



Research Article

Small Library Research: Using Qualitative and User-Oriented Research to Transform a Traditional Library into an Information Commons

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Abstract

Objective - The project team investigated the changes necessary to transform the original library into an information commons. The researchers sought to drive the project by asking for patrons' input, rather than rely on the vision of administrators or librarians.

Methods - The project team used four techniques to gather data. They recorded patron use patterns, administered surveys, conducted formal interviews, and facilitated comment boards.

Results - Each of the four methods used in this research delivered similar conclusions. Patrons used the library as a study hall, but the space did not facilitate collaboration. Patrons requested more group study spaces, more access to power, and a quieter environment. Patrons identified the value of developing a learning community in the library. Finally, patrons advocated for the retention of physical collections in the library building.

Conclusion - The present library building, designed to facilitate individual, quiet, textual based learning, no longer serves the needs of its patrons. Analysis of this project's data supports the need to develop an information commons. The Gellert Library is not just a place to store books and study. Rather, it is a place where meaning and learning emerges from access to knowledge.

Introduction

The educational mission of Notre Dame de Namur University (NDNU) embraces the idea of holistic learning communities. At NDNU, learning communities develop when incoming classes of students engage in pod learning environments. In this model, sections of the same class come together periodically across a semester for large group learning activities like community engagement, special topics, and speaker series. An information commons model for the library that embraces collaborative information seeking would enhance pod instruction and help build learning communities. The University Provost, along with the Library Director, articulated a clear need for the library to transform into an information commons. The Library Director formed a team including a project leader (a formally trained anthropologist), the Library Director, and three student assistants to complete this project. The project team attempted to discover what modifications to the library's space could transform it into a modern information commons.

Literature Review

Librarian Donald Beagle best described the notion of an information commons as a facility designed to organize workspace and service delivery around the integrated digital environment (Beagle, 1999). It includes the physical commons where open floors and browsable stacks allow quick access to information and collaboration, the virtual commons where users access the vast digital content of the library, and the cultural commons of research collaborations, workshops, and tutorial programs (Beagle, 2011). Originally developed in the 1980s, the information commons concept emerged in different forms in the 1990s (for example as an information hub, media union, or a learning commons). In 2010, Steven Johnson presented a TED talk titled "Where Good Ideas Come From: The Natural

History of Innovation." Here Johnson explored the role of the coffeehouse in the Enlightenment, arguing it provided "a space where people would get together from different backgrounds, different fields of expertise, and share" (as cited in Holland, 2015). In many ways, this mirrors what an information commons is attempting to create in libraries today. Today, an information commons fosters an environment centred on the creation of knowledge and self-directed learning rather than an isolated user accessing information (Rawal, 2014). The earlier reader-centred paradigms led to spaces that championed collections and a "well lit area for reading" (Bennett, 2009, pp. 181-182). Technological changes over the last few decades have resulted in a substantial move of information from print to digital. This allowed libraries to re-appropriate areas once dedicated to bookshelves for more user-oriented spaces (Heitsch & Holly, 2001). Sarah Hutton in the "Final Report of the Learning Commons Assessment Task Force for the University of Massachusetts (Amherst)" notes that "a space has evolved from a combined library and computer lab into a full-service learning, support, research, and project space" (Hutton, 2015, p. 10).

The turn to qualitative studies of libraries is a relatively new practice. Sandstrom and Sandstrom (1995) were some of the first researchers to identify a need for qualitative research in libraries. Ethnographic studies of university students in general are also limited, with the exception of Michael Moffatt's (1989) study of students at Rutgers University titled "Coming of Age in New Jersey: College and American Culture." Susan Blum's research published as "My Word!: Plagiarism and College Culture" (2009) is an ethnographic examination of plagiarism in student assignments. Cathy Small's "My Freshman Year: What a Professor Learned by Becoming a Student" gives an account of student life at Northern Arizona University based on her own experience enrolling as a "returning" student

(published as Nathan, 2005). In the mid-2000s several projects using ethnography to understand library users' needs and behaviors resulted in very good projects such as Bryant, 2007, 2009; Foster and Gibbons, 2005, 2007; Jahn, 2008; Ostrander, 2008; Othman, 2004; and Suarez, 2007. Nancy Fried Foster and Susan Gibbons at the University of Rochester (Foster & Gibbons, 2007) conducted one of the first large-scale ethnographic studies of how students utilize the library in 2004–2006. The tremendous success of this study in uncovering the details of student life drove many librarians to conduct similar studies. Fresno State University conducted an excellent ethnographic study (Delcore, Mullooly, & Scroggins, 2009). Smale and Regalado (2010) have begun publishing work conducted in the CUNY Libraries in the *Undergraduate Scholarly Habits Ethnography Project*. Head and Eisenberg in "Lessons Learned: How College Students Seek Information in the Digital Age" (2009) seek to understand student information-seeking behaviors at many colleges and universities across the United States. The influential "So You Want to do Anthropology in Your Library?: A Practical Guide to Ethnographic Research in Academic Libraries" (Asher & Miller, 2010) provided a benchmark and toolkit for further ethnographic research of libraries. Lastly, Khoo et al. (2012) do an excellent job summarizing the current state of qualitative research used in the study of libraries.

Aims

The Notre Dame de Namur University library is a single 40,000 square foot room. A second story balcony over three quarters of the floor houses the book collection. Prior to the alterations brought about by this project, students using the library tended to work individually. Group work was conducted at large tables in hushed whispers that often carried throughout the building. The noise from older keyboards in the computer lab area could dominate the building with frenzied typing. Instruction sessions that promoted active learning disrupted the entire

building. As a result, speaker sessions, presentations, open microphone nights, etc., were rarely scheduled. The library building, due to its structure and technology, did not promote a collaborative information seeking and learning environment. The research team for this project sought to discover, using a four technique method, how to create such an environment. The primary research question was, what changes could convert the library into an information commons?

Methods

In 2014, the Internal Review Board for NDNU approved this research and any publication of the work. Utilizing a qualitative approach, the project team employed four techniques to build a holistic snapshot of user needs. These four techniques were

- **Recording Patron Use Patterns** - logging of users' place and activity in the building.
- **Surveys** - measurements of what services are being used and ranking satisfaction with them.
- **Formal Interviews** - following an interview guide and used to illicit a broader response.
- **Comment Boards** - self-reported responses to questions and prompts.

The data collected included how patrons use the library, the ways they seek help, and their interactions with library spaces. Participation in this project was voluntary. The project leader informed respondents about their right of consent. Over 300 respondents participated in this project.

The research spanned the 2015-2016 academic year. Patrons completed surveys advertised through the library's website and through signage in the library. Staff requested that patrons who completed the survey take part in a formal interview. The project leader conducted 24 formal interviews in a small office in the main

library building. The interviews followed a guide (see Appendix C). The project leader then transcribed the interviews. The project leader and two designated assistants recorded patrons' location, study type (individual or group), and technology use every hour the building was open. At different periods during the 2015-2016 school year, large comment boards (located in three key points in the library) displayed alternating questions. Patrons self-reported directly on the comment boards.

Results

Each of the four methods used in this research resulted in similar conclusions. Patrons used the library as a study hall, but the space did not facilitate collaboration. Patrons requested more group study spaces, more access to power, and a quieter environment.

Recording Patron Use Patterns

Who uses the library, how do they use it, and why? Over the fall semester in 2015, the project leader and two assistants observed and recorded patrons in the building at one-hour intervals. The project leader developed four categories for recording use patterns.

- Students working individually
- Students working at library computers
- Total number of students working in groups (and total groups)
- Total number of laptops in use

Library staff generated a map of the floor and used various symbols to describe the categories outlined above (see appendix A). Data from this recording process showed that patrons use the library as their main study hall and collaboration space. Within 15 minutes of opening and until closing, patrons used the library to work independently and in groups. Students working on personal laptops, who did not use a computer terminal at the time of observation, made up 74% of patrons using the library. Students working in groups located at

large tables made up 37% of patrons, while 29% used library computer terminals. Students working alone made up 62% of patrons, and 58% percent used a library terminal. The library space includes large tables, small tables, and individual carrels. At intervals throughout the day/evening, patrons occupied all locations.

Survey

Who uses the library, how do they use it, and why? A survey of library users provided a range of information about user preferences and behaviors. Staff administered the survey virtually, via the library website and the campus digital news source "NDNU Pulse." The student body at Notre Dame de Namur is relatively small at just under 2000 students. Patrons completed over 300 surveys, representing nearly 15% of possible respondents. A copy of the survey is included in Appendix B.

Use

The survey measured how often patrons reported using specific features and services of the library. Meeting with a librarian was the most frequent service used, followed by using the book collection, using a computer for academic work, getting research help, using WIFI, using copiers, using a power outlet, and studying alone. Patrons reported finding a reserve book, studying in a group, printing, and scanning less frequently, followed by meeting with a tutor/professor, using a table, using a computer for non-academic reasons, and meeting with friends. As should be expected, the microfilm/microfiche collection showed the least amount of use. The high frequency of "meeting with a librarian" speaks well of the library's integration into the curriculum, and to the value of patron-oriented service to the library's users.

Importance

The survey attempted to measure how important specific features and services provided by the library are to its users. Survey

respondents ranked the need for quiet study spaces as very important, followed by meeting with a librarian and attending a library class. Next in importance were a desire for longer hours, power outlets, group study spaces, access to desktop computers, more comfortable furniture, a browsable journal collection, printing services, access to software, moveable furniture, scanning, photocopying, and an oral presentation practice space. Browsing the book collection ranked lowest, yet it was still a 29% favorability ranking. Respondents commenting on open discussion boards also ranked the need for quiet study space as the highest priority for users.

Satisfaction

The survey prompted users to identify how satisfied they are with specific features and services of the library. Respondents ranked satisfaction with librarians the highest. Users were also very satisfied with the library databases and the borrowing desk. Users were unsatisfied with the quality of WIFI, the quality of the library collection, access to power outlets, and lastly they were not happy with their access to the reference desk. High satisfaction rankings for librarians speaks well of the library's mission to provide excellent, hands-on, patron-oriented service.

Interviews

Who uses the library, how do they use it, and why? Included in the online survey was an option to conduct an in-person interview. Of the 300 surveys completed, 24 interviewees were identified. Interviewees were mostly upper-level students: 11 fourth-year, 6 third-year, 3 second-year, 1 first-year, and 3 graduate students. All participants were from the social sciences and the humanities, including the graduate students. Interviewees reflected the demographics at NDNU, with a majority of white females participating. For more demographic information on NDNU, please see <https://www.niche.com/colleges/notre-dame-de->

namur-university/. Interviews were completed in an informal setting (a faculty member's office) following a pre-arranged interview guide (Appendix C). The lead researcher, a formally trained anthropologist, conducted the interviews. As was uncovered using other methods of inquiry, most students described the same conditions, needs, and desires about the library. Students noted:

- The library is loud
- There are not enough group study spaces
- There are not enough power outlets
- The WIFI is poor

However, one broad-based question (why is there a library on campus?) elicited many interesting responses. A key narrative in these comments that did not emerge from the other data centres on the idea of a learning environment. For example, respondents noted that libraries are on campus to intrigue and encourage students. They saw the library as a community centre for learning. One respondent noted the library is here to "foster the idea of a community of students who are very into their studies." Many libraries are adapting from housing collections to an information commons model, and our users seem eager for this change. Not only do students want new technologies, they also want to "enjoy the library as a contemplative oasis" (Freeman, 2005, p. 6). The library at NDNU is a space where a learning commons is prospering, even within the constraints of its current physical structure. Students identify with the idea of a shared community even if they do not always articulate how the library fosters this concept. Students desire a space they can claim as their own for the making, creating, learning, and exploring that happens outside of the classroom. This freedom to create such an academic space makes the library special, and central, to student life. In many ways, the library acts as a middle ground between social space, private space, and academic space. Many interviewees noted how they prefer to come to the library late, after

classes and dinner, and even after socializing. Other interviewees see the library as a collaborative space, even with the current structure somewhat limiting group learning. Of the 24 interviewees, 18 commented that the library is a social space in some context, either as a place to discuss questions raised in the classroom or as a destination to meet other students and plan activities. Each of these activities helps to build a community and a cultural space, creating a learning environment that is unique to NDNU.

Comment Boards (Flip Charts)

Who uses the library, how do they use it, and why? At strategic locations throughout the library, library staff placed large paper flip charts with attached markers, and wrote questions for patrons to answer at the top of each (Appendix D). Flip charts were accessible for two weeks at the beginning of each month. Users self-responded directly on the comment boards. Overwhelmingly, the comment boards revealed four primary issues:

- Noise – 28 comments noted a need for noise reduction/quiet space
- WIFI – 20 comments noted a need for better WIFI
- Group space – 11 comments noted the need for group study space
- Power access – 9 comments noted a need for more electrical outlets

Looking at the total comments noting a need for quiet space, four comments isolated “social noise” as the primary sound issue (example: “The library is not a hangout it is a place to read, study, and get work done”). Commenters also requested that library staff “respect the need for quiet” and that they “enforced less talking.” The issue of “social noise” is a challenge for the development of an information commons at NDNU.

Commenters also made specific requests:

- A multi-media lab (in process, 2017)
- A research lab (in process, 2017)
- White boards (added, spring 2016)
- Glass boards (test board added, spring 2016)
- More large tables (added, spring 2016)
- More stuffed chairs (added, spring 2016)
- Add TVs with beds and pillows (monitor with streaming content added, spring 2016)
- Add inspirational quotes (new mural about diversity added, spring 2016)
- Bluetooth printers (in process, 2017)
- Get rid of the smelly carpet by the printers (additional steam cleaning performed, spring 2016)
- Provide better air conditioning (AC replaced, summer 2016)
- A snack bar (altered policy to allow food from the cafeteria, spring 2016)
- A coffee cart (altered policy to allow drinks from the cafeteria, spring 2016)
- More single use desks (added, spring 2016)
- More computer stations (additional laptops and iPads added, spring 2016)
- More computers just for printing (in process, 2017)
- More comfy chairs (added, spring 2016)
- Hooks in the bathrooms for book-bags (in process, 2017)
- More light, stay open later (added additional hours, spring 2016)
- Open the library earlier (added additional hours, spring 2016)
- Unlimited printing (students now receive 500 pages free)
- “Bathrooms that don’t look like insane asylums” (in process, 2017)
- “Please remove the gum from the walls where the individual desks are” (completed, spring 2016)

Discussion

What modifications to the library's space could transform it into a modern information commons? Determining how often patrons use library facilities is critical to envisioning the library's future. Realizing that this is no small task, the methods proposed by the project leader provided a viable alternative to simple daily data collection (i.e. door counts, etc.). The use of libraries has changed over time from primarily textual study to collaboration and digital information seeking. Performing patron use studies provides the evidence necessary to make effectual decisions about how facilities should be changed or modified to meet the needs of an ever-changing patronage.

From early on in the process, library staff conducting the patron use recording found that the library is a highly used study space, especially by individual students. These data enabled the library to justify the need for additional group study spaces and, we hope, will lead to a major renovation to facilitate active, collaborative learning. The library is the only space on campus dedicated to studying. When asked what other spaces were available for studying, residential students (those who live on campus) chose their apartments. However, students who commute to campus dismissed alternatives to the library such as the Commuter Lounge or the Writing Center. For example, one interviewee noted "I would probably try and study in the [writing] center, but I find it is really too noisy in there sometimes, it is not like the library because it is too enclosed. I can't even take tests in there either...I mean the new building is nice but I would rather be in the library."

Scholarly evidence notes how physical book circulation has declined over the years (Allison, 2015). When students responded about the value of having book stacks in the library, a wide range of discussions emerged that centred on the idea that the presence of books helps students feel like the library is a place of

knowledge and learning. One student noted during an interview, "It makes me feel like I am being productive, you know, that's why I like being in the library...you are surrounded by a lot of knowledge, so it makes me feel more motivated; it motivates you." While today's academic library users browse books less, they still value the possibility of doing so.

Outcomes

The findings from this study resulted in many improvements for patrons at the Gellert Library. Responses provided by students on the comment boards gave an excellent list of minor and major problems. The survey's results showed what services are valued, and how satisfied users are with the library building. Following users' suggestions, library staff relocated the information desk to a more central area in the building. The reference print collection, substantially reduced and merged into the main circulating collection, is now nearly non-existent. Its removal created a lot of space around the information desk. This allowed for the relocation of more comfortable seating, taken from a "reading room" in the rear of the building, to the reference area. Large tables are on one side of the building, with smaller round tables located around the reference desk. These few changes have substantially altered the way that students use the reference area. Increased reference desk use statistics, including more one-on-one collaborations, proves this renovation was useful to patrons. These changes helped to create a physical information commons in the Gellert Library.

Capital improvements on campus resulted in the library having improved access to the campus electrical grid and internet. A fibre optic backbone, completed over the summer of 2015, dramatically increased the quality of the campus network. Library staff installed three 885-joule surge-suppressing power strips to a central, curved partition called the "art wall." This provided power access to an area of the library that previously had none. Each wall outlet

positioned adjacent to a study area had surge-protecting wall taps added. Not only did this add power outlets to the floor, but each also included multiple USB ports for peripheral charging. Improved dedicated carrels in individual study areas have had charging stations added to the desks. Library staff installed a multi-device charging station in the library foyer, as well as a monitor for streaming information content in the same area. A fleet of 20 laptops and 15 iPads are now circulating to library users. Lastly, facilities replaced the old air conditioning/heating system in the summer of 2016. The combination of increased power access, increased network quality, better quality environmental control, and additional technology shows substantial moves toward a more robust virtual information commons.

Library staff created a dedicated quiet study area complete with additional carpeting, indoor plants, new artwork, individual carrels with lamps, and multi-port surge-protecting power strips. Re-positioning of large tables to one end of the main floor, and grouping smaller tables together on the other end allowed for some sense of separate study spaces. This has been successful in reducing “social noise” complaints. Two further areas have been designated “study lounges,” complete with overstuffed chairs, lap-rest boards, and coffee tables. An improved classroom was created with space made available by substantially reducing the print journal collection, and has a wall-mounted smart board, modular furniture, multiple mobile white boards, and a mobile smart board. This dramatically improved instruction and collaboration in the library. These changes are facilitating a cultural information commons at the Gellert Library.

A complete inventory of the collection, with an orientation towards refurbishment, was finished in spring 2016. The inventory will help librarians and faculty work through a thorough weeding process, making the physical collection more current, browsable, and complete. The inventory project will also allow library staff to consider

ways to highlight the collection in the building, thus creating an environment such as those described by patrons in the formal interviews. Lastly, dedicated group study rooms (presently labeled a learning commons in the architectural renderings) will be included in the coming renovation of the Ralston Manson, a beautiful historic structure located on campus. The addition of some enclosed study rooms, even if they are not in the library itself, will complete the list of priority changes elicited via this research.

Conclusions

Students today do not require the services once demanded by previous generations of library users. The present library building, designed to facilitate individual, quiet, textual based learning, no longer serves the needs of its patrons. Analysis of this project’s data supports the need to develop quiet study spaces, to increase access to power outlets, and to develop group study spaces. Patrons are satisfied with access to computers, librarians, the library collection, and even to some extent the current building. When asked to envision a new library building, respondents instead discussed alterations to the present one. Many respondents described the value of the building as a marker of community for users, especially for students living on campus. Building a learning community was especially important to students as they envisioned what a library “is.” Not only did students identify the library as a place where knowledge is stored and accessed, as a place of active learning, but also as a place of knowledge sharing between individuals. In essence, they described an information commons.

Today, most students at NDNU can access tremendous amounts of information using their personal devices. Yet the role of the physical library on campus is even more important than ever before. The Gellert Library is not just a place to store books. Rather, it is a place where meaning and learning emerges from access to

knowledge. As the library continues its transformation into an information commons, it has become a welcoming space that encourages exploration, creation, and collaboration between students, teachers, and the broader community. We hope that our library will continue to inspire users to construct new knowledge and meaning.

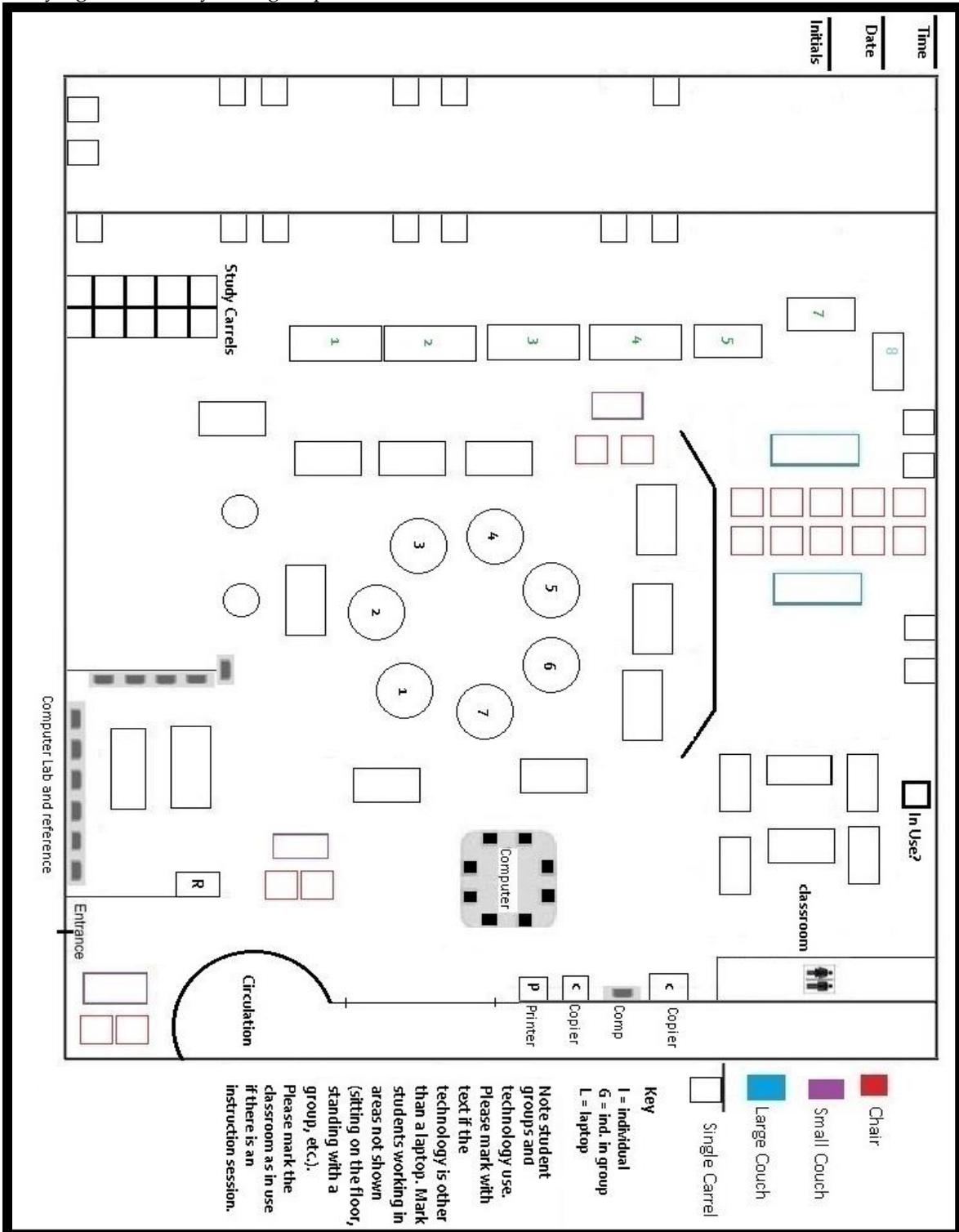
References

- Allison, D. (2015). Measuring the academic impact of libraries. *Portal: Libraries and the Academy*, 15(1), 29-40.
- Asher, A., & Miller, S. (2010). *So you want to do anthropology in your library?: A practical guide to ethnographic research in academic libraries*. Illinois, The Ethnographic Research in Illinois Academic Libraries (ERIAL) Project. Retrieved from <http://www.erialproject.org/wp-content/uploads/2011/03/Toolkit-3.22.11.pdf>
- Beagle, D. (1999). Conceptualizing an information commons. *Journal of Academic Librarianship*, 25(2), 82-89. [http://dx.doi.org/10.1016/S0099-1333\(99\)80003-2](http://dx.doi.org/10.1016/S0099-1333(99)80003-2)
- Beagle, D. (2006). *The information commons handbook*. New York: Neal-Schuman.
- Beagle, D. (2011). From learning commons to learning outcomes. *EDUCAUSE Center for Applied Research Bulletin*, Fall, 1-11. Retrieved from <https://net.educause.edu/ir/library/pdf/ER1114.pdf>
- Bennett, S. (2008). The information or the learning commons: Which will we have? *The Journal of Academic Librarianship*, 34(3), 183-185.
- Bennett, S. (2009). Libraries and learning: A history of paradigm change. *Portal: Libraries and the Academy*, 9(2), 181-197.
- Blum, S. D. (2009). *My word! Plagiarism and college culture*. Ithaca, NY: Cornell University Press.
- Bryant, J. (2007). *An ethnographic study of user behavior in Open3 at the Pilkington Library, Loughborough University* (Master's dissertation). Retrieved from <https://dspace.lboro.ac.uk/2134/3136>
- Bryant, J. (2009). What are students doing in our library? Ethnography as a method of exploring library user behavior. *Library & Information Research*, 33(103), 3-9.
- Delcore, H. D., Mullooly, J., & Scroggins, M. (2009). *The library study at Fresno State*. Fresno, CA: Institute of Public Anthropology, California State University. Retrieved from [http://fresnostate.edu/socialsciences/anthropology/documents/ipa/TheLibraryStudy\(DelcoreMulloolyScroggins\).pdf](http://fresnostate.edu/socialsciences/anthropology/documents/ipa/TheLibraryStudy(DelcoreMulloolyScroggins).pdf)
- Duke, L. M., & Asher, A. D. (Eds.). (2011). *College libraries and student culture: What we now know*. Chicago: American Library Association.
- Foster, N. F., & Gibbons, S. (2005). Understanding faculty to improve content recruitment for institutional repositories. *D-Lib Magazine*, 11(1). Retrieved from <http://dlib.org/dlib/january05/foster/01foster.html>
- Foster, N. F., & Gibbons, S. (Eds.). (2007). *Studying students: The undergraduate research project at the University of Rochester*. Chicago: Association of College and Research Libraries.
- Head, A. J., & Eisenberg, M. B. (2009). *Lessons learned: How college students seek information in the digital age*. Washington: Information School, University of Washington. Retrieved from

- http://ctl.yale.edu/sites/default/files/basic-page-supplementary-materialsfiles/how_students_seek_information_in_the_digital_age.pdf
- Heitsch, E. K., & Holley, R. P. (2011). The information and learning commons: Some reflections. *New Review of Academic Librarianship*, 17(1), 64-77. DOI:10.1080/13614533.2011.547416
- Holland, B. (2015). *21st-century libraries: The learning commons*. Retrieved October 02, 2016, from <http://www.edutopia.org/blog/21st-century-libraries-learning-commons-beth-holland>
- Jahn, N. (2008). Anthropological motivated usability evaluation: An exploration of IREON – international relations and area studies gateway. *Library Hi Tech*, 26(4), 606–621. DOI 10.1108/07378830810920932
- Khoo, M., Rozaklis, L., & Hall, C. (2012). A survey of the use of ethnographic methods in the study of libraries and library users. *Library and Information Science Research*, 34(2), 82-91. DOI:10.1016/j.lisr.2011.07.010
- Moffatt, M. (1989). *Coming of age in New Jersey: College and American culture*. New Brunswick, NJ: Rutgers University Press.
- Nathan, R. (2005). *My freshman year: What a professor learned by becoming a student*. Ithaca, NY: Cornell University Press.
- Ostrander, M. (2008). Talking, looking, flying, searching: Information seeking behavior in Second Life. *Library Hi Tech*, 26(4), 512–524. DOI 10.1108/07378830810920860
- Othman, R. (2004). An applied ethnographic method for evaluating retrieval features. *Electronic Library*, 22(5), 425–432.
- Rawal, J. (2014). *Libraries of the future: Learning commons a case study of a state university in California* (Master's thesis). Retrieved from <http://hdl.handle.net/10211.3/134872>
- Sandstrom, A. R., & Sandstrom, P. E. (1995). The use and misuse of anthropological methods in library and information science research. *Library Quarterly*, 65(2), 161-99.
- Smale, M., & Regalado, M. (2010). *Undergraduate scholarly habits ethnography project*. Grace-Allen McCrann Memorial Lecture, LACUNY Spring Membership Meeting, CUNY Graduate Center, June 11, 2010.
- Suarez, D. (2007). What students do when they study in the library: Using ethnographic methods to observe student behavior. *Electronic Journal of Academic and Special Librarianship*, 8(3). Retrieved from http://southernlibrarianship.icaap.org/content/v08n03/suarez_d01.html

Appendix A Patron Recording Map

Staff used this map to record where patrons were sitting, if they were using a laptop, and if they were studying individually or in groups.



Appendix B
LIBRARY SURVEY

Staff used this survey to measure the frequency of use and patron satisfaction with the library space and services.

Are you a student, staff, faculty, or administrator? *
Check all that apply

- Student
- Faculty
- Staff
- Administrator
- Other:

What kind of student are you? *
Check all that apply

- Undergraduate Day
- Undergraduate Evening
- Teaching Credential
- Certificate
- Graduate-online
- Graduate- College of Arts and Sciences
- Graduate- School of Education and Leadership
- Graduate- School of Business and Management
- Other:

If you are a student, do you commute or reside on campus? *

- I live on campus
- I commute
- Online student

If you are faculty, what kind of faculty member are you?

- Tenure-track
- Full-time adjunct
- Core
- Part-time adjunct
- Other:

Why do you come to the library?

Please tell us why you come to the library, and how often.

	Never	Once	Sometimes	Frequently	All the time
To study alone	<input type="radio"/>				
To study in a group	<input type="radio"/>				
To find a book	<input type="radio"/>				
To find a reserve book (Reserves)	<input type="radio"/>				
To browse the book collection (the Stacks)	<input type="radio"/>				
To be alone	<input type="radio"/>				
To wait until a class or meeting starts	<input type="radio"/>				
To meet with friends	<input type="radio"/>				
To use a table	<input type="radio"/>				
To use an individual study carrel	<input type="radio"/>				
To find somewhere comfortable to sit	<input type="radio"/>				
To use the microfilm/microfiche	<input type="radio"/>				
To use a power outlet	<input type="radio"/>				
To view the art display	<input type="radio"/>				
To use a computer for academic use	<input type="radio"/>				
To use a computer for recreational use	<input type="radio"/>				
To use the reference desk	<input type="radio"/>				
To use the WIFI	<input type="radio"/>				
To use the copiers	<input type="radio"/>				
To use the scanners	<input type="radio"/>				
To print something	<input type="radio"/>				
To meet with a tutor/professor	<input type="radio"/>				
To meet with a librarian	<input type="radio"/>				

Library Services

How important are the following services?

	Very Important	Important	Somewhat Important	Not Important	Don't know
Group study spaces	<input type="radio"/>				
Quiet study spaces	<input type="radio"/>				
Space to practice presentations	<input type="radio"/>				
Access to desktop computers	<input type="radio"/>				
Access to software	<input type="radio"/>				
Comfy furniture	<input type="radio"/>				
Movable furniture	<input type="radio"/>				
PowerOutlets	<input type="radio"/>				
Longer hours	<input type="radio"/>				
Newspapers	<input type="radio"/>				
Browsing the Book Collection	<input type="radio"/>				
Browsing the Journal Collection	<input type="radio"/>				
Ability to print	<input type="radio"/>				
Ability to photocopy	<input type="radio"/>				
Ability to scan	<input type="radio"/>				
Classes taught by librarians about the library	<input type="radio"/>				
Library events (speakers, art presentations, etc)	<input type="radio"/>				
Media Viewing/Listening	<input type="radio"/>				
Tutoring	<input type="radio"/>				

Library Services

How satisfied are you with the following Library services?

	Very Satisfied	Satisfied	Not Satisfied	Don't Know
Access to WIFI	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Access to Power Outlets	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Access to Computers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Access to the Reference Desk	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Access to the Borrowing/Circulation Desk	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Access to the Library Collection (books)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Access to the Library Databases (ejournals, articles, etc)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Access to the Special Collections	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Access to Faculty Offices in the Library	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Access to the Librarian's Offices	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Any additional comments about Library services?

Would you like to participate as an interviewee in this project? Please submit your email in the textbox below.

Submit

Never submit passwords through Google Forms.

Appendix C

Space Assessment Interview Guide

The project leader used formal interviews to gain insight into who used the library and why, and to gain an understanding of how users viewed the library building.

- What academic year are you?
- Do you live on campus or commute?
- What days are you on campus?
- When you are on campus, where do you study and why?
- Where else is there to study besides the library?
- What is the ideal setting for you when studying?
- What kinds of academic activities do you do when you are in the library?
- When in the semester do you use the library the most?
- Why is there a library on campus?
- What do librarians do?
- Describe the importance of having a library to you/your major
- Have you gotten help from library staff? Tell me about your experience...
- Have you used the paper book collection? Tell me why and how...
- Do you use the databases? Tell me why and how...
- Do you use the library website? Tell me why and how...
- If you imagined the perfect group study space, what would it look like?
- If you imagined the perfect individual study space, what would it look like?
- When you see a library with shelves of books, what does it make you think about and how does it make you feel?
- When you see a row of computer terminals in a library, what does that make you think about and how does that make you feel?
- Have you ever been in the library and not had access to a computer? What do you do?
- What would your ideal library look like?
- What other uses could the library fulfill?

Appendix D

Comment Board Prompts

Staff used comment boards to give students a venue for providing suggestions and comments about issues important to the research.

- What would make the library instruction space a better learning environment?
- In a couple words, describe the perfect individual study space
- In a couple words, describe the perfect group study space
- What do you like about the library space?
- What would you like to see different?
- In a couple of words, tell us all the reasons you use the library
- What matters the most to you about the library?