

Knowing Our Students: Undergraduates in Context

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Who are our students? Joan Lippincott, with the Coalition for Networked Information, suggests that there is a disconnect between libraries and the culture of our undergraduates, the "Net Generation."¹ At the University of Rochester, River Campus Libraries, we conducted a two-year ethnographic study (2004-2006) of how undergraduates do their work, including students' use of technology and their involvement in campus life. We were particularly interested in how they use library resources, staff, and facilities in the process of writing research papers and completing research-based assignments for their college classes. In this paper, we report on the methods, findings, and programming outcomes of our Undergraduate Research Project. The project has had a significant impact on our attitudes about our students, our understanding of the ways that students engage in academic work, and the programs of the River Campus Libraries.

Methodology

The Undergraduate Research Project was directed by Lead Anthropologist Nancy Fried Foster and a twelve-member project team. Project subteams for reference, facilities, and digital initiatives focused on specific questions and outcomes for these areas. During the project, the teams used a variety of ethnographic methods, including interviews, field observations, surveys, work-practice study, cultural probes, and design workshops.

Our research was conducted with informed consent under the University of Rochester's Research Subject Review Board guidelines. We paid students a small amount for their participation and/or handed out snacks. Interviews were video- or audio-recorded and transcribed. As we collected data, the project team and subteams invited interested library staff to co-view videos, examine artifacts, and read transcripts. This exposure to the data engaged more staff in the project and created widespread support within the Libraries. During the two years of the project, thirty percent of library staff volunteered to participate in some way. As a result, we had a shared understanding of the data on which to base subsequent discussions, analysis, additional research, and planning for outcomes.

Before starting our research, we engaged in project planning and conducted pre-project interviews with faculty about their expectations for student writing assignments. We began the

actual research with “retrospective interviews,” in which students told us how they had completed recent paper assignments.² During each interview, we asked the student to tell us, step-by-step, what he or she did when working on the assignment and then to draw each step on a poster. By the end of the interview, we had a description and a drawing of the process that the student had used for that paper. Here is an example of a drawing by one student:

[insert - Figure A: Retrospective Interview Drawing]

The drawing is a product of the interview, but incomplete by itself. The same is true of the recorded interview. By capturing them together, we ended up with a much better understanding of the choices that student made as she worked through the assignment. Much of our data shared this strength—multiple channels of input gave us a more complete picture.

Cultural probes³ helped us to investigate environments that were difficult to observe directly. For an investigation we called a “photo survey,” we gave students disposable cameras with a list of photographs to take, such as “your favorite place to study,” “a picture of your dorm room showing your computer,” and “the things you always carry with you.”⁴ In developing the list, we wanted to allow for broad interpretation by each student as to what to photograph. This was a common technique in our research—asking open-ended questions that did not imply specific responses. In the photo survey, we made sure there were fewer questions than exposures and told students to use the rest to take pictures of anything they'd like. When each camera was returned, we had it processed and transferred to CD. Then Dr. Foster, the Libraries’ anthropologist, would meet with the student to discuss what was in the images. The benefits of this strategy were two-fold. We could see student environments through student eyes, and the rich detail in their images and explanations led to questions that we wouldn’t have asked otherwise.

We also used a campus map as a cultural probe. We asked students to record on the map everywhere they went for one day, noting the time, from morning until night. We called these “mapping diaries.” When students returned the maps, we interviewed them about the details of that day. An example is in Figure B. A second protocol with the map focused more on feelings.

We asked students to mark three campus locations where they felt comfortable, three where they felt uncomfortable, and three places where they went a lot.

The facilities subteam observed students in different library locations, including how they used the facilities and interacted with library staff. They collected data on the flow (or lack thereof) in printing out articles, coming to reference and circulation desks for help, and other interactions in library spaces. Some of these observations led to immediate improvements in our library environment. The subteam also held walk-in design workshops, asking students to “design a space in the library that would be exactly what you wanted.”

The digital subteam held design workshops, as well, that asked students to design other things, including “a new library website that would include everything you would want to help you do your schoolwork and make your life as a student better” and “a portable electronic device that would do everything you’d want it to do.” All of the workshops produced student designs as artifacts that were—and continue to be—rich sources of detail about what our students want and need.

The reference subteam developed a protocol to interview students in the student union who were currently working on paper assignments. By going to the student union at night, we hoped to encounter students who did not regularly use the library. Participants were solicited on-the-spot by an undergraduate who worked in the library. The interviews were conducted by a recent graduate of the University of Rochester with a major in anthropology, who was close in age to the students being interviewed. She asked them about their assignments, including what they’d done so far, when they’d work on their paper next, how important the assignment was, and whether they felt rushed. She also asked about their experiences with the library and with librarians.

In the spring semester of 2006, our anthropologist and another team member made two late-night visits with a video camera to talk with students in their dorm rooms. One visit was to a floor in a freshman dorm and the other to a dorm with upper-level undergraduates. The videos and transcripts from these visits provided us with a view of the part of students’ lives virtually

unknown to library staff. These visits were significant in helping us understand our students in a broader context outside of the library and classroom.

Each of the investigations we conducted during the project contributed details that gradually shaped our current understanding of who our students are and how they work and live on campus. When starting the project, we had no idea that we would undertake so many different kinds of research. In the end, it was the enthusiasm of all involved that made it happen.

Findings

This project generated an enormous amount of data, much more than we can possibly cover here. One central finding was the importance of viewing our students' lives in their entirety: to see students, not just in terms of the library, but with a greater appreciation of students' full range of experiences. This includes their daily tasks from morning to night (and more often at night than in the morning!), from dorm room to class, from class to extracurricular activities, and so on. From this perspective, our view of undergraduates has become richer, more expansive, and more nuanced. Learning about students' routines helped us develop realistic views about how the library intersects with students' complicated lives. In this section, we focus on findings which demonstrate, 1) how this expansive and contextualized view of students is important and 2) how our varied methods helped us develop a well-rounded picture of student life.

One important finding was that many students have extraordinarily busy schedules. This became most clear through the mapping diaries, but is also related to what we learned from the retrospective interviews, dorm visits, photo surveys, and design workshops. While there was no typical student schedule, the mapping diary of a senior biomedical engineering student, shown in Figure B, is characteristic of many of these maps. On this particular day, the student left his dorm at 8:30 a.m. and, during the day, he returned to his dorm briefly three times, for food mid-afternoon and before and after visiting the gym. His day does not end until 12:30 a.m. the following morning and, in addition to three classes, his schedule included: office hours with a professor, a job-related meeting with a professor, an hour of group-study in the morning, afternoon work on lab-related homework, working out at the gym, and studying at the science

library at 9:00 p.m. In total, he walked about 2 ½ miles, and ate meals only at 3:00 p.m. and at the end of his day at 12:30 a.m.

[insert - Figure B: Mapping Diary]

This map is illustrative of a number of important themes seen in many students' lives: they're very mobile, highly scheduled and work in many locations, sometimes briefly and sometimes for long stretches of time. Students often need to carry their belongings with them and have days with a wide variety of activities. The photo surveys and retrospective interviews helped enrich this view of a typical day. In students' photographs of what they carry with them, we observed that laptops were noticeably absent. Given the mapping diaries, this makes sense; it's simply not feasible to carry a laptop to so many locations, for such a long day. We learned in the retrospective interviews that students often work on their research papers in intensive spurts. Again, given what we observed in the mapping diaries, this makes sense: students' lives are so scheduled, that many chase deadlines with little hope of completing tasks ahead of schedule.

It is probably not surprising to most of us that many students work late at night and in their dorm rooms. However, the photo surveys and the video-recorded dorm visits gave us a more developed view of what this environment is like. For example, the photo surveys provided a literal picture of how students' dorm rooms differed from each other: some are extraordinarily organized, others seem sparse, and others are a dizzying jumble of paper, gadgets, books, food, trash, and clothes. It is clear from these pictures that the dorm room is rarely if ever a place for *just* studying. In the background, partying, relaxing with friends, planning one's day, listening to music, catching up with friends and family from "home," and pursuing meaningful personal interests are always nearby. The video-recorded dorm visits reinforced this view, depicting the dorm room as a highly stimulating environment where multi-tasking, whether by intention or as a distraction, seems ubiquitous.

Given what was learned from these dorm visits and the photo surveys, the findings from the design workshops were hardly surprising. In one of these workshops, students created a

portable electronic device, able to do anything that the students could imagine. Included were: writing implements, an online thesaurus, music and DVD libraries, a foldout bed and coffee maker, a Palm Pilot™ and self-help books. From such findings, we can observe how the Libraries' website is structured around the library and not around students' far-reaching needs. In these design workshops, the library often appeared as a tool, but within the context of many needs and many tools. As was the case with the other findings already discussed, students' lives include not just the library but a broad multiplicity of needs.

So, how did students talk about the library and librarians, from this broader, more inclusive perspective? There was no single answer to this question; students' use and approach to the library varied in terms of their own academic development, their aspirations for success, and even by the priority that they placed upon any single assignment. Our results from the interviews of library non-users were somewhat sobering. We observed that the professor, not the librarian, is typically seen as the expert, and that in the eyes of many students, librarians are still associated only with books. These students, without ever consulting librarians, were very confident in their abilities to find resources for their assignments.

On other dimensions, however, the findings about the library were more positive. In the retrospective interviews, students might not remember individual librarians, but the vast majority of them had used the library or library services. In addition, many students were savvy users of the Internet, with an awareness of the shortcomings of Google for finding scholarly articles. Some students were very adept library users, either because of time spent with librarians or from experimenting with online library tools. We learned from our retrospective interviews that these proficient students were frequently the best ambassadors for the library. In addition, from the video-recorded dorm visits, we learned that the role of the library as a physical space is not inconsequential. Given the extraordinary distractions that undergraduates face, the library has become a focal point for students: one of the best places to get work done and an important destination for a variety of their needs.

Outcomes

The Undergraduate Research Project was launched with hope and excitement as well as uncertainty about how well it would proceed. After the initial interviews, we could see that this project would yield significant results that we would be anxious to incorporate into the Libraries' programs and facilities. One surprise was the willingness, almost eagerness, of students to participate in the project. The enthusiasm of the original research team attracted additional staff to co-viewing sessions and subteam activities. At the end of the formal project, we held a public services retreat to set program priorities based on what we had learned. At this time we realized that our organizational culture had changed significantly during the project. Our staff is now more open to experimenting with new programs without detailed plans that anticipate every possible contingency. Some successful implementations described below began as an idea that we just wanted to try out.

One of the first changes was a redesign of printing in a large reference area. After team members observed that users had to traipse from point A to point B to point C to successfully print and assemble documents, we rearranged components to make them available at one counter.

Student drawings, collected in a series of design workshops, are integral to planning a major library renovation scheduled for completion in fall 2007. Students were loud and clear in asking for a study environment filled with natural light and varied seating so the space could be used for both collaborative and quiet study. From the initial meeting, these sketches have been consulted by the designers and architects. Plans to place upholstered seating near large windows were questioned because students definitely preferred study tables in that natural light. The latest plans put tables near the windows.

Our current static web site does not match the students' vision for flexible web space and their need to connect quickly to all of the sites they regularly visit. The direct links that they want include management and finding tools, personal academic information, e-reserves and audio streaming of lectures, access to subject librarians and professors, and 24-hour food finding capability. Finding a way to deliver such a web site became a top priority of the Libraries, and one

is on the way. The Libraries, in partnership with the University's Information Technology Services, is currently developing a student portal to deliver the individualized options that students seek.

Our research shows that a typical student schedule is tilted toward late evening-early morning. As a result, "Night Owl" librarians now work at the reference desk to 11 p.m. during the busiest weeks of the semester. So far none of the reference staff has volunteered to work until the library closes at 3 a.m., but we plan to evaluate the need by extending our virtual "Ask a Librarian Service" to later hours.

When we learned from retrospective interviews and photo surveys that students consult with parents about their assignments, we decided that making parents aware of our programs might be another way to reach students. This fall, the Libraries hosted the University's parent breakfast during First Year Orientation where we highlighted our subject librarians with the theme of "every class has a librarian." The breakfast was a great success. And the Director of Orientation was delighted to hand the responsibility to us.

[insert – Figure C: Poster for First Year Orientation]

One sobering result of our research was a lack of student understanding about the role of reference librarians. We are exploring different ways to change perceptions throughout our user community and have undertaken some initial steps. Our collaboration with the College Writing Program expanded to include several librarian-tutors in the Writing Center. Just as the writing instructors do, these librarians have individual advising sessions with students writing research papers.

Before the research project, we developed course pages with direct links to e-reserves that included information about the subject librarian and selected library resources appropriate for the class assignments.⁵ Many students request appointments directly from these course pages. A similar display will be part of the Blackboard course management system that the University is now adopting.

Students see their professors as the “experts” and look to them for research advice. In turn, professors often refer students to one or two good articles but are unable to counsel them about databases and other bibliographic tools. Strengthening the connection between faculty and subject librarians is crucial to reaching students. In some departments, professors routinely refer students to subject librarians. Our history specialists know just about all the graduating history majors by name because of their extensive consultation with them. We want to increase the number of faculty making such referrals. Our goal is to ensure that students have the benefit of the subject and research expertise of reference librarians.

Another impetus for stressing the faculty-librarian connection is our finding that few students come to the reference desk “cold.” Most of them have met a librarian in class, were referred to the desk by a faculty member or teaching assistant, or had previous experience consulting with a reference librarian.

Throughout the data, students tell us that it is difficult to successfully navigate a research library. They must learn to deal with the rigid interface of our OPAC, a vast array of databases, and the vagaries of finding their way through book stacks. They do not differentiate among catalog, database, and e-journal for searching. We hear: “I used the library search engine.” At the University of Rochester Libraries we are committed to simplifying the process of finding articles and books. From our federated search interface with direct links to articles, to the development of the eXtensible Catalog incorporating FRBR principles, library staff are improving technologies to create flexible and responsive systems.⁶ For the millennial students who are accustomed to quick Internet search results, our goal is to deliver library programs and products that enhance their education and ensure that they understand scholarly discourse in their academic fields.

In assessing the Undergraduate Research Project, we consider the greatest benefit has been the comprehensive understanding we now have of the daily lives of our undergraduates. We learned to ask probing questions, to enlist the cooperation of students, and to develop our expertise in an array of research tools. We are pleased to document the success of the project and the ways it is influencing our libraries. This experience will serve the River Campus Libraries well as we begin an IMLS grant-funded study of graduate students.

¹ Joan K. Lippincott, "Net Generation Students and Libraries," in *Educating the Net Generation*, ed. Diana G. Oblinger and James L. Oblinger (Boulder, Colo.: Educause, 2005), <http://www.educause.edu/educatingthenetgen/> (accessed January 10, 2007).

² We'd like to thank Merrilee Proffitt of RLG for sharing some of her interviewing techniques with us.

³ Bill Gaver and others, "Design: Cultural Probes," *Interactions* 6, no. 1 (1999): 21-29, <http://portal.acm.org/citation.cfm?doid=291224.291235> (accessed January 10, 2007).

⁴ The complete list of questions and other information about the University of Rochester project are available at Undergraduate Research Project: Shared Results <http://tinyurl.com/f63dj> (accessed January 10, 2007).

⁵ An example of a River Campus Libraries course page is available at <http://www.lib.rochester.edu/index.cfm?page=11&searchtype=rcl&TheClass=12629> (accessed January 10, 2007).

⁶ University of Rochester, River Campus Libraries. "Find Articles," <http://www.lib.rochester.edu/index.cfm?page=articles> (accessed January 10, 2007). "eXtensible Catalog Project," <http://www.extensiblecatalog.info/> (accessed January 10, 2007).

Figure A: Retrospective Interview Drawing

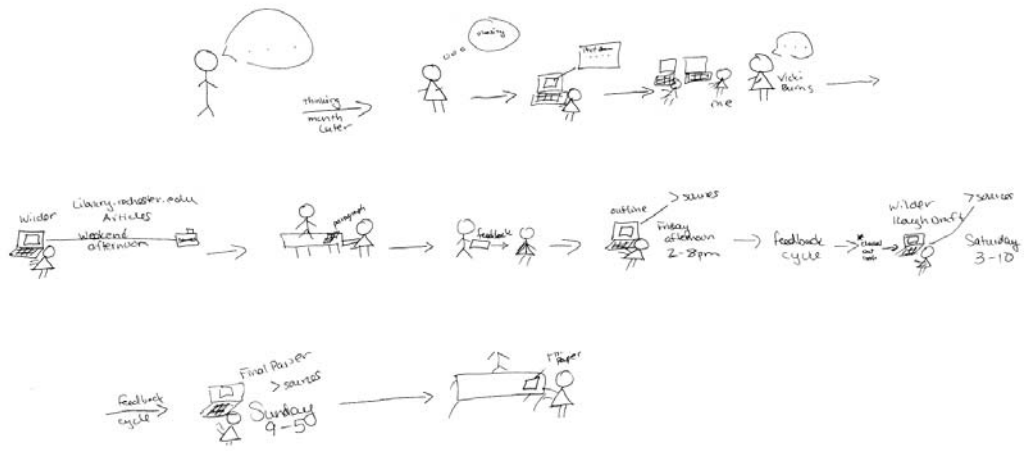


Figure C: Poster for First Year Orientation

