# Using Data Parties to Engage Students in the Survey Lifecycle

Joyce Chapman and Angela Zoss
Duke University Libraries, USA

## Background

Duke Libraries has run a largescale biennial student satisfaction survey for over a decade. In our typical survey cycle, surveys are distributed at the beginning of a calendar year. Members of the Assessment & User Experience Strategy (AUXS) department and the cross-divisional Assessment Core Team (ACT) then spend the spring semester analyzing the resulting survey data, coding thousands of comments, and producing interactive dashboards to explore data and identify findings. In the past, this team produced a lengthy list of over 100 recommendations for the library staff to review and enact based on survey data. This list of recommendations would be presented to staff during a summer workshop in which staff split into topical groups, explored dashboard data, reviewed relevant recommendations, ranked the recommendations using an impact matrix, and suggested additional recommendations. While this process helped library staff dig into survey data and weigh in on the practicality of suggestions, it left students out of the reflection and prioritization processes, and it also put a burden on staff to sift through and follow up on a long list of recommendations.

Inspired by a 2022 Library Assessment Conference Accelerator on participatory design[i], AUXS decided to try a new approach to our post-survey process in 2023. The survey analysis team did not create a list of recommendations prior to the staff workshop; instead, it prepared curated instructions to help staff explore the data according to various topics of interest. During the workshop, staff explored the data in topical groups and wrote down observations. When students returned to campus in the fall, AUXS hosted data parties to collect student input on the survey data. Following the data parties, AUXS developed a more compact set of recommendations based on a combination of feedback from students and staff, as well as AUXS' own analysis of the survey data.

Data parties[ii] are a technique for engaging a user community[iii] with the results of a user research or evaluation project. Kylie Hutchinson of Community Solutions Planning & Evaluation describes a data party as "a gathering that allows people to interact with and increase their understanding of your draft findings, and provide input into final conclusions and recommendations. Also known as participatory sense-making, results-briefings, and participatory data analysis."[iv] This paper describes how we approached our student survey data parties, how students reacted to the events, and how we hope to build on this approach for future survey cycles.

## Methodology

### Organizing team

To organize the data parties, we invited members of our ACT to volunteer for a small project team, and then we opened the invitation up to the broader library. The final team included five full-time library staff and one student employee.

### Recruitment

A direct recruitment email was sent to 437 students who had provided their contact information during the 2023 biennial student survey agreeing to be contacted about future feedback opportunities with the libraries. The email included a link to a screener survey, which provided date and time options across two weeks in mid- to late- October. Thirty-eight students volunteered, though not all students were available for the same time blocks. Fourteen additional volunteers were garnered from advertising via library social media accounts and the Duke International Student Center newsletters, posting an event signup on the libraries' homepage carousel, and tabling outside the libraries' coffeeshop with candy. The graduate data party ultimately had 14

signups and only seven participants, and the undergraduate data party had 13 participants. Half of the registered graduate students did not attend.

### Incentives

As an incentive, participants were offered a $25 Amazon or restaurant gift card, as well as snacks during the event. We also used our recruitment messaging to showcase this as an opportunity to support the libraries and learn more about our services.

### Event structure

The organizing team discussed possible structures for the data parties and ultimately decided it was important to have separate conversations for undergraduate and graduate students. Based on our experience with student attendance at events, we estimated that two hours was the longest block of time students would be able to dedicate to an event like this, though we worried that a shorter block of time would make it difficult for students to really engage with the data party activities. The team then decided to divide the data parties into two halves: data exploration and a solutions brainstorm.

For the data exploration component, we adopted a gallery walk approach. As described by Kendra M. Lewis[v], a gallery walk is an activity where small groups explore a series of posters that hang on the walls around the event space. Providing discussion questions at each poster encourages the small groups to review findings together, and providing a way for participants to capture thoughts on paper can help organizers follow up on points of discussion.

For our gallery walk, custom visualizations were posted on the walls in five topical stations around the room. The topical stations, chosen because they are the major topics covered by the survey instrument, were:

- Buildings and study spaces
- Collections
- Library staff
- Sense of welcome, wellness
- Technology

Each topical station displayed data from only the survey questions relevant to that station's topic. The survey questions covered by the data party are included in Appendix 1. Each station ended up with between four and seven visualizations.

The gallery walk visualizations were designed to help students build experience exploring the survey data and understand data trends quickly. All visualizations were created with Tableau, an interactive visualization and dashboard design tool, but the Tableau visualizations were not shared electronically with students. The visualizations were designed to be printed on 11"x17" sheets of paper (the largest size we could print in house for no additional cost). These large versions were taped on the walls (Figure 1). In addition, a full packet of all visualizations was printed out on standard letter paper and provided to each student for closer inspection.

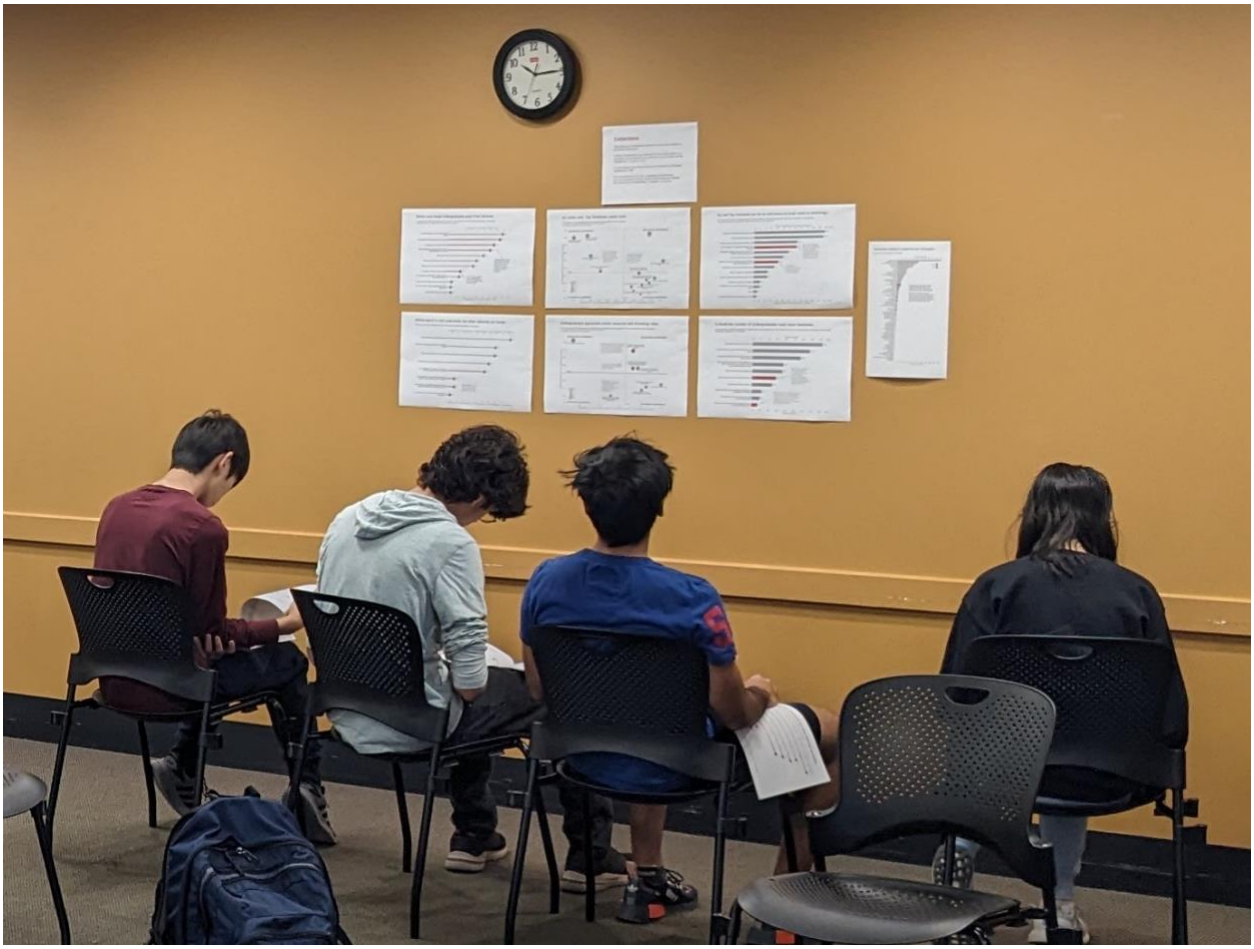

*Figure 1: A group of four students sits at a station in the gallery walk.*

A core set of five visualization types were developed based on the question type: lollipop charts, scatter plots, horizontal simple bar charts, vertical grouped bar charts, and horizontal stacked bar charts. The visualizations were then customized for different topical areas by adding color and annotations. For example, Figure 2 below shows a scatterplot visualization comparing the importance of a service (vertical axis) with the students' satisfaction with that service (horizontal axis). The size represents the number of students who answered that question. In this version of the visualization, two of the bubbles are green, indicating that the bubbles are relevant to the technology station. The highlighted bubbles also have annotations, or callout text that offers additional context about that particular data point or area of the chart.

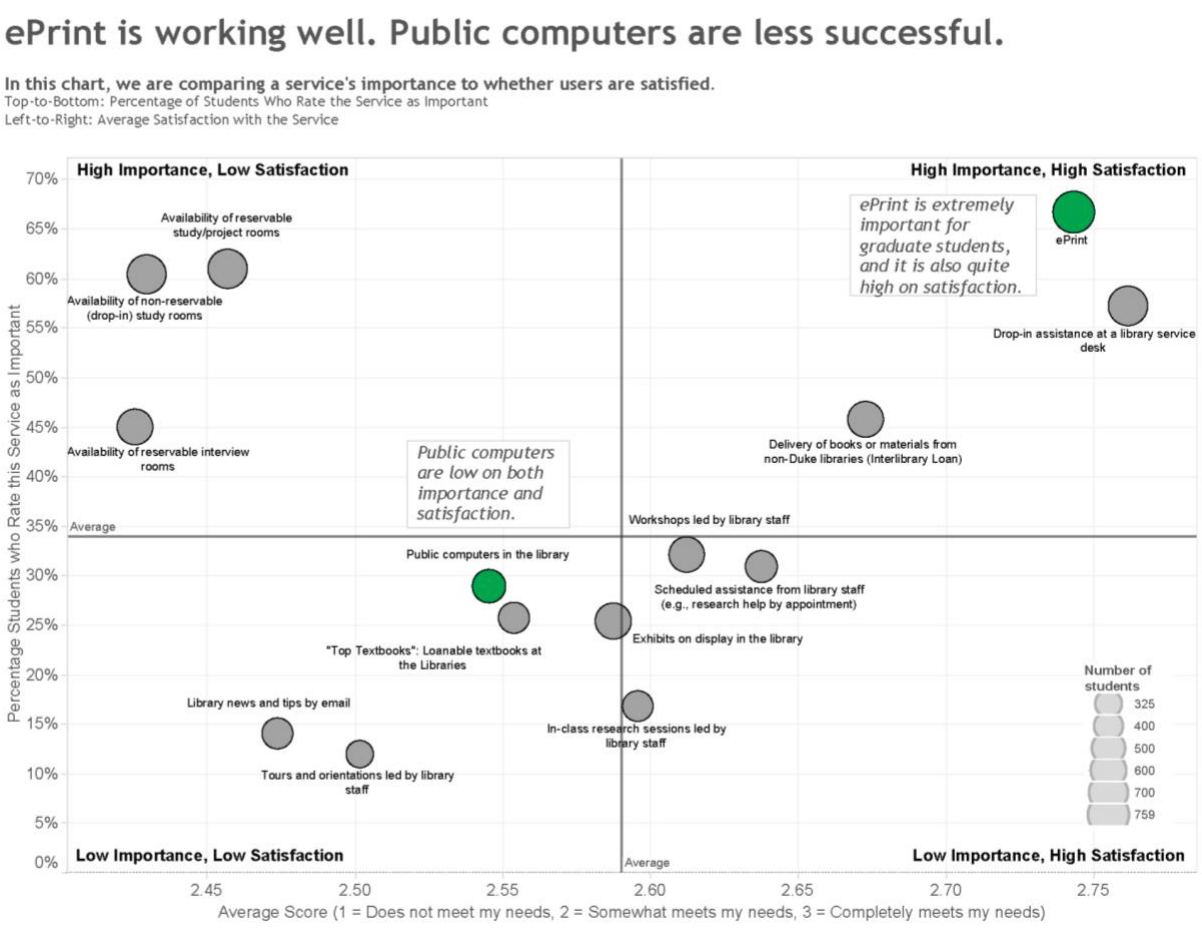


*Figure 2: A scatter plot used for the technology station in the gallery walk. Technology-related services are highlighted in green.*

Figure 3 below shows a "lollipop"-style chart, with a long thin bar and a large circle at the end. The survey question, included at the top of the chart, asks about different factors that limit a student's in-person visits to library buildings. Two of the data points are highlight in blue to indicate that they relate to some aspect of our spaces. Annotations are again used to provide additional context or suggest a possible interpretation of the data.

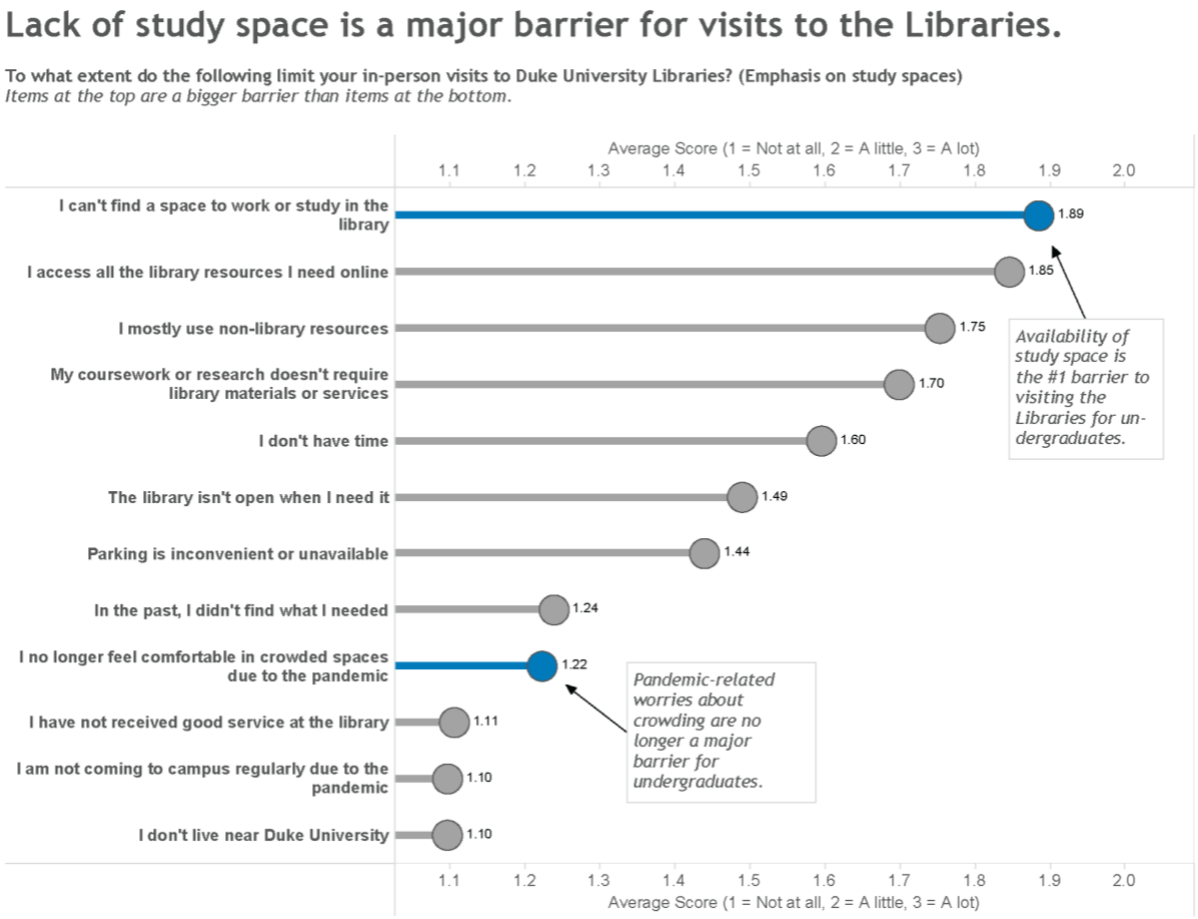


*Figure 3: A lollipop chart showing the barriers to in-person visits, with space-related barriers highlighted in blue.*

To explore the visualizations, data party participants were split into small groups of three to five students, and each group was provided with a worksheet to complete as they moved through the stations in a "data walk." Students had roughly ten minutes per station, half of which was spent examining the data individually and the other half of which was spent discussing the data as a group and completing the worksheet.

At each station, students were asked to consider the following questions and write down their answers on the worksheet:

1. What, if anything, surprises you about the data?
2. Do you notice any other patterns?
3. What more do you wish you knew or what additional information do you wish you had?
4. Given the data, what are the problems or issues that exist for the libraries in this area?

Following the gallery walk, we gave students a short break, and then the students came together into a single group for a moderated discussion. Participants generated a list of problems they had identified during the gallery walk. A library staff member wrote these on a whiteboard for everyone to see (Figure 4). Students then ranked each of the general problems as high, medium, and low impact. Next, they brainstormed possible solutions to the problems on a second whiteboard.


*Figure 4: Library staff moderated a discussion of the problems students noticed in the visualizations and possible solutions to the high-impact problems.*

The following list of high, medium, and low impact problems includes items from both data parties:

**High impact**

- Study spaces (i.e., reservations, not knowing how to find the room, unavailability, type/reservability of study rooms)
- There is demand for small rooms, students want more single person rooms
- General lack of awareness of library services and spaces
- Textbook lending
- Crowding
- Wait time outside reserved study rooms
- How to report broken technology
- Need for a single space to access all library offerings
- Need more coordinated outreach

**Medium impact**

- Scanners
- Lack of late-night food
- Difficulty physically finding books
- Need for more inclusive opening hours
- Physical comfort (e.g., temperature, lights)
- Lights in interview rooms

**Low impact**

- Desire for quieter spaces
- Cleanliness of spaces
- Library hours (not enough late night)
- Not enough gender-neutral bathrooms

- Need for enhanced/more outdoor spaces

Following their discussions of problems, students brainstormed solutions to the highest impact problems. The complete combined responses are included in Appendix 2. A few sample solutions include:

**Study rooms**

- Provide a way to cancel a reservation, even after it has started
- Require students to check in when you arrive by scanning something; if you fail to show up a few times, you lose privileges

**Outreach:**

- Provide a packet of information to everyone who registers to complete a senior thesis (including information on ILL, Senior Thesis Room, availability of individual help from librarians, etc.)
- Create a nice, quality, summary webpage on library offerings; get departmental pages to link to this

### Reflection

A post-event survey (Appendix 3) was sent to data party attendees to gather feedback. We wanted to know how students felt about the structure of the event and the style of visualizations used in the gallery walk. After the graduate student data party, we also heard that some students might have an interest in engaging more deeply in data analysis work for the student survey, so we wanted to see if that opinion was widespread.

The undergraduates generally agreed that the data walk worksheet was useful preparation for the problems and solutions brainstorm. There was less agreement that sufficient time was allotted for the data walk, and even less agreement that sufficient time was allotted for the brainstorms. There was limited support for the idea of including students more actively in the data analysis, and there was very little interest in reviewing the data visualizations in advance of the event. This supported concerns from the organization team that students would not have time or motivation to do much work in advance of the event.

The visualizations we created for the data walk were generally seen as useful by undergraduates. The most useful visualizations were the scatter plots comparing the importance of a service to its satisfaction rating (Figure 2). The next most useful charts were bar charts for “unawareness” or expanded services. Lollipop charts (Figure 3) were ranked third. The horizontal stacked bar charts related to comment tags and the vertical grouped “I feel safe” bar charts comparing the libraries to campus as a whole were tied for the least useful on average, but in both cases, there was just one person who rated the charts as not useful at all.

Free-text comments indicate that the brainstorm session was well liked by attendees, and in general students enjoy discussing the libraries with other students. Timing came up regularly as something to improve, especially allowing for less rigid time blocks. Additional suggestions include sharing more of the free-text comments, generally providing more data, and giving individuals time to thinking about problems and solutions on their own before the brainstorm.

While the graduate student responded in similar ways to the fixed choice questions, there are suggestions from the free-text comments that differ. Mainly, the graduate student comments highlighted how differences between programs (master’s degree versus doctorate) and disciplines (humanities versus STEM) made filling out the worksheet questions in small groups more difficult.

## Recommendations

Following the data parties and the feedback survey, AUXS staff created a set of recommendations that blended staff and student feedback. The list of recommendations was kept as short as possible, and recommendations were grouped by topic to make them easier to compare and evaluate for approval. The

team identified two primary recommendations covering the two highest impact problem areas: awareness and spaces.

- Primary Recommendation A: Coordinated patron outreach
    - Re-designate part of an existing staff person's responsibilities to take ownership over new patron outreach efforts
    - Hire an outreach design intern (proposal being put forward by AUXS)
    - Form a standing outreach and content strategy working group to prioritize project work and develop content, in partnership with the outreach coordinator and the Web Editorial Board
- Primary Recommendation B: Coordinated space strategy
    - Charge a standing space strategy committee

The remaining list of more specific recommendations had 40 items, grouped into the following categories: outreach; study spaces, rooms, and strategy; late night food in the libraries, and additional recommendations. The recommendations were further cross-referenced with the libraries' newly released strategic plan and past assessment reports to identify those that aligned with our strategic goals.

The list of recommendations was vetted by ACT and presented to the libraries' Executive Group, which then made determinations about which recommendations will move forward and how. The final document of recommendations and the Executive Group decisions was shared with staff in the spring of 2024, a little over a year after the survey was conducted.

## Findings and next steps

The structure of the data parties worked well to engage students in discussions about the survey data and generate high priority solutions. Students generated new ideas that would likely not have been included in a staff-only recommendations process. The post-event feedback form indicated that students enjoyed talking with peers about the libraries and brainstorming solutions, and they found the printed visualizations to be mostly useful.

One major challenge was recruitment and participation. Despite slots filling up quickly, only half of the graduate student volunteers actually showed up to the event. We used that information to increase our recruitment efforts for the undergraduate event, but we expect to need to "oversell" events like this in the future.

We also tried to keep it easy for students to participate by keeping the event short and avoiding pre-work before the event. Some graduate students commented in the session that they wished they had been able to explore the data in more depth, perhaps performing their own analyses on the raw data, but we were unable to confirm this in a follow-up feedback form. Some also said they would have been willing to participate in a series of discussions instead of a single event. With a single, two-hour event, students only had time to see a staff-curated view of the data, which prevented them from exploring the data deeply and generating their own insights into problem areas. On balance, the data parties may work best when students can feel free to participate without doing advanced work, but we may explore different possibilities for recruiting students to engage in a deeper data analysis process.

We also found it difficult to juggle gathering feedback from students and other library stakeholders. Because the student data parties had to wait until students returned in the fall and, thus, took place after the staff workshop in the summer, this method of engaging students in the analysis process for the first time had the unintended result of generating suggestions that were not reviewed by the broader library staff. In the future, it may be better to treat the process as three phases that each need both staff and student feedback: analyzing survey data, brainstorming and prioritizing recommendations, and identifying solutions.

## Action and impact

In 2024, the Duke libraries entered a new strategic plan cycle, and we expect a lot of changes to be happening in the libraries over the next few years. In the fall of 2024, we began the process of redesigning our biennial student survey instrument. The redesign work will continue into the spring of 2025 and will include further discussions about our analysis process. Some changes we are considering are: lengthen the cycle to one survey every three years, randomly assigning students to different topical survey blocks to reduce survey length and ensure coverage of high priority topics, expand our engagement with students during survey analysis, use the data party format for staff data exploration events as well, and make sure our recommendations are focused and reflective of a combination of data from both the student and staff perspective.

## Practical implications and value

Our focus on participatory design was inspired by presentations and workshops at prior Library Assessment Conferences, and we hope that others will use and expand on our methods. The methodology described here could be repurposed for a variety of data sources. Events like data parties serve many purposes. Most importantly, they bring a student perspective to the table, giving students a greater voice in library decision-making around services and providing a new perspective for analyzing data and brainstorming solutions. Additionally, data parties are an engagement, advertising, and outreach opportunity. As more libraries begin testing methods for engaging patrons in the design of services, we hope to continue sharing ideas and lessons learned.

## Appendix 1: Survey Questions Included in Data Parties

- Please rate your level of agreement with the following statements:
    - For me, the library is a welcoming place
    - The library is an important part of my experience at Duke
    - I know how to get help from library staff
    - I find the Duke Libraries website easy to use
    - I am confident in my ability to find full-text articles using the library's website
    - I am confident in my ability to find streaming audio or video using the library's website
    - I am confident in my ability to request materials from another library via Duke Library (ILL)
    - I am confident in my ability to locate a print book in the library
- I feel safe from discrimination, harassment, and emotional and physical harm at…
    - Duke University
    - Duke Libraries
- Which of the following are important to you? / To what extent do the following meet your needs? (physical spaces and services)
    - Tours and orientations led by library staff
    - Library news and tips by email
    - In-class research sessions led by library staff, either in-person or virtual
    - Workshops led by library staff (e.g., RCR, data management), either in-person or virtual
    - Public computers in the library
    - Exhibits on display in the library
    - Scheduled assistance from library staff (e.g., research help by appointment)
    - "Top Textbooks": Loanable textbooks at the Libraries
    - Delivery of books or materials from non-Duke libraries (Interlibrary Loan)
    - Availability of reservable interview rooms
    - Drop-in assistance at a library service desk (e.g., circulation/holds)
    - Availability of non-reservable (drop-in) study rooms
    - Availability of reservable study/project rooms
    - ePrint
- Which of the following are important to you? / To what extent do the following meet your needs? (online services)
    - Streaming music (music that can be streamed online directly from the library's website)
    - Help from library staff via virtual research consultations (e.g., over Zoom)
    - Help from library staff via live chat (Ask a Librarian)
    - Help from library staff via email
    - Streaming videos (documentaries and other films that can be streamed online directly from the library's website)
    - Information on the library website about library spaces, collections, and services
    - Ability to reserve study spaces online
    - Off-campus access to online library resources (e.g., databases, journals, ebooks)
- Library staff are considering offering or expanding the following library services. Select the four services that would most improve your library experience.
    - Late-night food options in the library
    - Private rooms to conduct video calls from your laptop
    - Enhanced outdoor library spaces to study or meet in groups
    - More events in the library where students can relax or have fun (e.g., miniature horses, end-of-semester study breaks)
    - Space for practicing presentations
    - More textbooks to check out for my classes
    - Additional absolute quiet space
    - Better directional and informational signage for navigating the Libraries

    - More daily or hourly use lockers to store personal belongings
    - Ability to have books delivered between libraries
- To what extent do the following limit your in-person visits to Duke University Libraries?
    - I can't find a space to work or study in the library
    - I access all the library resources I need online
    - I mostly use non-library resources
    - My coursework or research doesn't require library materials or services
    - I don't have time
    - The library isn't open when I need it
    - Parking is inconvenient or unavailable
    - In the past, I didn't find what I needed
    - I no longer feel comfortable in crowded spaces due to the pandemic
    - I have not received good service at the library
    - I am not coming to campus regularly due to the pandemic
    - I don't live near Duke University
- Subject tags for free-text comments in response to the following questions:
    - Please describe your response and your experience with Duke Libraries [as a place where you feel safe from discrimination, harassment, and emotional and physical harm]
    - What are your ideas for making Duke Libraries a space where you feel safe from discrimination, harassment, and emotional and physical harm?
    - In a perfect world, with unlimited time and resources, the Libraries would… *What are your ideas for what the library should do if we had unlimited time and money?*
    - Any additional comments about Duke University Libraries?

## Appendix 2: Combined Solutions Brainstorm Responses

Study rooms

- Provide a way to cancel room reservations
- Show real time availability
- Make some large tables reservable, not just rooms
- Create a better distribution of study room sizes
- Enforce the minimum group size requirements for the reservable rooms
- Turn some carrels into reservable Zoom rooms

General lack of awareness

- Incorporate a larger Library 101 section into Writing 101 for undergraduate students; ideally everyone should get a tour of the library and also in-class sessions on research and services
- Provide a packet of information to every undergraduate who registers to complete a senior thesis (tell them about services such as ILL, the Senior Thesis Room, availability of individual help from librarians, etc.).
- How to introduce info from the libraries into students' stream so it doesn't get ignored:
    - Students request that we put library offerings / marketing on their departmental listservs, since students are more likely to read emails from departmental admin than other sources. Develop relationships with departmental administrators.
    - Student groups that have a list serve might have an interest in library offerings – the Society of Female Engineers, for example
    - Tabling about services (including in non-library spaces)
    - Social media: Duke Student Government, Duke Student Affairs, Duke International Student Center, and student groups
    - Hold a Libraries Fair
- Graduate students have an "introductory week," which is department specific. Have library staff come in person to speak to students at as many of these as possible.

- Provide physical flyers at desks with information about our services.
- Provide physical flyers about services in bathrooms, elevators, wall and table holders.
- Post QR codes in physical spaces, including outside the libraries, to read about library services online.
- Ask graduating students to share about what they found most useful in the libraries.
- Introduce a concise signboard by the front desk to share offerings. One participant looked for this when they first arrived but didn't find anything.
- Be sure there is a single high quality summary webpage on library offerings: get *departmental pages* to link to this page. One student said their department has its own webpage with "everything you need to know about Duke," but there is nothing about the libraries on it.
- Remember that some people need to know the basics: how many libraries there are and what each offers.

Broken technology

- How to report it? It would be nice if there's a QR code or unique identifier code to get to a simple survey to check, "is this broken." Students want the interaction to be very quick and easy. They don't want to get pulled into a follow-up.
- Students tend not to report because they assume someone else has already done it.

Physical comfort

- Make the building warmer in summer! (Exception: the bridges are hot now). If this is not possible, provide something like desktop heaters, blankets, or hand warmers.
- Quieter spaces – graduates don't want to babysit the undergraduates who are making noise is quiet areas. Undergraduates often aren't on their best behavior. Not sure of solution.
    - Make QR code to report that people are being loud – it is hard for students to be confrontational.
    - Ask people to log the noise level right now with a QR code to get data. Or to log how often others overstay their time in a reserved room, like a one click survey.

## Appendix 3: Feedback Survey Instrument

**Feedback on the Duke Libraries Student Survey Data Parties**
Thank you for attending one of our recent student survey data parties! Because these events are new for the Libraries, we would be so grateful for any feedback you'd like to share.

1. I attended:
    a. the graduate student survey data party (Friday, October 20)
    b. the undergraduate student survey data party (Friday, October 27)

2. To what extent do you agree with the following statements?
   *(Scale: strongly disagree, somewhat disagree, neither agree nor disagree, somewhat agree, strongly agree)*

    - There was enough time allotted for the data walk.
    - There was enough time allotted for the problems/solutions brainstorm.
    - The data walk worksheet was good preparation for the brainstorm.
    - I would have preferred to take time before the event to review the visualizations.
    - I would be interested in helping with data analysis directly, rather than interpreting the results presented.

3. During the data walk, you saw different versions of the following visualizations. Please rate them on how useful you thought they were for understanding the survey data.[1]
   *(Scale: not at all useful, somewhat useful, extremely useful)*

   - Plots showing barriers or general agreement using lines and circles
   - Scatter plots comparing importance and satisfaction
   - Bar charts highlighting unawareness or requests for expanded services
   - Vertical bar charts comparing the Libraries to Duke as a whole
   - Colored bar charts focusing on tagged comments

4. What was your favorite part of the event?

5. What one change could we make to the data party that would lead to the biggest improvement?

6. Any additional suggestions or thoughts?

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[i] Jackie Belanger, Maggie Faber, and Reed Garber-Pearson, "Online Participatory Design: Activities and Approaches for User Engagement in the Remote Environment" (Assessment Accelerator, 2022 Library Assessment Conference: Building Effective, Sustainable, Practical Assessment, virtual, November 1, 2022).
[ii] "Data Party," BetterEvaluation, accessed January 24, 2025, https://www.betterevaluation.org/methods-approaches/methods/data-party.
[iii] Nancy K. Franz, "The Data Party: Involving Stakeholders in Meaningful Data Analysis," *Journal of Extension* 51, no. 1 (February 2013): v51-1iw2. Accessed January 24, 2025, https://archives.joe.org/joe/2013february/iw2.php
[iv] "Data Parties Tip Sheet," Community Solutions Planning & Evaluation, accessed January 24, 2025, https://www.communitysolutions.ca/_files/ugd/42c098_1d351288e2dd4fbba03e46788cc5b4e5.pdf.
[v] Kendra M. Lewis, "Data Party Toolkit," University of California 4-H Youth Development Program, accessed January 24, 2025, https://4h.ucanr.edu/files/289885.pdf.

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[1] Each description of a visualization was followed by an example image.