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Assessing Library Services With LibQUAL+: A Case Study

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There is a growing body of literature on the development of the Association of Research Libraries (ARL) assessment tool, LibQUAL+ (Cook, Heath, Thompson). Because LibQUAL+ is a fairly recent innovation, there has been little published on its use in individual libraries. The 2001 LibQUAL+ survey at Texas Tech (Kemp) and the 2002 survey at the University of Washington (Hiller) are two exceptions. Both were conducted at ARL libraries, which is appropriate as LibQUAL+ is an ARL program. ARL has announced a forthcoming title, *From Data to Action: Libraries Report on Their Use of LibQUAL+™ Survey Findings*, but this has yet to be published. According to the publisher's announcement, "This special collection of articles will highlight practical examples of how libraries are using LibQUAL+ data in their local libraries as an assessment and evaluation mechanism. It will present the continued efforts in which librarians have engaged to promote service quality assessment within their respective organizations as well as externally across peer institutions." (Askew) When reading this blurb one would expect to learn how the results of the LibQUAL+ survey were used to improve services, but nothing is promised regarding the mechanics of instituting the survey. This paper will elaborate on the survey process at a non-ARL library, from conducting the survey through the implementation of service improvements in response to the results as provided by ARL.

Background

Jacksonville State University's (JSU) Houston Cole Library has a history of assessment going back to the late 80's. JSU is a regional, comprehensive, Master's I institution serving 9,000 students in northeastern Alabama. Its library has a collection of 650,000 volumes in addition to several thousand full-text electronic journal titles and a growing collection of E-books. It is somewhat unique in a university of its scope and size in that the collections and services are housed in a twelve story building with eight subject divisions, each staffed and maintained by a subject bibliographer. The University and, consequently, the library became serious about assessment after the 1984 publication of the Southern Association of Colleges and Schools (SACS) *Criteria for Accreditation*, (Southern Association of Colleges and Schools, Commission on Colleges) which was based, in large part, on the concept of institutional effectiveness. Institutional effectiveness depends on an ongoing cycle of planning, assessment, and action in response to the assessment. Because JSU was due for reaffirmation of its accreditation in early 1993, planning and assessment became a priority before conducting an institutional self study.

Library assessment at JSU was done both internally and externally. While faculty and students had never been reluctant to express opinions regarding the library and its services, beginning in 1989, the library became proactive in trying to determine user satisfaction, or dissatisfaction, as the case may be. About that time the University went into assessment mode, appointing a full-time director of assessment and undertaking several campus-wide surveys preceding the arrival of the SACS visiting committee. Every survey conducted by the Office of Assessment had a library component (e.g. graduating seniors, alumni, undergraduates, employers). The library initiated its own assessment program in 1989, when it conducted the first faculty survey of library services. That survey has been used, with minor modifications, every five years since, thereby providing historical data to track improvement. In 1991, the library began a series of annual general satisfaction surveys based on Nancy Van House's *Measuring Academic Library Performance: A Practical Approach* (Van House)*.* This, too, could be tracked year-by-year to note progress in satisfying library users. The aforementioned instruments were used until a new series of University-wide surveys was introduced coincident with the self study in preparation for the 2003 SACS reaccreditation visit. These, too, had a library component. Consequently, library personnel had a pretty good idea of user demand and perceptions when ARL introduced the LibQUAL+ survey to Alabama academic libraries.

Introduction of LibQUAL+

 Each spring the directors of Alabama academic libraries that support graduate education meet for a two-day Network of Alabama Academic Libraries (NAAL) Planning Retreat. In 2002, the main topic for this event was LibQUAL+. An ARL representative presented an

overview and history of the development of LibQUAL+ and described "…the process by which gap theory, as expressed in SERVQUAL, was re-grounded for the research library environment through a series of interviews with faculty, graduate students, and undergraduates at participating universities across North America." (Kryllidou & Heath). The first application of LibQUAL+ was in a pilot program with twelve libraries in Spring 2000, and was partially supported by a U.S. Department of Education Fund for the Improvement of Postsecondary Education (FIPSE) grant. The second iteration of LibQUAL+ involved 43 libraries and the third would include 168 libraries in the spring of 2002.

The presentation explained how LibQUAL+ is conducted, the concept of gap theory, which measures ideal, minimal, and perceived service levels, and the benefits of peer comparisons through one standard survey administered over the Internet. Following the presentation, NAAL included in its Annual Plan as Objective 5.1.3 to "Encourage the implementation of LibQUAL+ for assessment of library services in an electronic environment." (Network of Alabama Academic Libraries).

By then Jacksonville State University was ready to sign on. NAAL had blessed LibQUAL+ and an accreditation visit was pending. The library determined to participate in the 2003 application of LibQUAL+ along with 307 other libraries in the United States, Canada, Great Britain, and the Netherlands.

LibQUAL+ Description

LibQUAL+ is a web-based survey administered annually by the Association of Research Libraries. Participation in the 2003 survey cost

$2,000 for an individual library. The survey used a sample of an institution's online population broken down by demographic (faculty, graduate student, undergraduate) and asked a battery of 25 questions grouped in the categories of Access to Information, Affect of Service, Library as Place, and Personal Control. These determinants of collection adequacy, user services, facilities, and ease of users' access to information were fine-tuned over the previous iterations of the survey. Using a nine-point Likert scale, participants rated their minimal acceptable standard, their desired level of service, and their perceived actual level of service for each of the 25 criteria. Gap theory expects users' perceptions to fall within the range of minimal acceptable and desired level of service. Those dimensions where perceptions fall below minimum standards are prime candidates for immediate attention. Conversely, when perceptions exceed desired levels, the library excels in those dimensions. Most perceptions, however, fall within the minimum and desired levels of service. In late spring, ARL reported the library's demographics (who responded and when) and the scores on minimum, desired, and perceived in the 25 core categories and the four dimensions of service. Color radar charts graphically illustrate the degree to which perceptions fall within or outside the minimum-perceived boundaries, while bar charts of the four dimensions show strength and weakness among them. All of the aforementioned raw data and charts can be compared by individual library, type of library, consortium, peer group, or with the total universe of participants. In 2003, those participants numbered 308, including 221 American colleges and universities, 30 American community colleges, 22 American health sciences libraries, six military institutions, five public or state libraries, one law library, 20 British libraries, two French-

Canadian libraries, and one Dutch library. Several consortia, including NAAL, had scores reported for their participating members, and those provided a basis for comparison as well.

JSU Participation

The decision to participate in the 2003 LibQUAL+ survey was made in fall, 2002. Funds were very tight in fiscal year 2002-2003, with nothing budgeted for assessment. Consequently, a good bit of discussion took place as to the advisability of undertaking the survey in 2003. Those in favor cited the forthcoming SACS visit and the comprehensiveness of LibQUAL+ as opposed to the self-administered general satisfaction survey the library had used since 1991. The major drawback was the unbudgeted expense, although there was also some concern with the requirement that the library's designated LibQUAL+ specialist attend a two-day training session at the American Library Association (ALA) Midwinter meeting and then attend a session at the ALA Annual Conference to receive the results of the survey. The Midwinter meeting was in Philadelphia in 2003, and the Annual Conference was in Toronto that year. The library could not support out-of-state travel unless the traveler was presenting a paper, in which case partial university funding was available. Fortunately, the recently-hired Documents Librarian was presenting at the Government Documents Roundtable in Philadelphia, so that source of funding could be tapped. He was designated the LibQUAL+ contact and attended the training session in Philadelphia. While two days of training seemed like overkill, the requirement that someone go to Toronto to pick up the results of the survey almost doomed LibQUAL+ at JSU. As it turned out, the SARS epidemic in Toronto placed the ALA Conference in doubt. ARL relented on

the attendance requirement and provided the survey results over the Internet. The issue of the non-budgeted $2,000 cost of LibQUAL+ was resolved, in part, by the Office of Institutional Effectiveness, which was responsible for university assessment. In preparation for the SACS visit, that office agreed to split the survey cost with the library. With the addition of the Vice President for Academic and Student Affairs, who provided partial travel funds, and the Office of Institutional Effectiveness as stakeholders, LibQUAL+ became a university project rather than being limited to the library.

Survey Implementation

In preparing for the LibQUAL+ survey, one of the first steps was to determine the sample populations. The recommended sample counts for a large institution are 900 undergraduates, 600 graduates, and 600 faculty members. At the time of the survey JSU had only 366 faculty, excluding library faculty who were ineligible to participate, and administrative users with e-mail addresses in the database. It was decided that survey invitations would be sent to all patrons with a faculty or administrator status. For students, it was determined that JSU's proportion of undergraduates to graduates was a little higher than the average large institution, so the numbers were adjusted by moving 100 from the graduate count to the undergraduate count. The resultant numbers for the sample populations to be solicited for survey participation were 366 faculty, 500 graduate students, and 1000 undergraduate students for a total of 1866 invited participants.

JSU, like many schools, provides students with an e-mail address using a web-based mail client (the IMP Webmail client from the Horde Project). This e-mail address is used in the library patron database and by the University to communicate with the students. Despite efforts by the University administration to promote the usage of these e-mail addresses, many of the students elect to use other e-mail addresses and do not read their University e-mail at all. University network administrators estimated that about a third of the students were actively reading their University e-mail. Under these conditions, a mass mailing sent to 1000 randomly chosen undergraduates would only be read by a little over 300.

In cooperation with the University network administrators, the library was able to get a list of all students who had read their e-mail in the last 30 days or who were forwarding their University e-mail to another account. It was believed that this would not introduce a significant sample bias, nor would it be significantly different in coverage from institutions that rely on self-reported e-mail addresses for their patron database.

The systems manager used this list of active e-mail accounts to write a program to look up each address in the library database and divide the list into undergraduates (2775 patrons) and graduates (679 patrons). Another program was written to randomly select, without replacement, 500 graduates from the list of active graduate e-mail addresses and 1000 undergraduates from the list of active undergraduate e-mail addresses.

Participation in the survey for undergraduates was 84 or 8.4 percent of the patrons invited. For graduates there were 38 participants for a 7.6 percent response rate. For faculty there were 89 respondents for a 24.3 percent response rate. In all, the survey generated 211 responses out of 1866 invitations, for a total response rate of 11.3%. JSU's number of respondents falls in the 203-293 range shared by six

of the nine Alabama participating libraries. Two other Alabama libraries had fewer than 100 respondents while the ninth enjoyed a sample of 657 students and faculty.

Survey Results

LibQUAL+ recommends a carrot and stick approach in administering the survey. The carrot takes the form of a small prize to be awarded through a blind drawing to one faculty respondent and one student respondent. In the JSU survey this prize was a meal for two at a popular local restaurant. On the other hand, the stick consisted of follow-up emails to those who did not respond to the initial mailing. Two follow-ups were sent, and with the help of the restaurant lottery, JSU fielded a representative sample.

When the results of LibQUAL+ were posted on the Internet there was great interest in how the library did. Were users' perceptions within their expectations and how did they compare with perceptions at other libraries? LibQUAL+ asks participants not to discuss head-to-head comparisons with other libraries. However, one can assess a library's survey results against the average of all participants or the average of a consortium. Results are reported in several formats. The aforementioned radar view of the 25 core survey questions (fig. 1) and the histogram showing the service adequacy gap on the four dimensions of library service quality (fig. 2) are useful for illustrating the general results. For analysis, the listing of Minimum Mean, Desired Mean, and Perceived Mean for each of the 25 elements (fig. 3), the four Dimensions of Service (fig. 4), and the General Satisfaction and Information Literacy Summaries (fig. 5) are most useful. Those numbers can be compared directly with the means for the entire LibQUAL+ population or

consortia. They also can be used for direct comparison with peer libraries.

In the overall survey results JSU did quite well. The radar chart (fig. 1) shows service quality perceptions falling well above minimum acceptable quality. While perceptions on none of the elements exceeded desired levels, LP-1 (quiet space for individual activities) came close. Likewise, quality perceptions for the four dimensions of service (Access to Information, Affect of Service, Library as Place, and Personal Control) are well within the range of minimum to desired quality. Interestingly, Library as Place had the lowest user expectation but user perception came closest to meeting the desired level of service among the four dimensions (fig. 2).

For benchmarking, comparisons were made with peer institutions, three academic library consortia, and the mean values for all 221 college and university library participants. All comparisons were quite gratifying. On the four dimensions of service JSU exceeded the perceived means of all colleges and universities, the NAAL consortium libraries, the New York 3R's College and University Libraries, and the OhioLINK consortium libraries. On the individual elements, the JSU perceptions exceeded New York 3R's and OhioLINK on all 25 aspects of service, and all but three elements of the NAAL averages. Those three were: A comfortable and inviting location (JSU 7.55 vs. NAAL 7.63); Modern equipment that lets one easily access needed information (JSU 7.31 vs. NAAL 7.38); and Making information easily accessible for independent use (JSU 7.37 vs. NAAL 7.38). Besides the 25 elements of service quality, LibQUAL+ asked three questions relating to general satisfaction and five questions on information literacy outcomes. JSU exceeded the means of NAAL, New

York 3R's, and OhioLINK on all elements of both series of questions.

Use of Survey Results

While the survey results are very helpful in pointing out service quality strengths and weaknesses, results alone cannot identify specific problems. Fortunately, LibQUAL+ provides space for written comments and 70 of the respondents made use of that space. While most comments were positive, and in some cases very complimentary, a few areas of concern were identified. Those comments indicating the need for improvement tracked the three elements that scored lower than the NAAL averages, so there was confirmation of where to focus attention to quality. All three of those areas have since been addressed by the library.

The desire for a comfortable and inviting location could be explained, in part, by a major exterior renovation project completed just before the survey. Exterior marble sheathing panels were removed because, through expansion and contraction, they were working free of their building anchors and presented a potential hazard. They were replaced with granite panels which, on a 12 story building, is a major project. Construction involved much disruption in terms of entrance and egress, noise (drills, jackhammers, etc.) and dirt. The interior and furnishings of the library were 30 years old and were very worn in places, so respondents made exterior versus interior comparisons in the comments. This quality deficit has been addressed by a major interior renovation including painting, new carpeting, new elevators, and reupholstering of 30 year old soft seating. While there is no solution to the collection fragmentation problems inherent in the subject division arrangement over eight stack floors, the interior refurbishing will go a long way in improving any "comfortable and inviting place" shortcomings.

An interesting observation on interpreting this presumed shortcoming is that the two lowest superiority means registered (the gap between Desired Mean and Perceived Mean) occurred within the Library as Place dimension. In fact, the Comfortable and Inviting Location element enjoyed the second smallest superiority gap (-0.21), behind only Quiet Space for Individual Activities (-0.10), which indicates that users either had lower expectations for these two elements than other NAAL participants or else they were very forgiving of the recent construction disruptions.

Comments on modern equipment centered on computer response times and adequacy of copying and printing equipment. Access to the library catalog and databases is through Endeavor's WebVoyage. Equipment to support access was adequate but web access was slow for several reasons. Since the survey the library has upgraded its local area network and the University upgraded the campus backbone. Further improvement was made by switching faculty and administrative Internet access to a new service provider (BellSouth) while leaving student and dormitory access on the existing provider (Alabama Supercomputer Network). Response times in the library, and campus-wide, have benefited greatly from these changes.

The concern with copiers and printers was addressed with the campus-wide implementation of the Uniprint debit card system. Card readers have been installed on computer print stations and eight public service photocopy machines, all of which previously operated on a cash-only basis. There is still a need to upgrade microfilm printing equipment, although the four reader-

printers now available seem to handle the demand for printing. Quality-of-print issues will be resolved with the purchase of microform digital scanning equipment.

The third area where JSU fell short of the NAAL average was in "making information easily accessible for independent use." Comments fell in two areas, both of which were concerns of non-traditional students. Off-campus access to library databases was difficult going through the University's proxy server. To improve that access the library purchased its own server and EZ Proxy software, which allowed off-campus access based on identification number and last name. That eliminated the need for reconfiguring one's browser and resolved individual problems with various service providers encountered with the earlier proxy server.

The other cause for comment was the weekend and evening hours, especially in the summer, which were deemed inadequate by non-traditional students who may be holding down full-time jobs while working on a degree. This was addressed by eliminating the summer schedule, which had reduced library hours from 87 per week to 67 from May through July. While library hours are never adequate for all users, the change to one schedule will make the library much more accessible in the summer.

Summary

Running LibQUAL+ was a valuable experience. The information derived from it was much more detailed than that obtained from earlier General Satisfaction surveys or the University-wide surveys conducted by the Assessment Office. A good bit of preparation went into JSU's first iteration of LibQUAL+. Training at the ALA Midwinter meeting was extensive and

expensive, but was needed only once. Likewise, development of programs to extract a sample of library users required some effort by systems personnel. The actual conduct of the survey was web-based, so no mailings or handing out forms in the library were necessary. The results were tabulated and distributed by ARL, and they were presented in clear tables and meaningful graphs. Comparisons with individual libraries, selected peer groups, consortia, and the universe of LibQUAL+ participants were easily made.

Most importantly, the survey results and accompanying comments of users provided enough specificity that direct action could be brought to bear. In fact, library personnel had a pretty good idea of the shortcomings identified by LibQUAL+. Confirmation by the survey provided funding impetus in some cases or the ammunition to follow through on a controversial administrative change in the case of summer schedule expansion. Finally, the positive written responses and above average elements of service quality reaffirmed the library's mission and objectives while providing a roadmap for future direction.

JSU will not sign up for LibQUAL+ in 2004, but will consider a two-year cycle with participation in 2005.

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