JUST ASK THEM!
Designing Services and Spaces on the Foundation of Student Feedback

Emily Daly, Joyce Chapman, and Thomas Crichlow

Building a Culture of Student-Centered Assessment

At Duke University Libraries, student contributions are vital to improving services and spaces. Since its creation in 2013, the libraries’ Assessment and User Experience Department (AUX) has worked to increase students’ involvement in assessing and enhancing library services and spaces. Charged with evaluating and improving all library users’ experiences, AUX staff routinely seek input from students in an effort to effect user-centered change. In the past, Duke Libraries staff spent long hours helping students adapt to librarians’ approaches to research, and data collected from users was often limited to anecdotal feedback and heavily influenced by staff members’ personal opinions. Over the last several years, library staff have devised multiple methods to learn from students and adapt library tools and services to meet their evolving needs. In so doing, Duke University Li-

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libraries has transitioned from a culture in which staff made decisions based on instinct or isolated experience to a responsive culture with students’ opinions and feedback at its center.

Since assessment and user experience were formalized into the work of designated staff members and a department, we have been able to take a coordinated and holistic approach to assessment. Assessment efforts were previously ad-hoc, lacking in coordination and consistency, limited in methods and tools, and dependent on both the skill sets and time of staff with other duties. Several years later, we find we are able to plan comprehensively for assessment across multiple library units and departments. Further, we are able to utilize more varied and robust methods for gathering information from and about students on topics ranging from spaces and furniture to the impact of research consultations on student learning. One important aspect of this user-centered approach to improving library services, interfaces, and spaces is triangulating methods: While we greatly value what can be learned from each data source, we never rely on a single data collection method to make important decisions for the libraries. Combining information from multiple data points enhances our understanding of how and why students interact with library staff, services, and spaces.

In this chapter, we will present a series of short case studies that illustrate methods we have found effective for seeking students’ input and ensuring that student voices help shape library services and decision-making. We will discuss: the benefits of our approach to student-centered assessment; what we have learned from the studies we have conducted over the last three years, including the advantages and drawbacks of each method; and how we intend to sustain student-led innovation in the libraries.

The case studies highlight techniques for involving students in enhancing existing spaces and resources, and developing innovative services:

- Guerrilla usability testing,\(^1\) referred to as “on-the-fly” usability testing at Duke Libraries, in which students are recruited at random as they enter the library to complete brief tasks using the library website or physical service points, and then provide suggestions for improving web interface or services
- Online surveys advertised through website banners, blog posts, or direct email that give students the opportunity to answer questions about library services and spaces
• Focus groups and visioning workshops, during which students are invited to meet with staff and other students to share their experiences using Duke Libraries
• Observational studies, in which staff unobtrusively watch how students use library spaces during a predetermined period of time
• Student advisory board meetings, at which students who have applied for board membership contribute ideas and feedback on a range of issues over one or more academic years
• Student assistant positions, which allow paid undergraduates or graduate students earning course credit to contribute directly to efforts to design and administer user studies and assist in implementing user-centered changes to web interfaces and services.

Case Studies

Customizing Spaces and Furniture

At Duke Libraries, staff and administrators frequently look to students to guide decisions related to furniture and space design. Recent planning for a new Research Commons involved students from the start. Staff engaged faculty, graduate students, and undergraduates in a visioning workshop intended to provide direction as we determined the purpose, function, and aesthetic of the libraries’ Research Commons. Thanks to deeply engaged student advisory board members, we were able to continue to seek student feedback over the course of the three-year-long project. Because we intended our Research Commons to be particularly geared toward the needs of graduate students, we asked our Graduate and Professional Student Advisory Board for feedback on blueprints at multiple points during the design process. We also incorporated questions related to our designs and goals for the space into graduate student focus groups we conducted following a university-wide user satisfaction survey. From the survey and follow-up focus groups, we learned that students expect library staff to help them

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1 More information about the libraries’ Undergraduate Advisory Board and Graduate & Professional Student Advisory Board is available at [https://library.duke.edu/about/advisory-boards](https://library.duke.edu/about/advisory-boards).

1 The libraries’ Ruppert Commons for Research, Technology, and Collaboration, branded as “The Edge,” opened on the first floor of the main library in January 2015. More information is available at [https://library.duke.edu/edge](https://library.duke.edu/edge).
find, analyze, and visualize data, so our Research Commons features a Data & Visualization Services Lab. While library staff had already envisioned incorporating such a lab into the new space, seeking user feedback affirmed the decision. As library staff finalized floor plans and selected finishes and furnishings, we repeatedly sought input from student advisory board members. For instance, we looked to our undergraduate board members to help name a set of small, open booths in a way that would convey their purpose to students. They named the spaces “Meet Ups.” Additionally, staff drafted a set of policies to govern use of short-term lockers in the space. Fortunately, we requested feedback from advisory board members, who were quick to tell us the policies would not meet students’ needs. In response, staff extended time limits for the lockers and developed policies that made the lockers more convenient for students to use. As we have done with many aspects of services and policies in our Research Commons and throughout the libraries, we requested additional feedback from students after they actually began using the lockers to ensure the policies they helped develop worked well in practice.

In order to make decisions about library spaces, we have found it valuable to observe students at work. Depending on what we need to know in order to redesign a space effectively, we observe students’ behavior and use of furniture and equipment at different points during the semester and at multiple times during the day and night. We engage student assistants in these projects in an effort to involve students as much as possible, and their participation makes it possible to collect observational data on the weekends and as late as 11:00 p.m.

In the 2014–2015 academic year, we conducted an observational assessment to understand more fully how students use—or choose not to use—study spaces and various pieces of furniture at the main campus library. The study provided library staff and administrators with evidence that students using the main library are far more likely to study independently than in groups and choose individual study carrels and small tables instead of oversized “comfy” chairs. As a result, we have opted not to replace or reupholster all worn oversized chairs and instead invest in individual seating and study carrels. The study also revealed that students develop makeshift standing stations out of map cases and other flat surfaces, an observation we responded to by purchasing ten standing desks.
Observational studies are most effective in helping us learn “what” students use, not “why” they choose a particular type of furniture or area in which to study, or what else they might choose if given the option. To gain this information, we often seek input from student advisory board members or focus group participants. At multiple points, we have used low-cost, low-tech methods, such as asking students to draw their ideal study spaces or brainstorm enhancements they would make to library spaces if given the option. We then pair these findings with data collected from other studies. For example, from our observational studies, student surveys, and additional interviews, we have learned that students are keenly interested in spaces where they can stand to study and prefer places where they can work quietly and independently. As funds become available to purchase new furniture for study spaces, we will invest in as many individual study carrels, tables intended for independent study, and options for standing while studying as possible.

Creating a Device Lending Program

As the numbers of devices that students routinely bring to the library has increased, so too have their requests that more devices be made available to check out from the library. In response to this feedback, library staff had considered lending devices and technology a number of times and had worked with Duke’s student government to identify equipment and funding. However, library administrators were concerned about managing and replacing heavily-used equipment and supplying a sufficient variety of devices to meet users’ needs—potentially a considerable financial and logistical burden.

To gather further data on student interest in a device-lending program, AUX staff sought additional feedback from students in the libraries’ 2013 biannual satisfaction survey. Following the survey, we held ten focus groups with graduate and undergraduate students to discuss technology lending and other survey topics in greater depth. We then elicited further feedback on a potential lending program through student advisory boards, asking students whether such a service would be useful, what types of items students would want to borrow, and what policies around technology lending (such as fines and time limits) should look like. The findings were clear: Students value having access to technology (laptop and phone chargers in particular) while they study and expect the library to provide this service.
We also spoke with local peers, such as North Carolina State University Libraries, where staff had successfully implemented device-lending programs that students used extensively. After soliciting significant feedback from Duke students and learning about students’ perceptions and behavior at peer libraries, we were able to successfully advocate for a device-lending service with Duke’s library administration. AUX staff worked closely with student advisory board members and student government leaders to identify devices and funding, and while we advertised the program’s launch through official library channels, we relied heavily on students to spread the word: For instance, an undergraduate blogged about the new service, and her blog post was picked up by a number of non-library student Facebook groups, citing the new loaner program as an important addition.

Since the start of the program in April 2015, we have collaborated with campus IT staff and student government members to add new devices and models to our pools of chargers, and we expanded the lending service to a second branch library. We have successfully surmounted the original concerns related to lending devices. While we have lost a small number of devices, student government members have been eager to supplement the pool with new models and replacement devices. And with significant help from these invested undergraduates, we have been able to identify devices that meet the majority of students’ needs.

**Modifying Room Reservation Policies and System to Meet Students’ Expectations**

The libraries’ Research Commons includes nine project rooms that can be reserved by groups working on research projects on a recurring basis for weeks or months at a time. After seeking input from students, we outfitted project spaces with display screens, writeable walls, and lockable cabinets. Individuals or groups can also reserve rooms on a non-recurring basis for up to three hours at a time when rooms are not in use.

When the Research Commons first opened, the policies governing use of the nine project rooms and the steps required to reserve them differed dramatically from those in place for the rest of the libraries’ heavily used group study rooms. Project rooms could be reserved for non-recurring use only from an iPad located just outside each room or from a touchscreen kiosk located in the Research Commons. This policy required users to visit the Research Commons in person to make a reservation, a practice stu-
udents found burdensome and confusing since they were able to book group study rooms in other parts of the library entirely online.

After hearing from students that they found this in-person reservation process frustrating, AUX staff conducted a usability test in the lobby of the main library, randomly asking six students to show us how they would attempt to reserve a project room from start to finish. After they completed the task, students answered follow-up questions about their experience reserving a room and the reservation policy itself. Students we talked to made it clear that the process staff had developed was unintuitive, cumbersome, and needlessly time-consuming. As a result, we transitioned these spaces to the online system that students use to book all other group study rooms in the library. Iterative assessment is important to iterative improvement, and in the semester following our initial usability study, we conducted a repeat usability test. Once again, we observed students reserve a project room, this time with the modified policies and online reservation system in place. This group of test participants indicated that the changes in policy were a significant improvement and suggested additional improvements to the reservation system's online interface (i.e., optimize the room reservation pages and system for mobile devices, since they are likely to use their phones to book spaces, add a “sign out” function to the touchscreen kiosk in the Research Commons to assure students their information is secure), which were subsequently implemented.

Students demonstrated that we were wrong in our assumptions of how they wanted to reserve and use project rooms and showed us we had made it needlessly difficult to reserve project rooms in a space we hoped would be used heavily by students. After observing their behavior and talking with both test participants and student advisory board members about their experiences in the Research Commons, we were able to make changes that helped us better promote new spaces to our target population and enable students to reserve rooms quickly and easily in ways that fit their schedules and expectations.

**Designing a More Intuitive Search Results Interface**

The Duke Libraries homepage serves as the main entry point to resources that are distributed across multiple silos, such as the catalog, articles, and research databases. For many years, students, faculty, and staff who needed

*Students use http://library.duke.edu/using/room-reservations to learn about and reserve group study and project rooms.
to access these resources were challenged by a multi-tabbed search box that forced them to choose among four or more distinct pathways, each providing access to only a subset of the libraries’ vast resources.

After observing frustrated and confused students attempt to make sense of our search box in numerous usability tests and focus groups, AUX staff members collaborated with colleagues throughout the libraries to develop a unified search results page, commonly referred to as a Bento Box approach. This approach allows library users to search multiple silos from a single search box prominently displayed on the library homepage and then see all results on a single page, organized into sections according to format or type of resource. Our goal was to make it easier, even intuitive, for users to discover library resources; however, we knew we risked overwhelming users by combining results from a number of sources. To help guide us toward presenting search results in a way that was as easy to understand as possible, we sought extensive input from students through conversations in advisory board meetings, interviews with library student assistants, online surveys, and usability tests piloted and conducted with assistance from undergraduate and graduate students.

Because this change represented a dramatic shift in how we presented library resources, we knew it was important to gather input from students at every stage of development. We discussed paper and online prototypes of a unified search results page in semi-structured interviews and modified usability tests with student advisory board members, using their input to help guide decisions about how to present information on the results page. We then sought additional feedback on prototypes through one-on-one interviews with student assistants who routinely help users locate resources at the main library’s service desk.

Over the course of this project, we conducted five usability tests so we could observe students interacting with the search interface, both while it was in development and after it was launched. Because these studies spanned a broad timeframe, we were able to test the assumptions we made as we constructed early prototypes and then assess the effectiveness of the live unified search results interface. These on-the-fly usability test sessions averaged five student participants each, and could be completed in around ninety minutes. Working from a table set up near the main library entrance, we randomly asked students entering the building—some frequent library users, others coming only to attend class or go to the library’s coffee
shop—to participate in a test in exchange for a snack or beverage from the coffee shop. AUX practicum students and undergraduate and graduate student assistants helped us design, pilot, and administer usability tests. These students helped us refine questions and tasks before each study, providing valuable insights into how their peers might engage with the search results interface and relate to the usability test methodology and script.

After we launched the unified search results page, we continued to seek feedback from students through other avenues. We had multiple discussions with advisory board members about how they used the search tool and results interface, and we conducted a short online survey that asked students what they liked best and least about the new search interface. Survey results, combined with web analytics of the search interface, affirmed some of our earlier decisions and supported findings from on-the-fly testing. Findings from these studies informed many of the iterative changes to the page, such as a streamlined presentation of search results and a “Top Result” that highlights resources and terms frequently searched for by students.

The frequency with which we sought input from undergraduates and graduate students, and the variety of methods we used, meant that students’ voices and their approaches to research were a near constant presence shaping this project. Students were eager to assist throughout development, and library staff continue to value students’ opinions as we make ongoing improvements to library search interfaces.

Improving Students’ Experiences with Research Consultations

It is increasingly common for AUX staff to collaborate with staff in other departments to evaluate services aimed at meeting students’ needs. For instance, AUX staff worked with Research and Instructional Services staff to assess the impact of research consultations on student learning and to develop best practices for future consultations. We began by speaking with student advisory board members about their experiences with research consultations and learned that many did not know they could schedule appointments with subject librarians; others became aware of the service late in their time at Duke and wished they had taken advantage of it earlier. With significant help from students, we developed and tested two anonymous surveys: one to be distributed to students immediately upon com-
pletion of a research consultation, and a second to be sent at the end of the semester to everyone who participated in a research consultation during the previous semester. Student advisory board members helped us word survey questions using language they understood and identified with. They were also instrumental in determining the ideal timeframe and incentive for the end-of-semester survey. Their advice likely contributed to the survey’s high response rate.

Our goals for the two surveys were twofold: We hoped to understand how students learn about and perceive the consultation service, and we wanted to know the impact individual meetings with librarians have on student learning. The immediate survey took only a couple of minutes to complete. It identified whether this was the first time the student had taken part in a research consultation, whether they had ever seen a librarian in any of their classes to teach them about library research, how they found out research consultations were possible, and students’ overall satisfaction level with the experience. In the end-of-semester survey, we assessed the impact of research consultations on student learning. We asked whether or not the sessions helped students feel more confident to do research for their papers or projects; what they learned from the sessions; what, if anything, students did differently as a result of the sessions; and how the process of requesting or scheduling a meeting could be improved.

We shared anonymous aggregated results from both surveys with librarians who conduct research consultations and worked with these subject specialists to respond to our findings. For instance, survey results indicated that students find the online form for scheduling a consultation with a librarian cumbersome, so we encouraged all subject librarians to use an online scheduling tool1 that simplifies the scheduling process. We then explored ways to highlight the consultation service and new scheduling process on the libraries’ website. Survey results also revealed that some students were unsure of what to expect when they scheduled an appointment with a librarian. As a result of this feedback, more librarians are now communicating with students in advance to ask preliminary questions and set expectations for their meeting. After discussing what we learned from student advisory board members and survey respondents with subject spe-

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1We use the LibCal “My Scheduler” Tool, http://springshare.com/libcal/appt.html. See http://library.duke.edu/about/directory/staff/7241 for an example of a librarian profile that includes a link to schedule an appointment.
cialists, we distributed guidelines for conducting research consultations that are intended to make the experience more streamlined, consistent, and effective for students.

**Sustaining Student-Led Innovation**

Duke University Libraries has gradually but assuredly transitioned from an institution with no formalized comprehensive assessment program, and a culture that relied on anecdotal information, to an institution with a department dedicated to performing assessment, regularly gathering student feedback, and responding to users’ needs. This change in approach has resulted in an increased capacity to plan comprehensively for library assessment and integrate student feedback, data analysis, and reporting into our work. We have found that this approach generates enthusiasm among students for new services and spaces in the libraries, and fosters a culture in which staff routinely seek students’ feedback as they consider new initiatives or improve existing services. By relying on formal mechanisms and regular feedback channels to gather input from students, we have brought the undergraduate and graduate student body into the assessment lifecycle in a way that results in meaningful change.

We have learned a great deal in our efforts to solicit feedback from students and fold their suggestions into enhancing existing services and developing new programs. Years ago, there was a misconception at Duke Libraries that it was difficult to gather and use student feedback to guide decisions about library services and spaces, and staff instead prioritized faculty input. In recent years, we have effectively demonstrated that the barrier to soliciting input from students is lower than originally thought. Instead of being reactive to student needs, we are now proactive. We do not make wholesale changes to spaces, services, or the libraries website without first talking to students or observing student behavior.

There are advantages and drawbacks to each of the methods featured in our case studies. Guerrilla usability testing, or “on-the-fly” testing as we have come to call it in Duke Libraries, is fairly easy and requires relatively little time. By conducting short, focused tests and recruiting participants as they enter the library rather than scheduling sessions in advance, we are able to observe six to ten students use library interfaces or resources and then talk with them about their experiences. We are typically able to
accomplish this work in under two hours and then translate what we watch our student participants do into recommendations for meaningful change. After we implement changes, we request additional feedback from students to ensure we have addressed their initial concerns. Drawbacks to usability testing are that test sessions typically reach fewer than ten students at a time. We attempt to overcome this shortcoming by conducting tests on a monthly basis. To simplify the testing process, we conduct all tests in the library, which means our participant groups are limited to those students who enter the building to attend class, visit the coffee shop, or use library services during times when we happen to be conducting usability sessions.

While usability tests are short, include only one student at a time, and target a particular task or service, focus groups provide an opportunity to talk to a small group of students simultaneously about a range of issues. In focus groups, we are able to delve deeply into topics, follow up on students' responses to questions, and gain insights from students who naturally build off their peers' comments in the group setting. Focus groups participants are always pre-scheduled, which means we are with students for a longer period of time, often about an hour. Like usability testing, focus groups reach a small percentage of our target population. Another drawback is that focus groups require more of our time, both to coordinate and for analysis and follow-up. It requires a considerable amount of effort to transcribe and analyze qualitative feedback from ten or more students speaking for an hour on numerous topics. Finally, because we are requesting more of students' time in exchange for this rich, qualitative feedback, we often feel compelled to provide an incentive. We have been successful, however, in recruiting focus group participants with no more than coffee and cookies, which helps keep costs relatively low.

Surveys are likely the easiest way to solicit feedback from the largest number of students. Unfortunately, it is extremely challenging to design survey questions that students understand fully and can respond to quickly with no mediation or follow-up conversation. For this reason, it can be difficult to interpret the meaning of survey findings. Additionally, students receive numerous survey invitations and tend to ignore those that do not relate directly to them, so we have found it necessary to offer an incentive in order to get responses from non-library users, thereby increasing costs. Surveys do, however, serve as a way to quickly and easily gather feedback from students who use the library and those who may not. We often use surveys
as a starting point for other studies. Follow-up focus groups, interviews, or usability studies can provide opportunities to delve more deeply into the topics survey participants hint at or comment on in their responses.

Similar to usability studies, observational studies are entirely uninfluenced by students’ opinions about what they do. Rather than asking students to describe their experiences or preferences—accounts that can sometimes be unreliable—we simply watch what they do in their natural environments. Observational studies require no incentives or related expenditures and are relatively easy to coordinate, as they do not require active participation from the students we observe. It can, however, be time intensive and challenging to collect data, especially if the goal is to get snapshots of what users do over the course of a full day. Depending on the tool used to collect observational data, it can be time consuming to analyze findings; we have surmounted this potential challenge by using Suma to collect, analyze, and visualize data.

At Duke Libraries, we have been able to establish a dedicated AUX department with three staff members responsible for conducting user studies and making student-centered improvements to library spaces, services, and resources. We realize, however, that many libraries have limited resources for assessment and user experience initiatives and few, if any, staff to lead such efforts. Staff in such libraries might consider recruiting undergraduate or graduate students in library and information science or related fields. Recruiting practicum students interested in earning course credit or gaining experience observing user behavior and evaluating and enhancing services expands professional staff members’ reach. Further, we have found that including student assistants in our departmental work infuses an important perspective and insights that only undergraduate and graduate students removed from the daily operations of the library can provide.

In addition to looking to our student assistants for direction, we rely heavily and frequently on members of our student advisory boards. In fact, these boards were born out of library staff members’ needs for relatively low-cost, low-effort methods to check in periodically with students or to solicit students’ feedback on a particular service or aspect of library op-

Suma is an open-source software project developed by North Carolina State University libraries that enables staff to conduct observational studies on a tablet and analyze and visualize findings through a web-based reporting interface. See more at http://library.duke.edu/suma/analysis/reports/#/about.
erations. These groups of approximately fifteen students from a variety of majors and backgrounds meet at least three times per semester and are instrumental in guiding decisions about new services and spaces. We ask our advisory board members for feedback on a range of issues, from designing web interfaces and furnishing spaces in the library to helping us decide whether or not to pursue a new program. We frequently ask advisory board members to seek input from their friends and colleagues in an effort to hear from as many students as possible, and we regularly solicit input from members through email when we cannot wait until a meeting to make a decision. Members of our advisory boards repeatedly report feeling invested in these groups and grateful that the library requests and responds to their feedback. Many stay on the boards for the duration of their terms at Duke. Likewise, library administrators frequently request feedback from these groups before making decisions, and countless services and spaces—from names of study areas and types of furniture to locations of printers—reflect students’ priorities and values.

We have learned that it is critical to solicit feedback from student assistants and members of the libraries’ student advisory boards to provide direction early in the process of developing a new service or user study. Students are eager to weigh in on whether library staff should pursue a new service or expenditure, or whether staff time and financial resources would have greater impact elsewhere. For instance, Research and Instructional Services librarians had long considered developing a peer research support service for students. We shared the concept with our student advisory boards and assistants and heard that students would not find value in such a service. Rather than spend time developing a new program students told us they would not likely use, we abandoned the idea and focused instead on enhancing our research consultation service, which students indicated was more important to them than peer research support. By creating the advisory boards, we have opened a two-way channel of communication. Not only do we go to students for advice, students now have a more direct way to approach us with concerns and ideas—and they feel more comfortable doing so. We have come to see our advisory board members as ambassadors for the libraries, and they routinely tell their peers that library staff are open to student feedback and willing to make changes that reflect students’ evolving needs.

Even with staff dedicated to seeking students’ input in a systematic and programmatic way, we remain ever mindful of our goals: to gather
as much feedback from as many students as possible on an ongoing basis and to make improvements to meet students’ expressed needs. Whenever possible, we reduce or eliminate time and resources spent managing the logistics of a complex study in an effort to get significant feedback as quickly and easily as possible. For instance, we stopped performing traditional usability testing (i.e., pre-scheduled, lengthy sessions in a usability lab) and replaced it with a less resource-intensive methodology. This modified method allows us to focus our efforts on talking to and observing students engage with library interfaces, as we are no longer spending time and energy recruiting students through fliers and email and then scheduling hour-long usability sessions. We also find that reducing barriers such as formal usability labs and recording software helps put students at ease. And if students are comfortable, they are more likely to share insights that help us understand and respond to their needs more fully.

We have also discovered that it is essential to engage our colleagues in soliciting students’ opinions and gathering information about their needs and behaviors. It is not possible to build or sustain a student-centered culture without buy-in and active participation from staff throughout the libraries. Our colleagues now routinely consider students’ opinions and behaviors before embarking on new projects. They are keenly interested in collecting observational data, conducting usability tests, or leading focus groups with students who heavily use—or choose not to use—library resources.

The techniques and projects described above have generated significant enthusiasm among students for new services and spaces, and have helped foster a culture in which staff continuously seek feedback and work to improve all aspects of students’ experiences with the libraries. Further, these methods have helped library staff make data-informed decisions before investing time and resources in developing new spaces, services, and online interfaces, resulting in innovative services that truly meet the needs of students and help them see Duke University Libraries as a vibrant and relevant center of research and learning.

Notes


Bibliography

