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Tracking Our Performance

Assessment at the University of Virginia Library

THE UNIVERSITY OF VIRGINIA (U.VA) LIBRARY HAS BEEN INVOLVED in assessment activities since at least 1921/22.¹ The library was a contributor to James Thayer Gerould's statistical compilations and was a charter member of the ARL, joining in 1932. In the 1980s, simple data collection expanded to data analysis and involvement in persuading others of the value of using data to make decisions. The 1990s brought the addition of user surveys and the incorporation of user feedback into decision making, leading, at the end of the decade, to the creation of a Management Information Services (MIS) Department. This department has fostered assessment both at the library and elsewhere, through active involvement in the larger assessment community.

Founded in 1819, the University of Virginia is a nationally ranked institution of higher education. Located in Charlottesville, Virginia, it is renowned primarily for the humanities and its law, medical, and business professional schools, although recently there has been a push to strengthen the sciences. There are 14,700 undergraduate and 6,000 graduate and professional students; full-time instructional faculty number 1,200. The university offers

bachelor's degrees in forty-seven fields, master's degrees in sixty-seven fields, six educational specialist degrees, two first-professional degrees (law and medicine), and doctoral degrees in fifty-five fields.

There are thirteen library facilities in the University of Virginia Library system, excluding the Law, Health Sciences, and Graduate Business professional school libraries which are not administratively part of the university library system. The thirteen U.Va libraries together hold 4.5 million volumes and provide access to 124,000 print and electronic journal titles. For the fiscal year 2011, the system circulated about 350,000 books and reserves, answered around 53,000 reference questions, and managed 56,000 items through inter-library loan. There were 266 full-time equivalent staff and student workers and expenditures were \$27,800,000.

The library's mission is to enable research, teaching, and learning through services, collections, tools, and spaces for the faculty and students of today and tomorrow. The library staff prides itself on customer service, innovation and risk taking, and learning and staff development. For example, we have been engaged in major digitization projects since 1992, and were among the first to install a coffee shop inside the library in 1998. There is a culture of change where our staff expects that things will not remain the same. Moreover, we have been collecting and using data about the library for many years. One of our guiding principles is that we "use data to make choices."

U.Va was fortunate to have Kendon Stubbs on staff for forty-two years, from where he retired as deputy university librarian in 2003.² Stubbs was an early proponent of collecting library statistics and of using data to make decisions. He published a widely cited article on library statistics in *College & Research Libraries* in 1981.³ Stubbs not only contributed tremendously to the compilation of longitudinal data from the ARL statistics (he has been called the father of the ARL Index, which was instituted in 1980), he also had a profound impact on statistics gathering and other kinds of assessment at Virginia.⁴ His constant focus was on our users and the performance of the library for their benefit. As Jim Self stated while presenting the Library Assessment Career Achievement Award to Stubbs at the 2010 Library Assessment Conference in Baltimore, "Kendon never forgot the reason for collecting data. They were not numbers for the sake of numbers. The data were collected so they could measure our performance, improve our service, and increase customer satisfaction."⁵ Those qualities were only the beginning.

Kendon's work goes well beyond statistics and assessment. . . . At his home library Kendon was a relentless innovator. He was creative in thinking up wild and crazy ideas, and practical enough to make them happen. . . . Under Kendon's leadership, the UVa Library became a data pioneer, conducting its first faculty survey in 1993, followed by a student survey the next year. The Management Information Services unit

was established in 1997. Four years later UVa became the first research library in North America to implement the Balanced Scorecard.⁶

Kendon Stubbs was awarded the university's highest honor in 1998/99: the Thomas Jefferson Award. This award recognizes excellence in service to the university community and honors a faculty member who has "exemplified in character, work, and influence the principles and ideals of Thomas Jefferson, and thus [has] advanced the objectives for which Jefferson founded the University."⁷ His shadow continues to influence assessment at the U.Va Library.

During the 1980s, the focus of assessment at Virginia was on data gathering. While we had contributed to the ARL annual survey for decades, various departments within the library also provided more in-depth data related to their units. Size of collections data from the Cataloging Department, for example, dated to at least 1971. Amassing this data became easier once our integrated library system went live in 1989. In addition, deeper analysis of circulation data began in earnest after we automated circulation processes in 1982. Formal consolidated circulation reports were first issued by the Resources Distribution Group in 1988/89.

Development of the User Survey Program

The U.Va Library began conducting user satisfaction surveys in the 1990s under the aegis of the Management Information Committee. This committee was formed by Kendon Stubbs in 1990, with Jim Self as chair. Part of its task was to educate staff about management information via presentations at library-wide staff meetings. While the committee took over compilation of circulation statistics in 1992/93, it also managed our first user surveys, launching a faculty survey in 1993. This initial foray garnered a huge 70 percent response rate. The survey asked faculty for their opinions of our collections, services, and facilities with rating, ranking, multiple choice, and open-ended questions.⁸ The committee identified where library performance could be enhanced using this management data. A survey of students followed in 1994. These surveys laid the groundwork for twenty years of assessment of our users' satisfaction with the library. The data collected from our survey program is used to make programmatic changes that enhance our users' experiences of our services. As a result of the first surveys, for example, hours were extended during intersessions and holidays, the Science and Engineering Library was air-conditioned, and a more subject-oriented approach to collection development was instituted.

Since 2008 we have surveyed about a third of our user population every year. We typically begin revising our questionnaire in late fall and field it shortly after the spring semester starts. Our response rates have ranged

between 30 percent and 70 percent over the nearly two decades since our survey program began. By regularly querying our users, we have been able to collect a vast amount of data over time. Close analysis of the comment data has made it possible to spot trends in user needs.⁹

In addition to the surveys, in the mid-1990s, a two-year study of the circulation patterns of newly acquired monographs was conducted.¹⁰ This study looked at books cataloged and made available to patrons in 1993, and then followed their circulation data for the next two years. Results indicated that English-language books had a 71 percent probability of circulating in the first two years of availability. Foreign-language books had a less than 33 percent chance of being used within this period. Use rates for both categories declined in the second year. This study, coupled with results from the first faculty survey, led to a radical change in our collection development policies and a complete reorganization of collection development functions within the library.¹¹ Copies of high-use materials were added to the collection; the Collection Development Department was disbanded, and a subject liaison program was created in its stead; and foreign-language acquisitions were reduced. This study was also the basis for one of our later Balanced Scorecard metrics and justified a change in collection development strategy from collecting for future scholars to collecting for current users.

The Evolution of the Management Information Services Department

In 1997 Jim Self, then director of Clemons Library, and Dave Griles, a library programmer, began to devote half of their time to the collection and compilation of data. Lynda White, from the Fine Arts Library, was invited to join them quarter time. In 2000, with Kendon Stubbs's blessing, the three became full-time members of the Management Information Services Department, working on assessment and data collection, analysis, and reporting.

Jim Self is the initial and current department director. He provides data for the library administration on demand, tallies survey data, researches assessment tools, and proselytizes about assessment in the greater library and beyond. Lynda White, the associate director, analyzes data and writes reports, coordinates departmental activities, collects and analyzes qualitative data, and collects data from various staff for reports and outside surveys. As a programmer and problem-solver, Dave Griles was responsible for putting our surveys on the Web starting in 1998, and for extracting the data, until we began using the online service Question Pro in 2010. He currently does programming for special studies to answer questions posed by various administrators and managers. For the first decade we also had a fifteen-hour-per-week intern to help with data analysis and reports.

FIGURE 2.1

Mission of the Management Information Services Department

Management Information Services (MIS) is responsible for coordinating and facilitating assessment activities for the University of Virginia Library. We collect and compile Library data for local and national agencies and for planning and decision making within the Library.

To accomplish these ends, MIS:

1. Cultivates a culture of assessment within the Library
2. Provides data, and analysis of data, about the University of Virginia Library
3. Provides usage statistics for electronic, physical, and other resources
4. Reviews, and assists with, applications to the University of Virginia Institutional Review Board for Social and Behavioral Sciences (IRB) for projects involving human subjects
5. Reviews and assists with developing surveys of our user and staff populations
6. Evaluates assessment projects and works with staff to determine the appropriate assessment tools for each situation
7. Develops expertise in various techniques of data collection and analysis, including focus groups and customer surveys, as well as analysis of quantitative and qualitative data
8. Educates Library staff as to the value of collecting and using management information
9. Provides assistance in implementing assessment projects
10. Works with other groups in the Library that perform assessment.

Source: University of Virginia Library, Management Information Services, www2.lib.virginia.edu/mis/index.html.

In 2009 we acquired a four-hour-per-week staff share position to deal with collecting electronic resource usage data. This is an extremely complicated and time-consuming process that MIS has been managing since 2000. We tried to rely on graduate students to do this for nearly a decade, but this solution was not entirely satisfactory. Dedicating a staff person to managing the collection of this data means that we no longer have to constantly train new students in the mysteries of serials, COUNTER, and access to data from numerous vendors with a variety of reporting mechanisms. While we did flirt with outsourcing some of this work to a vendor, that process proved insufficient to justify the cost. This task will soon be turned over to a new electronic resources librarian position.

MIS has constantly adjusted what data we collect, how we collect that data, and how we manage projects in order to streamline procedures and take advantage of differing or newly acquired staff skills. We also continued the practice started by the Management Information Committee of informing our

library colleagues about the uses of data through presentations at town meetings, classes on statistics, and visits to departments.

Our current mission (figure 2.1) has not changed appreciably from our initial one, although a few items were added as our assessment repertoire grew. In general, we coordinate assessment activities for the library by collecting, compiling, and analyzing data for the library, university, and national agencies, whether it is numerical data about our operations or qualitative data from our users.

Selected MIS Projects

One of the earliest projects undertaken by MIS was a SERVQUAL survey done in 1998.¹² Based partially on a similar study by the Texas A&M University Library, the effort colored our willingness to participate in early LibQUAL surveys.¹³ We discovered that users were very annoyed with the instrument itself. Specifically, they were reluctant to answer the same question twice, even when the response options were listed side by side. Nonetheless, we gained very valuable information from the survey. It sparked the idea of providing customer service training for our desk student workers by pointing out that often only student staff were available after 5:00 p.m. and that their responsiveness and accuracy were less than adequate.

While SERVQUAL was an interesting local assessment, by 2006 we wanted to compare our library to others across North America, so we participated in ARL's LibQUAL survey that fall. This survey yielded some interesting results. Our journal holdings, in particular, were an issue of dissatisfaction for faculty, leading MIS to conduct ten-minute follow-up interviews with eighty-two faculty members in departments across the university. Factors fueling faculty dissatisfaction ranged from a need for more foreign journals and back files to many issues with searching and accessing both print and electronic journals. The MIS director then further analyzed faculty data by discipline, and compared results with the thirty-seven ARL libraries that participated in the 2006 LibQUAL survey.¹⁴ This comparison illustrated the importance of journals to faculty at ARL institutions, and that faculty expressed dissatisfaction with the participating libraries' collections regardless of their collection's size. This study was replicated in 2009 by Columbia University Libraries with similar results.¹⁵

In 1999/2000, MIS staff inaugurated a benchmarking project to assess the library's shelving process.¹⁶ Using the University of Arizona and Virginia Tech libraries as benchmarking partners, we gathered data about our own process, and compared it to our partners' processes. We streamlined the shelving process, and instituted constant quality checks and data collection as part of

the process. With actual data available on the improvements resulting from the new process and prodigious goals, including shelving all returned books within four hours and shelf reading three books on each side of the newly shelved book, we were able to convince our library administration to provide additional funding. These goals later became a Balanced Scorecard metric. MIS participated in one further benchmarking project, on staff training, which honed our skills and allowed us to add the process to our repertoire of services offered.

In 2000 we also produced our first consolidated annual library statistical report, combining reports from various departments and units about a variety of library functions with a summary of the data submitted for the ARL annual survey. This was and continues to be a major undertaking, as the reports contain extensive analyses of circulation and size of collections data, along with examination of long-term trends; usage data for electronic journals, reference sources, e-books and LibGuides; reference and instruction data; budget and fund-raising data; collections expenditures; interlibrary loan and document delivery statistics; and data related to preservation, staff training, shelving, gate counts, and facilities. With changes in presentation and the kinds of data reported, the report continues to be produced and used by staff eleven years later. It has also been posted to our website since 2002, so that the data are available to all staff and to others interested in library assessment.¹⁷ We now have a considerable amount of longitudinal data that helps us identify trends and needs in our library.

In early 2000, MIS noticed from the reference statistics we collected for ARL that the use of reference services was declining. Determined to find out why, in 2001 we hired an outside facilitator to query groups of faculty, graduate students, and undergraduate students about their use of our reference services. We were surprised by the results. While our users were beginning to use Google to answer queries, they also indicated that they were using our website to answer their basic questions. They liked to find information for themselves without mediation from staff, and we had made it easy for them to do that on our website and by providing online resources and databases with full text. We also learned a great deal by observing our outside facilitator and, after some additional reading and study, we added focus groups to our growing repertoire of assessment tools.

The Balanced Scorecard Project

One of MIS's biggest undertakings was to institute a Balanced Scorecard at the UV Library. The Balanced Scorecard is a management tool that we adapted to reflect our library's vision and culture and to provide a comprehensive

snapshot of our library's overall health.¹⁸ Our library was interested in implementing the Scorecard to gain control of the large amount of data we collected. Furthermore, we wanted a better overall view of our performance, to see whether we were successful in meeting our goals. The Scorecard forced us to determine what our most important day-to-day operations were, in terms of the ones we wanted to measure, as well as where we wanted to go with new programs.

The Scorecard balances four perspectives: the *customer*, or our users' needs or customer service; *internal processes*, or how well we manage our processes to provide customer service; *finance*, or what it costs us to provide our materials and services; and *learning and growth*, or how well we are positioned to learn and change as our users' needs change. While we did not develop an enterprise-level strategy map at the time we first implemented the Scorecard, we did devise two to four strategies for each perspective. These strategies defined what we believed our library is about, or what was most important to us. Each strategy had one to three metrics to measure how well we were doing, and each metric had two targets or goals, with the first target requiring complete success and the second, partial success. Failure, of course, was an option. This allowed the Balanced Scorecard to serve as a red flag, identifying areas where we needed to make improvements or find additional resources to accomplish goals.

Work on developing our Scorecard began in April 2001. A steering committee was formed along with four subcommittees, one for each Balanced Scorecard perspective. One advantage to this method was that over thirty staff members were involved, again nurturing our culture of assessment. As none of us had any experience with this tool, there was a considerable learning curve in developing our Scorecard. Metrics were finalized by September 2001. We used July 1, 2001, as our starting date for gathering data for our first Scorecard, for 2002.

We initially chose twenty-six metrics, although this proved very difficult to limit. Equally important, we had to minimize the costs of collecting the data in terms of both labor and dollars. We used existing measurements wherever possible. We also tried to use data that could be efficiently mined from existing databases. Rather than counting every action, we used sampling for some metrics. This included, for example, measuring how many items acquired were actually used or what percentage of our equipment was working effectively at any given moment. We were very careful not to unduly overburden staff with data collection tasks and to make sure that what we measured was indicative of our performance.

Some of the types of metrics we developed included customer service ratings from our user survey; timeliness of service measures, such as speed of our delivery service, or reshelving materials; cost of service measures, including what it costs to order a new book or acquire an item on interlibrary loan;

number of uses by patrons of the library's recall service, electronic journals, or special collections materials; success in acquiring funding, including the percentage of fund-raising dollars that are unrestricted; and comparisons with peers, using tools such as the ARL rankings. While our focus was on our users, we also measured things that affected staff, such as job satisfaction, the value of our staff training program, comparison of staff salaries to peer groups, and ethnic diversity.

We determined at the outset that our metrics and targets would be reviewed each year to see whether they were still valuable and whether there were any "outliers" that needed adjustment. We revised our Scorecard each year through 2010, growing it to forty-one measures before reducing it to "Balanced Scorecard Lite" with only four metrics in 2010. At this time, the library undertook an extensive revision and re-visioning of its Scorecard, beginning with creating the library-wide strategy map that was lacking in the first Scorecard. New metrics will be in place by 2013.

The Balanced Scorecard has been productive for us. One metric, for example, dealt with how quickly we acquired and made available books requested by patrons for purchase. We had long thought we were doing this in seven days. Once we figured out a way to measure our process, we discovered that we were meeting this goal only 17 percent of the time. A group was quickly formed to find ways to improve the process.

Another initiative that also became a Balanced Scorecard metric involved testing the usability of our library's websites. Although we had recently revised all of our websites, there were still concerns about ease of use by our users. In 2004 the MIS director proposed that the library hire an intern to do systematic heuristic and usability testing. A library-wide Web Usability Committee was formed with the MIS director as chair. While there was a learning curve similar to that for the Balanced Scorecard for members of the MIS staff and the Web Usability Committee, the experience expanded our culture of assessment to more staff members.

Although the targets for the usability metric were not met the first year, a testing process was established, and the concept of testing websites by users who are not library staff gained credence. The metric became the responsibility of the Communication and Publications Department, which managed the website. In early 2007, an intensely engaged group of staff formed a User Requirements/Usability Community both to assist with website testing and to gather data on our users' ease of access to the collections and services we offered in our online library environment. An MIS staff member was initially part of this group. In 2010, one of the usability community founders formed the User Experience Team, which included an MIS member. This team had three specific goals: to manage the development of the user interface for our new discovery tool for the online catalog; to develop and test a new mobile

devices website; and to develop and test a new portal to the research pages of the library's website.

MIS contributed data mined from various user surveys, and personas for one undergraduate and one graduate student, and for two faculty representing science and the humanities. The goals for this team were accomplished, and in 2011 our music librarian was reassigned half-time to a new permanent User Experience Team. This team now does extensive web usability testing, analysis, and revision.

As our Balanced Scorecard has evolved, we have added metrics about different aspects of the library's operations. Our initial Scorecard required a survey of staff to measure how well we treated *each other* as customers. This survey was a simple one-to-five rating of each department. The results revealed enough red flags that MIS followed up with structured interviews of nineteen staff members. We wanted to learn why there was dissatisfaction with service received from business services, administration, and library human resources. It was here that we first documented our organizational communication issues and uncovered other issues related to our work climate.

As the Balanced Scorecard steering committee discussed revisions for the metrics, we often talked about these work climate issues. We decided to add metrics for communication, job satisfaction, and training effectiveness to our Scorecard, but we questioned how to measure this. By 2003, the steering committee decided to use a survey of library staff to explore issues in these areas.

In 2003 we hired an associate university librarian (AUL) for organizational development who graciously shared a worklife questionnaire she had used at her previous institution.¹⁹ We revised this survey to reflect the culture at U.Va. The instrument was grouped into seven sections: job satisfaction, interpersonal relations, communication and collaboration, diversity, resource availability, staff development, and health and safety. Each section contained positively worded statements about the topic and a box for open-ended comments. Respondents were asked to rate the statements on a scale of one to five, from strongly disagree to strongly agree. The MIS programmer transferred the survey to a web format so that the resulting data could be easily extracted and anonymity could be maintained. We fielded the survey for two weeks in June 2004.

Sixty-six percent of our 220 staff members participated. Our target was 80 percent agree or agree strongly, which we tabulated using the percentage of respondents who marked a statement either agree or agree strongly. We met the target on only one of the metrics. The question was how to improve those scores. Specific statements that were rated agree or agree strongly by fewer than 40 percent of staff gave us a good indication of where we needed to focus attention. The overall results for the sections on job satisfaction, communication, and staff development were used for the Balanced Scorecard metrics.

There was plenty of data from the survey for us to figure out broad areas that needed attention, but little detail on exactly what was the problem.

We decided to do focus groups with staff to get a handle on what exactly it was that staff were dissatisfied with. MIS facilitated these focus group discussions in the fall of 2004. Using volunteers, we set up four groups with approximately ten staff in each group. Nineteen percent of library staff participated. None of the participants' names were revealed to anyone but the MIS facilitator and the scheduler. We wanted staff to be open and honest, and to feel safe in expressing their views.

We were curious as to why 77 percent of staff enjoyed coming to work but only 59 percent were satisfied with their jobs, so we began each session by having participants talk about one thing they liked about working in the library. It was obvious from the discussion that these staff really did enjoy working at U.Va and with each other; the academic environment was key. We then talked about the low-scoring areas in each of the seven sections of the survey. Participants had quite a few good, doable ideas for making improvements. MIS, with assistance from an intern, compiled a list of issues and suggested solutions, and the AUL for organizational development took these, along with an action plan, to our senior administrative team. A number of changes were made based on the feedback we had received. Most of the changes were relatively easy to implement, and with the exception of salary adjustments, had no monetary costs attached.²⁰ The survey results were presented at a library-wide town meeting, and in the winter of 2005/06, the AUL and the associate director of MIS held open sessions with staff to review the results of the surveys and focus groups in depth. This was another way to collect feedback from staff as well as to let them know what had happened as a result of their input. Other metrics were eventually added to our Scorecard for which the worklife survey provided data. MIS and Library Human Resources have continued to field the worklife survey every other spring.

Sustainable Assessment

Part of the MIS mission is to help staff understand how using data can improve their success and improve service to our users. We present survey results at library town meetings and have held classes in basic statistical concepts. All MIS staff members serve on numerous library committees and groups and use reports to those groups to help educate staff. We also offer our services for particular projects or answer questions from staff about studies we have done. During 2005/06, MIS staff members attended staff meetings with the twenty-three departments that existed in the library at the time. We presented targeted data from our annual statistical report, the staff worklife survey, and

the user survey, to show how data could be used by a department, and what kind of services MIS could offer them.

As part of our library's mandate to share our ideas and experiences with others in the profession, Jim Self, with Steve Hiller of the University of Washington Libraries, founded "ESP: Effective, Sustainable, and Practical Library Assessment," an ARL program supporting sustainable assessment in libraries.²¹ Between 2005 and 2010, Self and Hiller traveled to over forty participating libraries across North America and abroad, to analyze where each was in its assessment program and offer advice on how to improve it. Each library that participated in the analysis received a report and recommendations. The program continues today and demonstrates the importance of a library's leadership, of a library staff devoted to users, and of a supportive organizational culture to ensure the success of assessment programs. Self, with the U.Va Library, ARL, and the University of Washington Libraries, is also an organizer of the Library Assessment Conference, which has been held biannually since 2006.

Another contribution of the U.Va Library to the library assessment community was a 2007 ARL SPEC Kit that studied the state of library assessment in ARL libraries.²² Written by the associate MIS director and Stephanie Wright of the University of Washington Libraries, this project surveyed seventy-three ARL libraries, asking questions about their assessment methods, history, activities, organizational structure, distribution and use of results, training and professional development, and library assessment culture. It was apparent from the study that assessment programs were pervasive in North American libraries at this time and that the assessment experience at U.Va was not very different from that of libraries across the continent.

Conclusion

One MIS goal is to foster a culture of assessment at the library. In all of the ways outlined above, we believe this has been accomplished. Asking our users for input is now our first thought rather than our last. For example, in 2007/08 we were mandated to renovate space in our undergraduate library to accommodate the use of student laptops, rather than library- or university-provided desktops. A task force analyzed data on actual usage of the desktops from the information technology division and data from the university's annual technology survey of students. The task force also did a quick paper survey to determine what uses students made of laptops and desktops in the library. With assistance from the User Requirements/Usability Community, focus groups/brainstorming sessions were held to gain student input on their needs for laptop or mobile computing.²³ Results indicated that the environment of

the library *in general* was very important to students who spent many of their waking hours there. The students were happy to offer suggestions for comfortable furniture and aesthetic elements as well as to contribute ideas for redesigning the area. In less than a year, the study was completed and the space was refurbished.

In 2008/09, MIS performed interviews with all library departments to inventory what kinds of assessment were being done. This inventory confirmed that gathering and using data and user input was now pervasive throughout the library. In general, technical units collected data on library operations and public service units gathered opinions and ideas from users.

Originally a committee and then a three-person department, MIS now works closely with the user experience librarian, the User Requirements/Usability Community, various members of the library administration, and other appropriate staff members to continue its work of gathering, analyzing, and interpreting library data of various kinds. The data are used by staff and managers to make effective changes in the library's programs that enhance our users' experience of the library. We have been fortunate to be able to extend hours for the undergraduate library to twenty-four hours a day, five days a week; increase the speed with which newly ordered books are made available to users; and create a study space for graduate students in the main library. Acquiring the additional resources to make these and other improvements for our users from an already strained university budget would not have been possible without data from our users and internal studies to support our requests.

NOTES

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