruction in citing resources, an exploration of search strategies for different research projects, the selection and use of search engines, and the use of tools like **Serials Solutions** and federated search engines. The list is not comprehensive and continues to grow as new information resources and tools for accessing them proliferate.

The **North Central Association** criterion for assessing library viability no longer focuses on counting "staff members and the square footage allocated to the library and to book inventories." Libraries "exist to support teaching and learning. To make learning resources an integral part of a student's education, an organization will have to invest in appropriate materials and equipment and provide the staff that can maintain these resources, train students in their use, and provide assistance when it is needed."

The information literacy role also becomes more central as evaluation and assessment of learning outcomes associated with information literacy become a more central concern of accreditation.

The test for accreditation is no longer ownership. Instead, it evaluates the organization's understanding of what resources are needed for effective learning and teaching and its creative ways of linking faculty and students to the resources and making sure they are used. Con-

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sequently, it is critical for colleges and universities to assess actual student use of equipment, materials, and media, collecting evidence that something worthwhile is happening to students because learning resources exist. (See **NCA**. *Criterion Three: Core Component 3d.)*

In harmony with this increased focus on assessment of information literacy outcomes, **ACRL (Association of College and Research Libraries)** articulates the need for structured, comprehensive instruction.

Each institution will develop its own overall approach to instruction programming, but a successful comprehensive program will have the following elements:

- a clearly articulated structure, described in readily available documents, showing the relationships among various components of the program;
- an integral relationship with key institutional curricula and initiatives (e.g., general education, writing programs, etc.) so that there is horizontal breadth to the program; and
- a progression of information literacy learning outcomes matched to increasingly complex learning outcomes throughout a student's academic career so that there is vertical integration in the program. Information literacy programming should reach beyond the first year or general education courses and be present in discipline-specific coursework or courses in the majors. (See **ACRL** *Guidelines for Instruction Programs in Academic Libraries*)

Beyond providing basic instruction in information literacy, these **ACRL** guidelines also indicate the need for comprehensive upper division information literacy instruction. I believe that at this time these include instruction in subject specific databases; an exposure to relevant subject area academic, governmental, professional, and commercial Websites; and a discussion of search strategies that are relevant for particular majors.

Although the transition to the completely digital library will require considerable sorting out, from my vantage point as a practitioner working through the changes, librarians are likely to play a role in academe more intimately integrated into the instruction mission of higher education. In a more distant time frame, I believe that the function of librarians will move closer to the faculty and the curriculum. I see them as members of teams that design learning environments. As higher education integrates more thoroughly into the fabric of an information centered economy, the demands of life-long learning will restructure the higher education learning environments. Adaptations in the design of learning environments will be set in motion by the continually evolving technologies of teaching and learning as well as the technologies of the information and communication spheres. Specialists in creating learning environments and those focused on articulating relevant access to, knowledge of, and participation in the information sphere, I believe, will be working more intimately with faculty in the design and implementation of those environs.

Publishing

A growing percentage of libraries are participating in the distribution of e-content. While the efforts are fairly rudimentary, it is in my view likely that academic libraries will play an increasing role in e-publication for their institutions. As the administration of content management systems becomes more focused on facilitating peer review and research processes, the skill sets and propensities of librarians ascend in appropriateness to the task.

A modest majority (56%) of the librarians in the March **ebrary** survey responded that they were either currently digitizing content or actively considering it. (See **ebrary's** *Global eBook Survey*, p.8.) Content management will become increasingly important for librarianship, particularly as libraries assume more of the publishing role for their communities. As the peer review processes evolve in the context of the Internet, the functions of publishing may be disassembled and absorbed by individuals within higher education — i.e., librarians, faculty, technicians, and editors.

A glimpse of the publication role of librarians can be approached through a view of the processes of peer review in the context of the changing information sphere. The peer review process, among its other functions, can be viewed broadly as a mechanism by which a community evolves a piecemeal consensus over its research findings. Librarians provide their expertise mostly in the access portion of the peer review processes. They acquire and provide access to research resources. The current role of librarians derived from the last major upheaval in the changes in the mechanisms of information distribution, which occurred as the products of the printing press proliferated across Europe. The increased volume of information gave rise to the current mechanisms of peer review that rely heavily on editors and their reviewers for the initial selection processes in the distribution chain. And they have relied on librarians for much of the acquisition and access part of the process.

While data and statistics play the central role in the peer review discussion, the process also relies on the character of the players in the review process — editors and reviewers. This influence can be beneficial in that is utilizes experience and reputation to sort through the volume of research that is presented. Experience may, however, harbor a bias that to some degree inhibits the optimal presentation of new research. It may exert an unnecessarily conservative influence. The status quo can obfuscate deviant breakthroughs. Whatever the strengths or weaknesses of the current system, the librarians affect peer review processes through the systems of selection, organization, and access they have evolved.

A future publication role for libraries may include configuring and maintaining content management systems for the facilitation of peer review processes. This is very speculative territory; however, the tension between the academic community and the current peer review/publishing model has a significant group of academics looking for alternatives. The responses in the ebrary survey indicate that libraries are cutting their teeth on a publishing role for their institutions even though the content at this juncture tends to be mostly special collections or materials for limited or internal distribution.

Conclusion

It is my view that librarians will be more in evidence and play a more integral role in academe as the operations of libraries transition into an e-distribution environment. As higher education expands its life-long learning mission through ever more innovative learning environments, librarians will likely have a part integrating information literacy instruction into them. They will assist in identifying and providing access to the resources and tools supportive of research. As publishers for their institutions, they will configure and manage the content management systems used in peer review processes and supply the metadata for organization and access of the resources published by their institutions.

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