Remote Library Users—Needs and Expectations

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ABSTRACT

LIBRARIES OF ALL TYPES ARE PROVIDING an increasing number of resources that users can access from remote sites. Academic libraries, in particular, are becoming partners in their parent institutions' distance learning programs. As a result, library staff now work with remote users (both students and faculty) with their own unique characteristics, needs, and expectations. To promote user satisfaction, library staff need to better understand users and their needs as well as enable users to meet those needs. This article provides a particular focus on remote users in an academic environment.

INTRODUCTION

As libraries approach the beginning of a new century, they are encountering numerous developments that present both challenges and opportunities. While the list of developments is a lengthy one, key developments include: a user-centered orientation, a team-based work environment, steady or diminishing resources, and more pervasive technology.

Related to a focus on users is the need to identify more clearly, and better understand, groupings of library constituents. This becomes particularly essential in light of the ever-increasing integration of technology. It is no longer sufficient to be concerned solely with the issues of access versus ownership, how to pay for an increasing number of electronic information resources, the equipment needs to provide access to technol-

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ogy, or the physical facility in which to do so. Rather, library staff should focus on who is using electronic information resources, how they do so, and what are their needs and expectations.

It is a given that library staff should differentiate between on-site and remote users. In addition, they need to recognize the various groupings of remote users as well. The user who may be a few buildings away from the library on campus encounters a situation different from the student or faculty member participating in a distance learning curriculum involving a distance of hundreds or thousands of miles. Likewise, the user who has never before used electronic information resources brings a different set of needs and expectations than does the veteran user who may have established an effective relationship with library staff. Thus, staff will realize that a one-size-fits-all approach is likely to fail. For this article, the authors have defined a remote user as any individual accessing electronic library resources from any site outside a library without regard to physical distance or enrollment in a formal curriculum.

Remote Users

On-campus remote users are likely to be highly motivated, possess significant experience with library research and familiarity with electronic resources, and demonstrate relatively high success in using information technology. Like distance education students, they have less time for study. Consequently, they need education in more intense doses. Distance education students are also highly motivated and exhibit ambition due, in part, to their typically older age and a sense of maturity that is often associated with having a family or a well-established career. While some distance learning students may already be familiar with the library, many possess limited experience with library research and are unfamiliar with electronic resources. Likewise, their technology backgrounds may be more limited, and they may have less access to technical computer support (Rosenquist-Buhler, 1996) with the bulk of their experience gained in the work setting.

Customer Needs and Expectations

Needs should generally be more objective than either wants or demands. As a result, these needs are likely to be at least partially based on reason or logic. These are elements that are instrumental; if people do not have their needs met, they may fail to achieve a goal.

Expectations are the standards against which a vendor's or service provider's performance should be judged. How does one define expectations? Expectations are assumptions about the likelihood of something occurring. Alternatively, they reflect anticipated performance.

Customers tend to hold expectations that can be considered quite basic. Of greatest importance to customers is a basic solid performance

and that promises are kept. Customers desire a quality service or product provided in a friendly and courteous manner. Customer service expectations fall into two categories: (1) service as an end result or outcome that involves reliability or the ability to perform a promised service both dependably and accurately; and (2) service process, which consists of the following dimensions—assurance (the ability of staff to convey a high degree of trust and confidence based on knowledge and courtesy), responsiveness (a demonstrated willingness to help customers and provide prompt service), empathy (providing caring, individualized attention to customers), and tangibles (the appearance of physical facilities, the amount of equipment and staff, and the degree of communication that exists between the service provider and its customers).

Each dimension of expectations is likely to involve two service levels. The first is the desired service level or what the customer hopes to receive—a blend of what can and should be. The second represents the adequate service level—that level of service a customer finds acceptable.

It is relatively easy to state that customers define service quality as the discrepancy that exists between their expectations or desires and their perceptions of experiences. What is more challenging is the identification of those service quality elements that customers indicate are the most significant. This is an area in which a discrepancy often exists between the perceptions of customers and service providers. While the theory concerning customer needs and expectations in general is extensive, little empirical data regarding library customers seem to exist.

Edwards and Browne (1995) report that library staff tend to emphasize empathy, tangibles, and customer/staff relationships. Yet, academic library users tend to attach greater importance to reliability and responsiveness. Library users hold expectations for concrete indicators such as the rapid delivery of interlibrary loan materials or the consistently good working order of online equipment. The latter assumes even greater importance for remote users. A 1994 study conducted by Evans Library of Texas A & M University (Coleman, Xiao, Bair, & Chollett, 1997) provides corroboration. Using SERVQUAL, an instrument designed to measure service quality based on a customer's minimum, perceived, and desired levels of performance, library staff learned that the almost 200 respondents identified reliability as the most important dimension while empathy was the least important. As such, users both expect the most and tolerate the least concerning reliability of service. Again, this is likely to assume even greater importance for remote users.

Library staff with a good understanding of needs and expectations and their relation to customer satisfaction will experience greater success in satisfying their customers. However, the goal should not be simply to meet expectations but rather to exceed them by surprising and delighting customers. To do so, library staff must attempt to both manage and

redefine customer behavior and expectations. For some, this has the negative connotation of creating needs for a service or product developed more for the sake of the vendor or service provider than for the customer. What is actually involved is a market-driven focus manifested in creativity or innovation that develops a new product or service to address previously unmet or unrecognized needs. For this undertaking to succeed, library staff must possess a superior understanding of customers linked with the library's capabilities. We must understand our customers' behavioral needs, their overall attitudes, the environment in which they use services and products, and their perceptions of how services and resources compare to those of other service providers.

Does the practice of expectations management result in a favorable payoff for libraries? The literature does not reveal an answer to this question. However, a survey of expectations management practices of British service firms was conducted in 1993 (Pitt & Jeantrout, 1994). Over one hundred key marketing decision makers responded and shared their perceptions. They believed that attention to expectations management resulted in higher levels of customer satisfaction, greater market share, a better understanding of the relationship between pricing and expectations, and greater overall understanding of their customers' expectations gained from regular customer contact and research.

Another essential component is a major educational effort on the part of library staff. Staff need to be honest with library users in educating/informing them as to what libraries can or cannot provide and what the costs, both monetary and other, will be to provide the desired services. This element is especially critical in distance learning environments where remote users may possess less loyalty to the "home" institution and may be willing to shop around for the needed resources provided in the most user-friendly manner.

A key fact to remember, and it is especially applicable with regard to remote users, is that library customers are not only service recipients but they are also service providers. In virtually every service delivery transaction, the customer brings two types of information and/or effort (Kelley, Skinner, & Donnelly, 1992). The first is customer technical quality, which involves any labor performed by the customer or information that she/he provides. The customer also brings functional quality, or the interpersonal aspects of customer behavior (such as courtesy, friendliness, and respect) during the service transaction. While the first type is likely to assume greater importance in a remote access environment, the second type has relevance for activities such as telephone conversations, e-mail communications, and telefax transmissions.

Thus, library customers actually assume the role of partial employees of the library. Since customer dissatisfaction is often due to the customer's behavior, customers need to understand their role in the service delivery

process. Library staff can assist customers in attaining this goal by employing the socialization process. By providing customers with behavioral guidelines that apply to a library, staff enable users to adapt to and come to appreciate the library's values, norms, and required behavior patterns. Many libraries have developed statements of guiding principles, beliefs, or values, and these can greatly facilitate the socialization process.

Satisfaction

Satisfaction is the state that results after a library user has favorably or positively experienced a service or product. It can be quantified and basically represents the degree to which a library has met a user's needs and expectations. Satisfaction is based on the concept of disconfirmation, which represents the gap that exists between customer expectations and service performance. This gap, in turn, can develop from a customer's perception of the relationship between expectations and performance. Thus, perceptions generally assume greater significance than actual service performance or quality. Researchers (Zeithaml, Parasuraman, & Berry, 1990) have identified four gaps: (1) between actual customer expectations and management's perception of customer expectations, (2) between service quality specifications and management's perception of customer expectations, (3) between service delivery and service quality specifications, and (4) between service delivery and external communications relating to it.

The concept of satisfaction is similar to an escalator. As customers get better treatment which, in turn, leads to a higher level of satisfaction, they raise their level of expectations, demand better treatment, and motivate libraries to strive even harder. While this situation presents library staff with a challenge, it can also create a win/win situation in which libraries gain valuable support from their constituents. While satisfaction is a concept that is based upon past performance, it also involves a forward-looking component. Libraries can use instruments that define what their users want or record user experiences and levels of satisfaction. In addition, library staff should also attempt to anticipate changes in their customers' values and preferences by identifying those external forces that reshape customers and their values (Freid & Freid, 1995).

Perhaps the most significant caveat relating to satisfaction is the tendency to dwell on satisfaction as meeting, not exceeding, customers' expectations. Rather, library staff need to attempt to move beyond satisfaction by exceeding user expectations and by addressing customers' desires for innovation and creativity.

A University of Michigan study (Stewart, 1995) revealed that customer satisfaction in the United States is declining. Key reasons given for this situation are inadequate awareness of rising customer expectations and the view that customer service is a cost that detracts from corporate results

instead of promoting services as being an investment. Another factor is the considerable wave of corporate restructuring that has affected all areas of U.S. society, including higher education and libraries. Reorganization often has a direct impact on a library's ability to provide customer service.

To help companies focus on satisfaction, the business school of the University of Michigan and the American Society for Quality Control created the American Customer Satisfaction Index (Fornell, Johnson, Anderson, Cha, & Bryant, 1996). Designed as a customer-based measurement system for evaluating and enhancing a company's performance, this instrument measures the quality of goods and services provided by over 200 firms in more than forty industries. The ratings are based on interviews conducted with about 250 current customers of each company. In this index, overall satisfaction is based on perceived quality and value. Another element is customer expectations based on prior experience with the product or service and a projection of the vendor/service provider's ability to deliver quality in the future.

Whether or not a library chooses to implement such an instrument is not necessarily significant in and of itself. What is essential, however, is that staff give considerable thought and attention to the concepts and issues involved.

Service to Remote Customers in the Nonlibrary Environment

In private industry, there are some businesses that involve the need of remote access by their customers. Examples are banking, Internet service providers, and the retail catalog order industry. What can library staff learn from these vendors? While one would expect the catalog order industry to have conducted research in this area and have implemented fairly developed programs, the literature does not seem to indicate this.

Banaghan (1997) reports that, among Internet service customers, technical support has become increasingly important in that 60 percent of users believe that twenty-four hour help desk support is important. Are library staff ready to provide this level of support? One possibility would be for library and information technology staff to share help desk responsibilities.

Providers of remote banking services have learned that the right mix of products and services offered at the right price are key to success. However, of equal, if not greater, importance is a variety of distribution channels and means of access (Fredrick, 1995). According to Fredrick, consumers desire not only the distribution channel of their choice but also the ability to switch distribution channels and use the most convenient access method. Thus, access becomes critical so that it will result in greater convenience for customers. It may be that remote customers actually define service in terms of accessibility.

Remote service providers have also found that remote customers are likely to have relatively few interactions with their employees. These customers have become, in effect, invisible. Thus, the challenge for remote service providers has become one of maintaining and strengthening their relationships with customers who may never step inside a bank, store, or library. Because remote customers attach such importance to the method of access, this has major implications for customer loyalty to the service provider or vendor. As technology tends to depersonalize service, so too does customer loyalty become weakened ("How Do You Maintain Service Quality...," 1993). In a remote environment, offering a high level of customer service remains the sole way of building up customer trust and loyalty.

Needs of Remote Library Users

Remote access is not a new phenomenon for libraries; staff have long communicated with their users in writing or via telephone. What is new is the rapidly increasing number of library customers who access resources from remote sites exclusively or in conjunction with on-site visits.

Until relatively recently, libraries' principal experience with remote access users involved OPACs (Online Public Access Catalogs). With modems, users were able to dial in from buildings on campus as well as from off-campus sites.

Kalin (1991) characterized remote OPAC users as individuals with high expectations whose appetite has been whetted by the convenience of remote access. As a result, they may tend to become somewhat impatient as they demand constant access, user-friendly systems, no breakdowns or waiting, and speedy document delivery. Kalin found that remote users expect a customer-business relationship with the library and view an OPAC as a product that should perform as advertised.

deKock (1993) found that remote OPAC users encountered new problems and formulated new queries. These, in turn, required staff to develop new skills in the areas of technical support.

Remote OPAC users tend to encounter two categories of problems: (1) those involving the technology required to provide access; and (2) search protocols and OPAC interfaces. The former requires the user to master equipment and telecommunications software in order to deal effectively with situations such as line noise, telecommunications problems, and incompatibility of equipment or software. The second category involves more traditional problems such as system structure and commands. These categories also apply to the full range of electronic information resources that users of all types of libraries are using to a greater degree. While the second category often has online help available to assist the user, the first category requires either technical support from a staff member or the user's own resourcefulness to resolve problems. One key fact to remember is that problems of the first type—i.e., relating to technology—often

are due to factors beyond the library's control. This is an area in which library staff need to communicate clearly to users the extent of library responsibility. Doing so should diminish the likelihood of users forming unrealistic expectations or holding the library responsible for their dissatisfaction.

In the case of remote access, the paramount factor involves the quality of service associated with a particular electronic resource or service. Thus, the key element is likely to be a human one that involves a personal relationship between the user and the staff member. Because remote users are most likely to require point-of-need (or just-in-time) help, there is a great need for assistance and instruction (Rosenquist-Buhler, 1996). An appropriate service would include print handouts, electronic help pages, perhaps search demos in video or via satellite, or individual consultation via e-mail, telephone, telefax, and mail.

To provide this type of assistance effectively, libraries need to hire staff who are knowledgeable, enthusiastic, and patient. This effort should be viewed as a staff-wide public relations campaign requiring a team effort of the entire staff, not just those in public services. Staff need to promote the resources available and keep users informed of new systems and system enhancements/modifications. All staff members should receive the training needed to become instructors in system interaction (Rosenquist-Buhler, 1996). The staff must be able to engage in effective and extensive user communication and, of course, function as troubleshooters for hardware and software.

Lusher (1996) states that campus remote users comprise a unique category all their own. The challenge for library staff then is to provide a range of support services that blend services provided to in-house users and those offered to long distance-remote users. Examples of such services include handouts designed from a remote user's perspective, a handout dealing solely with technical access information, and electronic reference. When remote users call in with searching problems, staff could log on to the network or resource and recreate the search.

While the preceding sections deal with remote users or customers in general, the remainder of the article addresses a subset of that population—i.e., users in a distance learning situation.

The Distance Learning Context

Slade and Kascus (1996) defined *distance education* as the independent mode of study characterized by the physical separateness of learners and teachers and the use of print, mechanical, or electronic devices to convey the course content (p. xvi). For well over a hundred years, correspondence courses have existed in the United States, relying on communication through the mail between learners and distant instructors. By the late 1960s, distance learners had access to radio and television

programs, telephone tutoring and conferences, and, more recently, telefacsimile transmissions. Teaching packets for these telecourses included study guides, audiotapes, videotapes, and CD-ROMs. Both correspondence courses and telecourses are still being offered, along with courses providing even greater degrees of interactivity, such as those using e-mail, audio conferencing, and videoconferencing.

With the increase in personal computers in the home, Internet courses are growing in popularity. In this asynchronous form of distance education, students determine their own schedule and location for studying. Such courses can include instructor-directed discussions, exercises, or projects using electronic mailing list managers, Usenet newsgroups, or HyperNews (a hybrid of the mailing list manager/newsgroup), as well as other Web-based technologies.

However, recent advances in computer and telecommunication technology have made two-way interactive video available through compressed video transmission over telephone lines or through the Internet at relatively low cost. This low-cost, highly interactive synchronous technology can be combined with asynchronous discussions over the Internet/Intranet to expand the degree of interactivity between students. Institutions of higher education have found this an inexpensive means of expanding programs into suburban and rural areas, thereby increasing enrollments. Moreover, lifelong learning is increasing in popularity among adults with work and family responsibilities.

It is difficult to estimate enrollment figures for distance education. However, one can gauge the extent of distance education in the United States by looking at the numbers of institutions offering such courses and programs as listed in the Web catalog of the Globewide Network Academy. This clearinghouse of distance education information shows listings for more than 10,000 courses and degree programs offered by nearly 400 institutions worldwide as of July 1997. Approximately 300 of these are U.S. institutions. According to Noam (1997), electronic distance education is provided by some 150 schools in the United States using seventy-five satellite channels (p. 6).

Students

Distance learners range in age from high school through traditional-aged community college, undergraduate, and graduate students to adults and older adults. However, listserv discussions of the demographics of distance learners in urban/suburban and rural settings show anecdotal support of the demographics noted on Peterson's Distance Learning Web Page—most students who enroll in distance education courses are over twenty-five years old, are employed, and have previous college experience. Over half are female. As a group, distance learners are highly motivated.

Their course completion rate exceeds that of students enrolled in traditional on-campus courses.

Listserv discussions also note that a higher percentage of white women participate in distance programs than are enrolled in the traditional on-campus courses at the same institutions. Distance learners also tend to be part-time students. Technical distance education classes show higher enrollments of men while all other distance education classes show higher enrollments of women without regard to location (urban, suburban, or rural).

Living at long distances from the sponsoring institution might be the primary reason for taking distance education classes in rural settings. However, listserv comments about the reasons for taking distance education classes in urban/suburban settings ranged from "convenience" (many employers, such as hospitals, bring distance education courses into the workplace) to "it's the only option they have" (specialized courses might not be offered any other way). Other reasons include confinement to the remote site for various reasons, such as lack of transportation, disability (their own or that of someone they care for) and, most often, job or family obligations. Comments noted that some students simply chose not to drive to campus for various reasons, but they will take courses on campus (often simultaneously with a distance education course) if the course is not offered through distance education.

Distance Learning and Library Services

What is the relationship between distance learning and academic libraries? A 1996 survey of the 119 members of the Association of Research Libraries shows the extent to which major U.S. academic libraries are providing services for distance education courses. Of the seventy-four respondents, forty-six (62 percent) indicated that their institution is participating in distance education programs, primarily through interactive video technology (forty of the forty-six). All but three of the libraries provide services to support these courses. Half provide instructional support assistance to the faculty for the development of distance education courses (Snyder, Logue, & Preece, 1996).

Course Design

The literature reveals that any early expectations of a smooth transition to teaching in the interactive television context evaporate quickly in the heat of exposure to this medium. Alley (1996), who taught a first-year physics class using distance education for the first time in 1995, was bewildered by his first encounter with the instructional technologies available to him: "I was soon to discover that the class could not be taught within conventional boundaries of thinking and course design" (p. 49). He made significant changes to his course that led to an overhaul of his approach to teaching.

Alley expected students in the revised course to go beyond the general facts and principles of the discipline. Students experienced how professional scientists use computers and Internet access on a daily basis by searching the Internet, using video simulations on CD-ROM, contacting physicists by e-mail, and using PC-based productivity software.

The availability of Internet access, multimedia instructional software, interactive video technology, networked access to information resources—all these have dramatically changed the nature and teaching methods involved in distance education. Teaching faculty need to reeducate themselves to make use of these powerful technological tools in their classrooms and to change their teaching styles and methods accordingly. Shaughnessy (1995) suggests that academic librarians, in turn, will need to participate on instructional design teams so that libraries can deliver appropriate library resources to remote students as integral parts of their learning as opposed to the supplemental readings approach.

Not only does the redesign process drain faculty energy and time, but it can also mean a loss of control in the amount and scope of material to be covered. One science professor believes that interactive television (ITV) technology creates a lag time or "coefficient of friction," allowing faculty to achieve only 80 percent of what they could in a traditional classroom.

A nursing professor finds that the dynamics of classroom participation require constant attention. She reworks the course continually, experimenting with different spatial arrangements to improve group interaction. Some classroom arrangements prevent easy discussion among more than six students. Other interactive television systems are not capable of carrying overlapping voices in an informal discussion, thereby creating a choppy interaction. This presents a challenge because her field, ethical issues in nursing, requires an environment of rapport and trust. This professor and many of her colleagues make an effort to alternate teaching between the sites to foster students' comfortable participation. However, it can be frustrating to travel to the distant site if there are few students in attendance, especially given the inevitable absences among these employed adults with family responsibilities.

One aspect of understanding faculty expectations for teaching is to recognize that gender differences may shape approaches to technology. Brunner (1991) claims that: "Women wish for small appealing objects that allow them to collaborate, to create, to share their work, and to integrate their work and home lives. Men wish for magic wands that give them enormous power, fabulous speed, and infinite wisdom" (p. 133).

Libraries can accommodate, to some extent, the wish for speed and power. However, the systems available will never match the ultimate fantasy of tapping the world's wisdom effortlessly. Brunner expresses concern that the masculine (and business) vision of distance learning as a means of more efficient delivery of education will supersede the vision of

bringing different kinds of people together and collaborating to make up their own minds about ideas and events. Brunner calls for a balance between the "masculine" fantasy of ever-increasing power and speed with the "feminine" fantasy of increasing connectedness and support for genuine inquiry. If we expect women and men to relate to technology differently, we will likely develop a layered approach to providing support services.

The most significant danger to libraries from the ITV environment is that the added complexity of teaching might crowd out instructors' attention to issues that have never yet been adequately addressed—issues such as information literacy skills. It is all too easy for instructors to assume that the additional materials they bring into the distance learning classroom, such as slides and videotapes, adequately replace individual research in terms of stimulating interest.

Distance Learners and Library Services

Decades ago, when many institutions of higher education offered correspondence classes, they simply mailed students easy-to-follow instructions. As the off-campus education programs became more sophisticated, the institutions sent packets of information that included lectures, photocopies of reading materials, and assignments. In order to complete many of these assignments, students needed to seek help at a nearby library. Those institutions that belonged to a consortium almost always referred students to the closest consortium library. In most cases, the parent institution library staff had made no prior arrangements with the library that was actually expected to provide the services.

Academic librarians tried to support these distance education students by compiling bibliographies or research guides and by providing photocopies of required readings and interlibrary loan services. In many cases, this was a hit-or-miss process.

Within the past ten years, however, the situation has improved, at least in theory. The Association of College and Research Libraries (1990) underscored the parent institution's responsibility "for providing support which addresses the information needs of its extended campus programs" in the revised and updated *Guidelines for Extended Campus Library Services.*

According to Shaughnessy (1995), distance learning programs are "distance and time independent, customer focused, and more relevant to the needs of the work place..." (p. 1). Academic librarians, already heavily challenged by technological advances, must face the unique needs and expectations of these students. Millson-Martula and Menon (1995) argue that, because an academic library's various constituencies possess differing needs and expectations, it is inappropriate to use one group's information needs as the principal guide for determining services offered to all users. In other words, librarians need to understand the unique needs of distance learners when providing services to them.

Higher education faculty and students approach distance learning with the expectation that the experience will be the same as experiences they have had in traditional educational settings. Both faculty and students also expect that their research and informational needs will be the same as for courses and programs taught in traditional settings. Faculty expectations change rapidly with experience in distance learning. In addition, these expectations serve to set, readjust, or reinforce student expectations. Thus, library staff must understand the opportunities that distance learning programs present in order to anticipate and help shape realistic remote user expectations. This requires open and proactive communication, flexible and creative use of resources, and a change in roles for library staff in order to avoid making distance learners second-class citizens.

A Case Study

Ledo (1994) reports on a 1990 survey of external (remote) students enrolled at the South Australian College of Advanced Education (SACAE). While the survey did not address the issue of student expectations directly, it was quite revealing regarding the relationship between remote students and library services.

The thirty-five respondents included twenty-two undergraduates and thirteen graduate students, all of whom resided in Whyalla. Not only did they use other libraries more than the SACAE library, but they also used the whole range of libraries available in the city (college, nursing, public, and educational resources). Implications of this behavior include a critical need for the "home" library to establish formal cooperative arrangements with the other service providers. In addition, remote users need to become aware of the services, resources, and facilities available to them in local libraries. The respondents also indicated that convenience, not the availability or lack of resources, was the key factor in their use of other libraries.

The SACAE library distributed to all remote students a booklet describing the "home" institution's library services. However, students reported little face-to-face contact with the home library's staff. This likely contributed to the fact that the students made little use of reference services or online search services. It may also have been a factor contributing to the students' use of other libraries.

Finally, the study revealed an extremely interesting and surprising situation. The undergraduate respondents considered their friends and colleagues, not a library, as their primary information sources. This situation should provide the home library with an outstanding opportunity to learn about their students' needs.

Distance Learning at De Paul University

The Curriculum

DePaul University is located on five campuses in the greater Chicago

area. As part of an initiative by the North Suburban Higher Education Consortium of the Illinois Board of Higher Education, DePaul installed its first interactive television classrooms during the 1993-94 academic year at three campuses. The ITV technology is a fully interactive video and audio system in which students at the "receiving" site view television monitors showing an instructor at a remote location on one screen and their own classroom on another. ITV also allows instructors to use videotapes, slides, and presentation graphics software. The instructor and a technical staff person have full control of the direction and focus of the television video and audio production. As a result, they can choose to put students on camera to speak with the instructor or other students.

DePaul's most common use of ITV technology is to link sections of classes (primarily in computer science) between its campuses in Chicago's Loop and in Lincoln Park on the north side of the city. Far fewer courses link a DePaul campus with remote sites such as community colleges, high schools, and hospitals in the outlying suburbs. The university's goal is to expand the number of complete academic or professional programs rather than individual course offerings in the distance learning environment. However, at present, most students who take a course at a distant site have either taken courses previously on a DePaul campus or are enrolled simultaneously in courses on campus and at remote sites.

Library Services and Resources

DePaul's Lincoln Park campus library is home to collections in the liberal arts and sciences, and its downtown library focuses on business and computer science. DePaul is part of the ILLINET consortium of over forty academic libraries in Illinois with cooperative borrowing arrangements for students and a common online catalog. In addition, most distance learning students are employed full time and have access to special libraries provided by their employers.

DePaul distributes nearly seventy electronic databases and a growing collection of full-text electronic journals as widely as possible beyond the five campus locations. Some resources can be accessed only in one specific campus library, others at any library, others on any networked computer in the university, others from remote computers using an Internet SLIP connection, and still others from remote computers using only a modem and telecommunications software. This confusing array of resources changes and expands continually to improve access and system reliability.

Study Design

The authors focused on courses between a DePaul campus and a remote site because the challenge of delivering library services to students is greater when they attend a class at a non-DePaul site. The DePaul programs currently involved in these efforts are primarily the School for New

Learning, which offers interdisciplinary undergraduate and Master's programs for returning adult students, and the nursing graduate program, whose students are also primarily experienced adult women who have been out of formal education for many years. Both programs have successfully integrated education in library research and computer skills into appropriate courses.

Ten faculty members (three men and seven women) have taught courses between a DePaul campus and a remote site. The disproportionate number of female faculty is due to the predominance of women in nursing. Two of the faculty are part-time adjunct professors, and the other eight are full-time faculty. No faculty member has taught more than four courses in the four academic years since the interactive television classrooms were installed.

The authors surveyed twenty-four graduate nursing students at non-DePaul sites over the course of one year. For the first two quarters, the authors used an open-ended questionnaire. In the third and fourth quarters, the authors asked students to rate specific library services as exceeding, meeting, or failing to meet their expectations. Because all of the students surveyed were female, the authors were not able to analyze gender differences in expectations. However, the literature indicates the existence of such differences, and library staff should take those differences into account when anticipating both student and faculty needs.

Information on faculty expectations was similarly limited. The authors conducted an informal e-mail survey and telephone interviews with six faculty, monitored four electronic discussion lists, and attended panel presentations at conferences on distance learning.

Needs and Expectations

Based on the literature and the authors' experiences, the authors inferred that student expectations about course requirements derive from their instructors and become clarified through experience with grades and discussion with peers. Becker (1968) analyzes the subtle calculus students use to judge what will be required from them to earn the desired assignment score or course grade. The authors also inferred that distance learners have the same research and information needs as the on-campus learners in the same class, although the emphasis on certain services might vary. Students will expect their instructors to be aware of the resources and services of the library, and they will expect the library to support whatever their instructors tell them to do. Therefore, the authors focused primarily on faculty expectations and perceptions of student needs as opposed to direct student input regarding their expectations.

Faculty Expectations

In addition to their early expectations of a smooth transition to teaching in the distance learning context, faculty who have struggled to adapt

to the challenge of distance education carry expectations in two other relevant areas: (1) the library research/information acquisition process, and (2) remote use of the library.

Faculty expectations about library skills that distance learners develop are founded on older assumptions about how students learn to use a library. The process of gathering information or reviewing the literature on a particular topic is a matter of professional socialization rather than explicit instruction. This informal socialization differs across disciplines. When asked about his expectations for student research, one professor replied that he taught the "regular science research process." He provided students with a handout of research tips and suggested, as a way of developing a topic, that students "fan through current journals" or pursue a personal interest.

Most faculty were full-time students in traditional programs and used a library with some degree of comfort on a fairly regular basis. They often worked as graduate research assistants and developed strategies for library research based on minimal faculty explanation, plenty of peer support, and help from reference librarians. This method works well for full-time students with several years to learn the ropes. However, it presumes a professional interest in acquiring research skills that may not be present in the distance learner population. It also presumes that students will have enough contact with faculty to develop a feel for the influential journals in the discipline, and that students will have access to print materials for browsing.

Faculty expect distance learners to use an academic library, and they make no distinction between the skills needed by a student on campus and one at a remote site. Faculty expect graduate students in particular to use a research library, given that distance learning makes education more convenient in other ways. This expectation may be at odds with the promotion of distance education by university administrators emphasizing convenience, especially that of taking classes near a student's home or office. The faculty impression that students want a "drive-in education," rather than being affiliated with the university, may be a result of self-selection of a group of students for whom travel time is a major factor in the choice of university.

Most faculty believe that a combination of handouts (developed by themselves or by librarians) and peer explanations are sufficient to address students' needs in negotiating their options for library use. One faculty member mentioned the effectiveness of using live demonstrations for in-class library training in the ITV environment. One respondent found that her colleagues in distance education tended to let students fend for themselves in developing the best strategies for library use. In a context like DePaul, where most distance learners have taken, or are taking, courses

on campus, faculty are not likely to expect students to need assistance in making the transition to distance learning.

Faculty of all ages perceive online resources as a "luxury" that eliminates the need for traveling from library to library in search of pertinent material and that permits awareness of a wider range of valuable sources than were available to them as students. However, given overloaded students' need for convenience, faculty are concerned about the quality of resources used. In the absence of efficient library document delivery, students may be confronted with the difficult choice between traveling to use an appropriate collection, paying high prices for commercial document delivery, and settling for full-text popular sources at a local public library or information provided free on the Internet. If faculty and librarians fail to both motivate students to find "core and critical" items and provide adequate delivery services, students may resort to cheap and convenient sources. However, thoughtful faculty also recognize that making students aware of the full range of material available can lead to increased frustration when the actual resources are not accessible without excessive student effort.

Faculty noted that some students who choose their topics carefully have success relying exclusively on electronic sources. For example, research on problems in the ethical use of computing could cover topics such as privacy, security, or electronic commerce, for which substantial material is available online at no cost. In addition, the background material in ethics and philosophy is largely in the public domain and can be found online or at any public library.

Technically adept faculty also recognize that student access to library resources depends on the power of their home computers. They hear complaints from students if needed resources are available only at the library rather than at networked computers in labs where students can use word processing and e-mail. Many students lack a computer at home but have access at work. Many companies now have Internet capabilities but not the SLIP access needed to use the university's domain name for access to proprietary databases. In light of such technical obstacles and an increasingly complex information environment, these faculty expect to depend more on free public databases in the future, especially as access to full-text journals grows.

Student Expectations

When registering for distance learning courses, the students we surveyed did not expect them to be different from other classes they had taken on campus, and they did not change that expectation by the end of the courses. All students expected moderate to extensive use of library services, and those expectations were met. On-campus students surveyed in the same interactive video class had the same expectations as the re-

mote students. Thus, it seems that the nature and level of a program or course, and previous experience within a program of study, will set student expectations about the need to use the library for assignments, even before the instructor has the opportunity to reinforce or adjust those expectations with his or her own expectations about assignments.

Expectations Regarding Library Services and Resources

During its second term of offering distance learning courses, the nursing department adopted a statement entitled "Department of Nursing Policies & Procedures for Distance Learning Courses" (DePaul University, 1996). Statements such as this, even if only used internally by faculty, can do much to set or reinforce student expectations about library use: "Mutual interaction between students and faculty is required at every session, therefore attendance (on-camera participation) is mandatory. Classes meet evenings and weekends on a weekly or bimonthly basis to accommodate the needs of adult learners. However, you must also allocate time for independent work between sessions. Courses may include lab, clinical, or community service projects as well as presentations, papers, and exams" (p. 1).

Most of the distance learners surveyed said that they needed library services and expected to complete the same assignments as they would on campus. However, distance learners might need different delivery mechanisms or emphasize different services. The availability of other providers of library resources and services colors students' expectations about library services. Moreover, people in the medical, legal, and corporate worlds are accustomed to having libraries perform more services for them.

Accordingly, when asked what library services they expected, two of the distance learners indicated that they expected a service offered by special libraries—i.e., literature searches performed by library staff. One changed her expectations, doing the searches herself, while the other went to a nonaffiliated library and had the search done there. While libraries serving distance learners could consider meeting such expectations, it is important to consult with faculty first to ascertain that such services will not hamper academic goals. For example, students who must develop a thesis should not be led to think of the literature review as separate from the process of finding fruitful areas for research.

Students also expected online database access and extended library hours. These expectations were met, but not always by the home institution library alone. Students who needed extensive access to medical journals met those expectations by going to an academic medical library. The nursing department's policy statement suggests two such libraries with extensive medical journal collections and suggests querying individual libraries for policies and hours of operation. The communication of this

statement to students through faculty, syllabi, handouts, or verbal orientation might have led the student expecting extensive access to medical journals directly to an academic medical library.

When the authors asked students if specific services met expectations, the majority indicated that they did not use, or were unaware of, most of those services (which the open-ended questionnaire did not list). Nonetheless, half of those students were satisfied overall with the services provided, while the other half predictably had no opinion. The students who answered the open-ended questionnaire indicated that the level of library service performance met their expectations, which related to literature searches, online database access, and extended library hours. If nothing else, a survey can be a useful tool for making users aware of services and resources. That awareness alone might serve to increase satisfaction.

Most students used more than one library to do the assignments for their distance learning courses. While over half of the respondents used DePaul's main campus library, other libraries used included the remote site libraries (community college and hospital libraries), academic medical libraries, and public libraries. Only half of the respondents indicated use of the remote site libraries even though 75 percent indicated satisfaction with those libraries; 25 percent had no opinion. Again, the nursing department's policy statement may do much to set expectations about library services: "Do not expect the distant site libraries to have adequate holdings of advanced level materials. DePaul University or your local library may be able to obtain items for you through interlibrary loan systems, but you must allow a minimum of two to three weeks for delivery" (p. 2).

Library staff must recognize students' use of other libraries and help them understand what academic, public, and special libraries can do for them. They also need to recognize the burden that this use of services places on those libraries. Thus, the host library should have formal written agreements with site libraries as well as with heavily used, unaffiliated libraries to provide some form of incentives or compensation such as reciprocal service or borrowing, fee payments, database access, or the purchase of materials or equipment.

The way in which the institution promotes the distance learning program will also color students' expectations. If the institution's marketing stresses the benefit of not having to travel into the city, students might have the impression that they can complete the entire program without driving to campus. Trips into an urban area especially are a problem. There is likely to be less resistance to a trip to another suburb, even involving a greater distance, in order to avoid problems with finding and/or paying for parking, a lack of familiarity with the route, etc. Students from the northern suburbs drove to Wisconsin to use a library rather than drive into Chicago.

In DePaul's urban environment, and especially in programs like nursing in which most students are women, these problems can be compounded by anxiety about personal safety. During the process of choosing the first site location for DePaul's distance learning nursing courses, one administrator chose the non-urban campus of a community college over its other urban, but non-Chicago, campus because she had been told that students do not consider the urban site very safe.

Student access to computers with modems at home or at work can provide the convenience of doing varying amounts of research without leaving the home/work environment. One professor estimated that half of her students had access to a computer with a modem and some kind of Internet access. Of students completing the more detailed survey, 75 percent had Internet access, although only 25 percent had Internet access through a DePaul SLIP account. SLIP access provides an increased number of databases, basic reference sources, electronic reserves, and full-text electronic journals.

Whether a distance learning course or program requires students to have Internet access and provides a SLIP account has a tremendous impact on student and faculty expectations and satisfaction with library services.

One professor commented that being able to at least start one's research at home also has the rather unexpected effect of making students excited to get into the library. One way of looking at this effect is to consider that the expectation of finding specific items helps overcome the logistical problems of traveling to the library as well as problems with time away from work and/or family responsibilities. Those who have a more defined objective (i.e., specific items identified at home that they know will be available in the library) may be more willing to make the trip, being more or less guaranteed of finding useful material, and better able to estimate the time it will take.

Library staff should add to all of these expectations the same ones that traditional students exhibit—i.e., that any electronic resource is better than a similar print resource; that databases should contain the full text of articles; that the Internet and listservs will suffice for research on almost any subject. In addition, students who have experienced smaller institutions and libraries expect more one-on-one attention.

Recommendations

Just as the article thus far has two principal sections—one dealing with remote users in general and the other with distance learners—so too do the authors' recommendations. The key fact to remember is a somewhat ironic one. As technology has vastly expanded the range and ease of information access, it has done so at the expense of depersonalizing the process. A possibly unanticipated result has been that remote users of all types have expressed the need and expectation for personal contact and

one-on-one help. Library staff will need to focus on their relationships with students, faculty, and other libraries if they are to successfully meet and exceed the needs and expectations of all remote users. The major needs and expectations of all remote users are summarized as follows:

Remote User Needs

1. constant, around-the-clock access to online databases mounted on user-friendly systems;
2. twenty-four hour help desk or technical support;
3. a personal relationship with library staff in the nature of a customer-business relationship; and
4. extensive information describing specific resources and the full range of services available at the "home" library.

Distance Learner Needs

1. a greater range of services provided by library staff, such as conducting online database searches and preparing packets of information, with less emphasis on self-service;
2. to use a variety of libraries in addition to the "home" library to complete their academic assignments; and
3. to learn what other libraries can do for them.

Implications for Library Staff

1. identify discrete groups of users;
2. differentiate between the needs and expectations of on-site customers and those of remote users as well as within the total population of remote users;
3. gauge users' needs and expectations using means such as interviews, focus groups, surveys, and the like;
4. help socialize customers to understand and act out their role in the service delivery process;
5. inform/educate users of services available from the home and other libraries and their respective costs; and
6. establish formal relationships with other libraries to provide services and resources to distance learning students.

As staff realize success in meeting and exceeding these needs and expectations, they will notice a corresponding change in their roles. Staff will develop greater expertise in providing technical support in addition to search assistance. They will also likely join faculty in developing applications of educational technology in the classroom in addition to the library.

The librarian's professional role will no longer be that of intermediary between consumers and commodities but rather between learners and resources provided to expand their knowledge and skills. Freddolino (1996) found that a quality learning environment depends on relationships with the local site, the sponsoring institution, and technology. This

is because high technology makes personalized attention and individualized service increasingly important. When using technology to advance library services, library staff must be sure not to sacrifice personal attention for efficiency. For example, for smaller classes, individualized research consultations (whether in person, on site, on campus, via telephone with a toll-free number, over two-way interactive video, or over desktop televideoconferencing software) may meet expectations of personal attention and provide more satisfaction than a more efficient group library instruction session, regardless of how it may be offered.

While e-mail reference, electronic request forms, Web page posting of library distance learning policies, and Web-based library instruction have their places in providing services to remote users, the personal contact that a live voice or face can provide during telephone or two-way televideo reference transactions is important in meeting student expectations and needs. Hiring one person to be responsible for distance learning services and making this person's e-mail, voice-mail, fax number, and face known to all in the distance learning program is another extremely important means of providing personal attention, even though the library services to distance learners are most often actually provided by the library departments that provide those same services to on-campus students.

The same innovation and awareness are needed in relating to faculty. Redesigning courses can be a time of learning and excitement, as it was for Alley and Repp (1996). It also means reduced control and a surrender of some measure of independence. Library staff need to take advantage of the course redesign process by making faculty aware of their willingness to share expertise and to enter into partnerships when appropriate.

With or without distance learning programs, many institutions of higher education are evolving into learning communities that are student-centered. To support this trend, library staff must be successful in both meeting and exceeding the ever-changing, ever-increasing, and ever-varied needs and expectations of *all* students and faculty. Consequently, academic library staff must assert themselves as key players in the learning process, thereby changing their roles from information providers to educators. Library users, especially those who are remote, deserve no less.

References

Alley, L. R., & Repp, P. C. (1996). Technology precipitates reflective teaching: An instructional epiphany [and] the evolution of a red square. *Change, 28*(2), 48-55, 56-57.

Association of College and Research Libraries. (1990). *ACRL guidelines for extended campus library services.* Washington, DC: ACRL.

Banaghan, M. (1997). Internet users shop for the best service provider. *Business Review Weekly, 19*(3), 63-64.

Becker, H. S.; Greer, B.; & Hughes, E. C. (1968). *Making the grade: The academic side of college life.* New York: Wiley.

Brunner, C. (1991). Gender and distance learning. *Annals of the American Academy of Political & Social Science, 514,* 133-145.

Coleman, V.; Xiao, D.; Bair, L.; & Chollett, B. (1997). Toward a TQM paradigm: Using SERVQUAL to measure library service quality. *College & Research Libraries, 58*(3), 237-245.

De Kock, M. (1993). Remote users of an online public access catalogue (OPAC): Problems and support. *Electronic Library, 11*(4/5), 241-244.

DePaul University. Department of Nursing. (1996). *Department of nursing policies & procedures for distance learning courses.* Chicago, IL: DePaul University.

Edwards, S., & Browne, M. (1995). Quality in information services: Do users and librarians differ in their expectations? *Library and Information Science, 17*(2), 163-182.

Fornell, C.; Johnson, M. D.; Anderson, E. W.; Cha, J.; & Bryant, B. E. (1996). The American customer satisfaction index: Nature, purpose, and findings. *Journal of Marketing, 60*(4), 7-18.

Freddolino, P. (1996). The importance of relationships for a quality learning environment in interactive TV classrooms. *Journal of Education for Business, 71*(4), 205-209.

Fredrick, A. C. (1995). Remote banking: Getting it right. *United States Banker, 105*(2), 73-74.

Freid, C., & Freid, S. (1995). Beyond relationship marketing . . . anticipating what customers want. *Planning Review, 23*(4), 40-41.

The Globewide Network Academy. (1998). *Homepage.* Retrieved July 22, 1998 from the World Wide Web: http://www.gnacademy.org

How do you maintain service quality when customers are getting their products delivered electronically? *American Banker, 158*(166), 14A.

Kalin, S. W. (1991). Support services for remote users of online public access catalogs. *RQ, 31*(2), 197-213.

Kelley, S. W.; Skinner, S. J.; & Donnelly, J. H., Jr. (1992). Organizational socialization of service customers. *Journal of Business Research, 25*(3), 197-214.

Ledo, W. (1994). External students and libraries in a remote city. *Australian Academic Research Libraries, 25*(3), 40-46.

Lusher, T. J. (1996). Support services for campus remote users. *Public & Access Services Quarterly, 2*(1), 5-11.

Millson-Martula, C., & Menon, V. (1995). Customer expectations: Concepts and reality for academic library services. *College & Research Libraries, 56*(1), 33-47.

Noam, E. M. (1997). *Electronics and the future of the research library.* Unpublished paper presented at the 1997 Association of College and Research Libraries Conference.

Peterson's. (1998). *Distance learning.* Retrieved July 22, 1998 from the World Wide Web: http://www.petersons.com/dlearn/who.html

Pitt, L. F., & Jeantrout, B. (1994). Management of customer expectations in service firms: A study and a checklist. *Service Industries Journal, 14*(2), 170-189.

Rosenquist-Buhler, C. (1996). New partners in distance education: Linking up to libraries. *Library Administration & Management, 10*(4), 220-225.

Shaughnessy, T. (1995). Distance learning and libraries. *ARL Bimonthly Newsletter,* (179), 1-3.

Slade, A. L., & Kascus, M. A. (1996). *Library services for off-campus and distance education: The second annotated bibliography.* Englewood, CO: Libraries Unlimited.

Snyder, C. A.; Logue, S.; & Preece, B. G. (1996). *Role of libraries in distance education: A SPEC kit (#216).* Washington, DC: Association of Research Libraries.

Stewart, T. A. (1995). After all you've done for your customers, why are they still not happy? *Fortune, 132*(12), 178-181.

Zeithaml, V. A.; Parasuraman, A.; & Berry, L. (1990). *Delivering quality service: Balancing customer perceptions and expectations.* New York: Free Press.