Rethinking Reference: Shaken Foundations, Predictions, and What Really Happened Between 1988 and 2005

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Abstract

Reference and information services in academic libraries have evolved as conditions have continually changed. This session examines reference services beginning with the somewhat tumultuous 1988–92 era of challenges and questions and progresses to the current day to become familiar with the patterns, trends, and changes in reference services.

Introductory Comments

This presentation examines the predictions for "The Academic Library of the Future," as noted in *Rethinking Reference in Academic Libraries*, a seminal book on reference services in academic libraries published in 1993.[1] These predictions are examined within the context of a reference services model originally proposed in "The Changing Nature of Reference and Information Services," published in *Reference & User Services Quarterly* in 1999.[2]

In the late 1980s, academic library administrators questioned reference service efficacy. In "Shaking the Conceptual Foundations of Reference: A Perspective," Jerry Campbell, the University Librarian at Duke University, examined reference services from practical and economic perspectives. He asserted the reference services "model cannot survive the information age. The user community is growing too rapidly. It has too many questions. Our libraries have too little money. More important, our users themselves are gradually changing; they are coming to expect something different. They want information quickly, and they want it delivered to them. Increasingly they want it delivered in electronic form. Reference as we know it places a person between the public and the information." Mr. Campbell suggested reference librarians needed to become "access engineers."[3]

By 1991 and 1992, libraries were involved in extensive examinations of reference services and organizational structures. Teams and team-based organizational structures were examined and embraced by a significant number of academic librarians and institutions. Total

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Quality Management principles were implemented in libraries based on reports of its acceptance and success in other customer service settings. Workshops and retreats provided opportunities to challenge traditional assumptions and examine priorities. Within this context the Brandeis Model of tiered reference was introduced.

As the 1990s progressed, reference and information services continued evolving, with the Internet as a significant factor. Few were prepared for the dramatic impact of the Internet on traditional reference services. With this and other available information technologies, online reference services were developed as the decade continued.

Rethinking Reference in Academic Libraries is an appropriate title, considering the conditions and concerns of the time. The conceptual foundations of reference services were being shaken, as noted by Campbell and other librarians. The predictions for "The Academic Library of the Future" are examined within the context of a model of reference and information services, including traditional, experimental, and eclectic phases.

In the following article the predictions made in *Rethinking Reference in Academic Libraries* are noted at the beginning of the sections, bolded and in italic.

The Academic Library in 2010

1. Users seldom come into the library (building). If they do, it will be for assistance with special problems; casual/recreational reading; access to special equipment; access for those who lack appropriate equipment and/or expertise; contact with people; study hall; functions (wine and cheese parties); or instruction, including individual and group.

Librarians reacted dramatically to "The Deserted Library," an article published in the *Chronicle of Higher Education* in 2001.[4] This article implied students were not coming into academic libraries, opting to rely on electronic services and resources. After publication, several organizations assessed the impact of the Internet on students, including library usage. The results were:

- 89 percent use printed materials regularly;
- accuracy of information is important;
- 73 percent are using the Internet more than libraries to locate information and 9 percent are using libraries more;
- They prefer face-to-face interactions with librarians and faculty;
- 80 percent of the students and faculty state the Internet changed the way they use libraries;
- 67 percent of the students and faculty state they have not decreased library usage.[5]

While it is obvious environmental factors (the Internet, for example) are affecting the use of libraries, it is not statistically evident that the library as place is being used significantly less. In all likelihood, libraries are being used differently. Patrons visit libraries for assistance with information needs. They study in libraries often in groups. With the implementation of technology-based services, the use and design of libraries has shifted, accommodating students' expectations and information accessibility.

Interestingly there is recent evidence that with an increasingly diverse student population, academic libraries are viewed by ethnically diverse students as "racially-neutral" spaces, places where they feel comfortable. This is in contrast to other campus institutions which students view in a more negative light.[6] What this means for reference librarians and services is that the "traditional" model still has a place in a physical setting. Librarians are still needed in the physical setting but must now project themselves outward and around the campus to meet the changing expectations of students and faculty.

Instructional services also make the physical library a necessity, as information literacy becomes a critical component of the educational experience. From in-house classrooms to online tutorials, libraries are increasingly employed as an essential adjunct to the instructional mission of academia.

Obviously physical libraries are critical for traditional and burgeoning activities, be it the time-honored, face-to-face interactions with librarians or virtual classes on assessing online information resources. Along with library technology, the library as place has evolved.

2. Nearly all serials will appear in digitized format (and all will probably be produced using computer technologies).

With electronic serials becoming the norm, this prediction is likely to be accurate. While exact figures are uncertain, nearly all serial publishers are moving toward electronic-only journals. In a study published in 2003, Peter McCracken notes that 83.3 percent of academic journals at baccalaureate institutions are available electronically.[7]

Libraries cope with limited space for traditional collections devoting an inordinate amount of time to maintenance and costs. Due to users' increasing preference for full-text electronic journals, some libraries have adopted polices that prefer electronic serials.[8]

In recent years, nearly all core serials in science, technology, and medicine are available electronically. Serials in the humanities and social sciences are also increasingly available online. Open access journals are becoming more common.[9] For example, PubMed Central and the Public Library of Science are providing open access to electronic serials.[10]

3. A high percentage of monographs will appear in digitized format.

This prediction is likely to be inaccurate even by 2010. Unlike serials, digitized conversion of monographs has not been cohesive or coordinated. Digitized monographs are accepted and used by students, but to a somewhat limited degree, especially compared to traditional book use. Usage tends to be limited to scanning or perusing content.[11] Screen resolution and contrast affect readability and acceptance. As resolution improves on mobile computing devices or systems, acceptance is also likely to improve.

Major book publishers have struggled to create niches in the electronic books marketplace. Several major publishers, including Random House and the Time Warner Book Group, have eliminated or scaled back their electronic publishing divisions. Nonetheless, some of the smaller publishers are seeing gradual increases in electronic book sales. In 2003, sales totaled $7.3 million, or an increase of more than 100 percent over 2002 sales.[12] Still, the $7.3 million represented less than 0.03 percent of total sales ($27.9 billion).[13]

E-Libraries, collections of electronic books, are accepted and used in academic communities, showing particular promise for distance and distributed education programs. These aggregators have experienced the proverbial "ups and downs" in the information marketplace as librarians and users assess utility, quality, and quantity. Fees are assessed to the students or to libraries.[14]

Aggregated electronic reference works have been particularly successful. Continuously available and easily accessible, these high-quality information resources are accepted and used by students and scholars. Indices have made this change faster than other types of reference works. "In the Internet world, library users have little patience with book materials, which they see as limited or over-complex … They tolerated them when there was no other way of getting to information that mattered."[15]

This prediction is not likely to be accurate, as users still prefer traditional books. At the moment, reading text on a computer screen is a far from pleasant experience. Nonetheless, digitized books are increasingly accessible via aggregators as well as databases in "reference collections." Nearly 15,000 public domain books are also currently available electronically. Initiatives such as the "History E-Book Project," sponsored by the American Council of Learned Societies, are likely to facilitate more acceptance. As digitization technologies improve, the digitized book is likely to become more popular.[16]

With the recent announcement by Google of digitizing the collections of major academic and public libraries, interest in digital (and physical) monographs may increase dramatically. While reading or "checking out" monographs online may not increase, the digitization project, with its ability to search text within monographs may spur users to utilize interlibrary loan at a substantially higher rate.[17]

4. Remote electronic access to a wide variety of formats and information via networks will be the norm.

Remote access to services and resources via the Web has become a standard offering. License agreements limit resource access to current students, faculty, and staff, however. The general public, as well as members of the university community without outside access, must still come to campus to access these resources. Services, such as virtual reference, tend to be more available beyond the university. The prediction is mostly accurate.

5. CD-ROMs will have passed away as networking provides the primary distributed access to large databases and text files.

This is an accurate prediction. CD-ROMs are still used for specific purposes, but these are well defined and limited in scope and content. Networked options, including remote access to sites, have minimized the impact of the CD-ROM. With some exceptions, the format has, indeed, "passed away" in favor of Internet resources.

6. Full-text retrieval will be at least as standard as retrieval of bibliographic information is today.

If customer preferences are key factors in the infor-

mation marketplace, this will be an accurate prediction in 2010. Students clearly prefer full-text materials, ignoring citations if not accompanied by a full-text link since they do not require searching or copying, particularly if they are outside the campus. Most information providers offer full-text options for a fee.

7. Library staffing will be way down as labor-intensive aspects of the library institution decrease.

This prediction is not likely to be accurate. As noted previously, the challenge to reference services during the "experimental period" (late 1980s to the mid-1990s) brought new services and orientations, resulting in positions not conceived of in the pre-Internet age.[18] As libraries became more user-focused and technologically savvy, additional staff, particularly professionals, became imperative, resulting in such positions as "distance education librarians," "electronic resource librarians," and "virtual librarians."

What about the "labor-intensive aspects" in the prediction? Various information technologies have changed or streamlined library operations. Maintenance of serials, for example, has been automated. As a result, some of the traditional procedures related to serials operations have been eliminated. Still, staff needs to be trained to work with more sophisticated automated serials processes and procedures. Nonetheless, it is not clear that less labor is needed to maintain these sophisticated systems.

The predictors were not able to anticipate the dramatic changes in organizational structures and priorities. The "work" evolved to become more sophisticated, especially with the Internet and associated information technologies.

8. Front-end systems for accessing databases will be significantly more intuitive, greatly reducing the need for information intermediaries.

Thanks to the advent of the World Wide Web, front-end systems, particularly user interfaces, are more sophisticated and intuitive, allowing users to manipulate complex data and information.

The predictors did not and could not anticipate the Web and its impact on systems and user interfaces. Internet search engines have changed the ways people looked for information. Since the predictions were written in 1992, this is understandable. The Internet's impact on academe was obviously more significant as the decade progressed. Librarians as "information intermediaries" are available and needed, but current front-end systems provide effective information retrieval.

9. Individual access to high-quality computing equipment will be a given for every member of the university community.

The prediction is essentially accurate. While the quality and quantity of computing equipment varies among universities, faculty generally have appropriate networked computing equipment. Academic libraries have systems librarians and staff devoted to the maintenance of complex computing systems. Librarians seek opportunities to collaborate with information technology departments. Libraries and campuses are now wireless with laptops becoming commonplace.

Access to computers and the Internet on campuses can differ dramatically from access at home however. Numerous articles on the "digital divide" discuss this phenomenon.[19] Libraries are the access points for those who do not have access to computers or the Internet.

10. Library acquisitions, personnel, and maintenance costs will be way down.

This prediction is basically inaccurate. The cost for information resources, including books, serials, and databases continue to escalate. From 1993 to 2001, average prices for U.S. and international periodicals increased 90.8 percent and 95.1 percent, respectively. Total expenditures for materials in academic libraries in 1993–94 were $1,309,003,591. Interestingly, total expenditures for materials in 2002–03 were $1,352,674,991, or up 3.2 percent. As costs for periodicals and serials have increased, book budgets have been affected. Total expenditures for books decreased 15.4 percent. Funds have been increasingly allocated to periodicals, serials, and databases.[20]

Personnel costs (salaries and wages) increased 34.5 percent from 1993–94 to 2002–03. Operating expenses, including supplies and materials, contracted services, and equipment increased 13.3 percent, 29.9 percent, and 16.6 percent, respectively. Total costs for university libraries increased 44.7 percent from 1993–94 to 2002–03. Total costs for college libraries increased 39.7 percent.[21] Materials, personnel, and maintenance costs have not decreased.

11. Libraries will be out of the direct charge loop for access to databases and information services. Users will have personal accounts and libraries or universities will serve as brokers to obtain special rates with

information services and providers.

This prediction infers users will negotiate directly with information providers, an activity that, in general, has not occurred on campuses. Faculty and students have not been particularly interested in negotiations with information providers preferring libraries to handle that role. In addition, Internet users are reluctant to pay for online information.

12. Libraries and librarians will serve in gateway roles and as facilitators to those who need special assistance and/or access to esoteric materials.

This prediction is basically accurate. Academic librarians participate in a variety of gateway roles, providing advice, counsel, and assistance. With the emphasis on instructional services, librarians work with all users, creating customized content and facilitating information access. In short, librarians are information consultants. The gateway and facilitation roles are now standard activities for academic librarians.

13. Libraries will continue to serve as archives or museums for special materials.

This prediction will be accurate. Special collections or materials are being identified, archived, and digitized. Access to digitized and traditional archival materials is provided. Librarians cultivate and interpret cultural and historical documentation. Librarians also recognize that a key societal role of libraries, the archival function, is at risk as electronic information is usually not available for purchase and retention or preservation. Libraries and universities are involved in this archival role, as it is not economically viable to do so in the private sector. Project Muse and JSTOR are representative examples of archived scholarly electronic information developed by libraries and universities.[22]

14. Memory and storage capabilities will be dramatically up; costs for memory and storage will be equally reduced.

The librarians were on target with this prediction. Memory/storage capacities in computers and computing devices have improved dramatically. Costs have gradually decreased. Laptops are excellent examples of these trends. As the delivery of services and resources in academic communities is based on available computers and computing systems, this trend has been particularly important.

15. A large percentage of the academic library's holdings will be converted to digitized form.

This prediction will be basically accurate for the library's non-monographic materials. Some books are available as full-text. However, archival retrospective conversion projects are not proceeding at the same speed as the digitization of current content. As previously discussed in prediction three, if successful, Google's ambitious plan will integrate monographic materials into the digitized mix.

16. Advanced technologies and techniques will be used to index materials, providing the capability to search large databases efficiently and successfully.

This prediction is basically accurate. Specialists and organizations in the private and public sectors integrate cutting-edge search protocols into databases and other aggregates of information. Databases usually come with effective search protocols, although some librarians occasionally express concerns. Information architecture, a relatively new specialization, focuses on the "design of organization and navigation systems to help people find and manage information more successfully."[23] The information architect facilitates processes to organize available content, creating structures to logically support the content so that others are able to intuitively locate desired data or information. Content is efficiently organized, accessible, and searchable.[24] Several of the graduate schools of library and information studies (or simply graduate schools of information) emphasize information architecture in curricular options. Virtual services and libraries, online catalogs, and databases (via vendors or developed in libraries) are designed and organized so that navigation is efficient and, hopefully, effective.

17. New licensing and use fee structures will exist. These will reflect a larger user base as well as lower costs per use.

This prediction is generally accurate. Licenses and user fees have become standard features. Databases and electronic serials are excellent examples. Database fees are usually tied to the number of enrolled students. Licenses for electronic serials, individually or bundled, focus on the user population. Consortia agreements for databases and electronic publications also focus on the number of users.

The Academic Library's Users in 2010

In 2010, the academic library's users (1) will have access to effective computing equipment; (2) will have access to information networks; (3) will expect to be able to access computerized information systems with

minimal instruction; (4) will expect to have access to all required readings online; (5) will expect to have access to all relevant reference materials online; (6) will expect to have access to most other materials, in most formats, online; (7) will not expect to have to enter the library (building) or require assistance from librarians, except for access to special or esoteric materials, some training, information counseling, and assistance with difficult questions; and (8) will accept assumption of use costs for information access comparable to current support of library activities (included with costs of attending the university).

It is easy to understand why modern library users have these expectations. Most of them have grown up with the Web, or at least been exposed to it for the past ten years. For most of their lives, they have been able to meet their information needs via the Internet. Modern students have been able to find adequate amounts of information because of their "well-honed" Internet search skills, the improvement in search engine algorithms, or because the sheer volume of information on the Internet guarantees there will be "something" about everything.

As they enter academia, using experience as their guide, there is every reason for them to expect the vast majority of the materials they need for their research should be able to be accessed without having to come to the library. A study of students at the University of North Carolina at Chapel Hill who had previously not used print reserves, reports 70 percent of them said they would be more likely to read reserve reading if they were online, and 77 percent responded that 24/7 access was essential or very important to them.[25] Another study of undergraduates shows that almost 90 percent of students surveyed would encourage faculty members to switch from print to electronic reserves.[26]

Beyond a habit of information gathering online, and the obvious ease it presents, another, rather disturbing, expectation about online information may be developing in the generation raised with the Internet. The modern student may be granting "positional authority" of sorts to information formatted electronically. In a study at the University of Houston-Clear Lake (UHCL) "…many students believed that one could find more important articles using electronic full-text databases than they could by going to the library when in fact less than one-sixth of the articles in print at UHCL were in full-text electronic databases."[27] In

2005, students may not only be expecting to find the information they need online, they may be expecting the *best* information online.

The predictions in this area are generally accurate, especially in the areas of student expectations. The one prediction that did not come true was in the area of students' assumption of costs for information access and services. These costs are usually covered by libraries (universities). Nonetheless, the students contribute to these costs via increased tuition as well as special fees. Predictions on the availability of and preferences for electronic materials are on target.

Functions of The Academic Librarian in 2010

In 2010, academic librarians will be (1) facilitators or professional/personal information guides, educating users, providing access to esoteric materials, seeking new information resources, and participating as information counselors; (2) market analysts, assessing users to determine information needs and how well the needs are met; (3) brokers, negotiating access to information resources; (4) conservators, identifying materials for conversion to digitized formats; (5) researchers and designers, evaluating and improving existing services and systems; (6) reference librarians, providing responses to difficult questions; (7) archivists, collecting, organizing, and providing access to archival and special materials; and (8) developers/producers, creating new information resources and databases, usually from unique, local resources, for addition to local/regional/national/international databases accessible via networks.

These predictions are impressive and accurate. We are now filling the predicted roles and more. We formally assess information needs via focus groups and LibQUAL+ to improve programs and services. We broker agreements with vendors, providing cost-efficient and easy access to online resources. We are archivists and conservators, identifying and preserving unique resources, increasingly in digital formats. We are also information architects, developing and influencing the design, content and functionality of online resources.

What Did the Predictors Fail to Anticipate?

The predictors failed to anticipate the emergence and importance of the issues associated with scholarly communication and libraries' materials budgets. Serial reviews, concern over publisher practices and faculty

publishing activities have brought scholarly communication issues to the forefront. Currently, nearly 300 institutions are members of SPARC, the Scholarly Publishing and Academic Resources Coalition, a catalyst for action and "constructive response to market dysfunctions in the scholarly communication system."[28]

The predictors were unable to anticipate the intensity and scope of the emphasis on teaching and learning, including the development and evolution of information literacy. In ARL libraries, the percentage of students attending formal library/information-related presentations increased from 55.0 percent in 1995 to 67.1 percent in 2003.[29]

The predictors missed the creation and popularity of "information commons" on campuses. These are collaborative spaces jointly developed by libraries and information technology departments. These facilities provide multimedia workstations, networked classrooms, and opportunities to obtain assistance. Traditional reference services are supported or amplified by these technologies.

Distance and distributed education were not included in the predictions. In 1995, 33 percent of the colleges and universities supported distance education with 750,000 students enrolled in 25,000 distance courses. By 2000, nearly 60 percent of the colleges and universities supported distance education with 3,000,000 students enrolled in over 100,000 distance courses.[30] Reference services have evolved to meet the information needs of these new students including the use of virtual reference services. Journals such as the *Internet Reference Services Quarterly* and the *Journal of Library and Information Services in Distance Learning* are being published, indications of the increasing ties between reference services and distance education.

The predictors did not anticipate activities associated with grey literature, including the impact on reference services. Students and scholars are locating these materials on the Internet and identifying this information as vital to their studies and research. Increasingly aware of the importance of materials basically ignored or overlooked for decades, reference librarians are becoming specialists in the practical and scholarly applications of this relatively "new" format.

Finally, the authors failed to predict the cultural and information juggernaut of the World Wide Web and its profound effect upon reference services and research. At the time of publication (1993), the World

Wide Web made up just 0.1 percent of NSF backbone traffic.[31] When the article was in development, the Web was in an embryonic state. In retrospect, it would have been impossible for anyone to envision a technological phenomenon having such an enormous impact not only upon librarianship, but also on society itself.

The Predictions and What Really Happened Between 1988 and 2005

These important predictions were made at a time of confusion and, to some degree, in chaotic conditions. Services in academic libraries were being challenged. The challenges occurred between 1988 and 1992. Responses to these challenges, in general, occurred between 1990 and 1995.

In light of the predictions, the model proposed in "The Changing Nature of Reference and Information Services," published in 1999 in *Reference & User Services Quarterly*, is appropriate. Three periods or phases of reference librarianship are defined and discussed: the *classical period*, the *experimental period*, and the *eclectic period*. The classical period (up to approximately the mid-1980s) was "defined by a marked concern with control. The roles and responsibilities of reference librarians were well defined and expectations were formally outlined. Variances in these expectations were limited, and ideas and recommendations were cautiously passed from one level to another in the hierarchical structure of the library. Creativity and innovation essentially were controlled, and risk-taking was not valued." The experimental period (from the late 1980s to the mid-1990s) was "characterized by new theories and approaches aimed at redefining the library's organizational structure, leadership, and service models in the technological age. It was a time of great experimentation and uncertainty in the library profession." The eclectic period "developed as a result of this time of experimentation and reevaluation … The library of the eclectic period is characterized by ongoing change and is a hybrid of classical reference archetypes melded with experimental theories and services, but it is more stable than the library of the previous periods."[32] Due to all of the new technology and databases used in research, and the need to choose amongst them and evaluate the resources they contain, librarians at the reference desk are now, more than ever, involved in instruction.

The predictions were formulated in 1992, or in

the middle of the experimental period. Organizational cultures and structures were challenged and redefined. Technology was viewed as a transformative catalyst with unlimited potential. On national and international levels, "backbones," including the NSFNET Backbone, were being developed. Information professionals were understandably optimistic about the potential applications of technology. Of the seventeen academic library predictions, nine are likely to be accurate; of the nine academic library users' predictions, eight will probably be on target. For each group, each fulfilled prediction will be as a result of advanced technologies. Nearly all of the predictions for the academic librarian's functions in 2010 have materialized, again due to technology.

While predictions underscored by technology are likely to be accurate, staffing predictions will not be as accurate. Labor-intensive elements in libraries have not decreased. Roles have evolved due to complexity of the work, necessitating specialized expertise and skills. The reference librarian in 2005 is essentially an information technologist, a fusion of several professional skill sets, from traditional reference skills to technology-based skills, such as information consulting, instructional and systems design. New positions have been created and refined to reflect these developments.

The reference librarians formulated the predictions in the middle of the experimental period, a time of challenges to reference services and an era characterized by increased ambiguity, chaos, and experimentation. Perhaps the predictions were made as a response to the times: due to the chaotic and uncertain state of so many services and resources, the authors assumed that traditional services and attitudes no longer met users' needs. Organizational structures were reassessed or realigned, reflecting trends in corporate America, rather than the time-honored library hierarchical viewpoint. Tired of muddling, librarians rejected traditional methods and solutions. Looking to the future they embraced innovative options. In a sense, they decided to transform services and, as a result, organizational cultures and structures as well.

Jerry Campbell's assertions on reference services were essentially correct and were also reflected realistically in the predictions. User communities continue to grow and their information needs are varied and complex. The predictions in *Rethinking Reference in Academic Libraries* are relevant and constitute an important "slice" of thought and perspective for reference

librarianship. Classic or traditional foundations were examined and rethought in a chaotic time. Reference services were transformed as the decade progressed. The predictors contributed to this transformation.

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