The Library as a Student Research Site

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Abstract

Studying students to understand how they find and use information is one of several newer assessment strategies that shift the focus of library research from the library to the user, with sometimes surprising results. Another way that libraries can engage in user-centered research is to offer the library as a student research site. The Kennedy Library at Cal Poly San Luis Obispo has been used in recent years as a research site for undergraduate students, including individuals, groups, and courses, in fields that include architecture, business, and computer science. A case study will illustrate how a faculty member and students in one business course developed their library research agenda and research questions; interacted throughout their research with the library; and presented their findings. Discussion will focus on the benefits of creating an ongoing research program in libraries in which students take the lead.

1. Introduction: Modes of library research

In 2007 ALA published a series of ethnographic studies conducted by the University of Rochester Libraries. These studies created a major stir of interest among libraries that were looking for new strategies for understanding their users' needs and behaviors. Such strategies are vital in an increasingly networked and mobile information environment that introduces rapid changes in our users' needs and behaviors. Given accurate, timely, realistic understanding of their users, libraries can make wiser investments of their time, technology, services, spaces, and product buying-power.

Quantitative Assessment

Libraries have traditionally measured changes in their users' needs and behavior indirectly, by tracking trends in customers' aggregate use of library facilities and services. As digital resources and services have replaced print and in-person services, these trend measures have become less useful, and have been supplemented by "e-metrics" - measures of the use of virtual library services and resources (library web site visits; searches, views, and downloads of library-licensed resources). Moving beyond counting library use, and seeking to understand the overall quality of user experiences in libraries, another trend has been to use standard surveys such as LibQUAL+ that measure user satisfaction and the importance users attach to library services, as well as users' perceptions of desired or actual service quality. LibQual+ and similar gap analysis and user survey tools offer libraries a "report card," but at a fairly superficial level that doesn't explain why users have responded the way they do. These quantitative measures have done little to help libraries understand either how to interpret or how to effectively address changing user needs and behaviors.

Qualitative research

Qualitative assessment of library services is not new- qualitative research methods (e.g. interviews, participatory design, focus groups, usability testing) have been used regularly in libraries. For example, Oregon State University Library recently reported their use of focus groups and usability techniques to determine whether to create online subject portals.

The shift to using qualitative methods offers libraries new, actionable insights. But the use of qualitative methods doesn't explain the excitement generated by the Rochester Libraries' ethnographic studies of library users' behaviors. The key breakthrough of the Rochester studies was their focus on "studying students" – that is, understanding *library customers*, not *libraries*. The Rochester studies used a wide variety of cultural probes to illuminate student lives and behaviors, disclosing important qualities of student information-related behaviors and desires. For instance, they found that some students used deliberate strategies to get *offline*, in order to accomplish certain kinds of work (this finding suggested an important and counterintuitive role of the library as a place where students could "disconnect").

Since 2004 the Rochester studies have been widely adapted by other libraries, including the MIT Libraries, who undertook a photo-diary study of student information practices in 2006. Many other libraries have also been inspired by Rochester's approach to adopt a variety of informal, direct interventions with users to gain insight into their needs and practices.

This new focus of library research on studying *students* – student lives, information practices, and perceptions - has been a refreshing and vital trend in the assessment of library services. Unlike many quantitative and survey-based measures, qualitative research often produces surprises, disclosing aspects of user experience and needs that might otherwise be overlooked. By questioning prevailing assumptions, these surprises can – whether singly or cumulatively - bring about more radical organizational learning.

While ethnographic research is one mode of customer-centered research in libraries, there are others. Some of these modes involving analyzing the implications for libraries of large-scale quantitative studies of student learning behaviors produced outside libraries. Among these are studies such as the National Survey of Student Engagement, or Pew Institute studies, that address student information and media practices, and student experiences in university communities. These reports can help libraries understand student needs, and contextualize the contributions libraries make to campus goals of student retention and student success.

This paper describes a third mode of customer-centered research available to libraries. In academic institutions, where our customers are themselves engaged in learning and research, libraries have an opportunity to interact with their customers as *researchers*. By offering faculty and students the opportunity to use the library as a student research site, the library benefits from a wide range of disciplinary perspectives and may steer libraries toward asking new questions.

2. Context: Undergraduate education at Cal Poly and "learn by doing"

California Polytechnic State University (Cal Poly) in San Luis Obispo was founded in 1901 as the state's first Polytechnic school, with "learn by doing" as its signature pedagogy. This pedagogy has been retained for over 100 years, as a learning environment in students apply theories and principles learned in the classroom to produce "authentic" work that is characteristic of professionals in their chosen disciplines.

"Learn by doing" occurs throughout the Cal Poly curriculum, in groups as well as by individuals. A senior or capstone undergraduate project may showcase "learn by doing," but it is just as likely that students experience this pedagogical strategy in lower-division courses, internships, or in their co-curricular activities. While Cal Poly has strong undergraduate professional schools (engineering, architecture, business), students in majors across the entire curriculum experience "learn by doing," whether in anthropology, computer science, graphic design, landscape architecture, psychology, or statistics.

In an environment that encourages practical experiences informed by current theory, the Library at Cal Poly can engage students as consultants across fields ranging from architectural design to computer engineering to statistics to psychology to marketing. In recent years student research on the Cal Poly Library has included interface usability studies, construction and design of library spaces, and assessment of costs of installing air conditioning in a 70's-era building on the central coast. In one of the most successful of these collaborations, the Library has served as the client for an upper-division marketing class, "Listening to the Customer".

3. Case study: Listening to the Customer

Business 418 is an upper division course in the Marketing Area of the Orfalea College of Business. Like all Cal Poly courses it is taught in an 11-week quarter; and like most Cal Poly courses it has a relatively small enrollment (35 students). The Marketing Area has a standing invitation to potential clients who are willing to work with their students. They ask that clients clearly define their project, scoping it to something that can be managed by a team of students over a ten-week period; they also ask that clients make themselves available to students throughout the project as needed. The benefits are mutual:

> "Organizations find that this is a win-win for them and for students. Projects provide students with an opportunity to learn from current marketing challenges. Your organization can benefit from actionable plans, as well as ideas that stimulate or confirm your own thinking."
> http://buiznt.cob.calpoly.edu/cob/Mktg/Borin/client%20application%20form.doc

Professor Stern Neill offers an upper division required course in the Marketing Area, Business 418: Listening to the Customer. Business 418 is described as:

> "A project-oriented introduction to exploratory, secondary, and qualitative methods. Access and use of secondary sources of information that support marketing decision making and lead to a carefully crafted research plan. Emphasis on qualitative marketing research techniques, with the goal of setting the stage for additional data collection." http://www.calpoly.edu/~sneill/bus418.html

For this course the ideal client is convenient to all students (arguing for a client on or near campus); is willing to identify a broad research topic of interest to students; as is willing to commit time as needed to provide the students background information and feedback.

Winter 2009: Shortly after arriving at Cal Poly in fall 2008 Professor Neill sought out the Library as a client for his winter 2009 class. The Library had just completed a major renovation of its second floor space to create a new learning commons, café, and collaboration spaces. The Library offered this renovation as the focus for his students' work, and both the process and outcomes were interesting and successful as well as enlightening. For instance, a minor finding of the students that struck us was that our subtle and calming renovation color scheme of natural grays, browns, and greens was, from the point of view of Cal Poly students, dull and dispiriting. While it wasn't a major recommendation, the business students suggested that the Library introduce bright colors to liven things up. It was this feedback that led us to choose bright red and yellow upholstery for new soft seating the following summer. The kids were right: those red and yellow chairs make the new spaces vibrant and fun. They also helped inspire our move away from quiet-tinted prints to a bold collection of bright photographs on our white walls.

Winter 2010: In fall 2009 when Professor Neill asked if we would be willing to play clients again to his Business 418 students, we said yes enthusiastically. The process this time was similar. We began by discussing possible focuses that would be of interest to both the students and the Library. We agreed that a focus on "student use of technology in the library" would differentiate this classes' work from the previous class, while providing a sufficiently broad scope for the exploratory nature of their research. Having said this, we made some assumptions about what the students might end up studying in depth, none of which were correct. That was the beauty of the process. What happened next and what was the Library's role?

While the time commitment on the part of the Library was minimal, we had several tasks as clients. After defining a broad research area, we were invited to provide selected secondary sources to stimulate and support the exploratory phase of the students' work. We identified a number of important journals covering news and trends in student use of technology in higher education; we also pointed the students to recent surveys and statistics describing the Library and its use.

First contact: Our next task was to meet with the class and provide a narrative tour of the Library, pointing out a range of Library technology services and issues. Two Library administrators – the Director of Library Information Technology, and myself as the Associate Dean for Public Services – met the students in the Library and spent about an hour showing them various locations in the Library where students use technology, and describing our technology-based services and some of our questions (e.g. efficacy of Facebook, chat reference; how to redesign our hands-on learning spaces).

Second contact: Three weeks later, the two of us met again one morning for 10-15 minutes with each of seven project teams, for a total of two hours. In the intervening weeks, the students conducted observational research of student behaviors and use of technology in the Library. Based on these observations the students had begun to formulate a possible focus for their team's work. In addition, the students had conducted some initial interview research. These meetings were an opportunity for them to share some initial findings with us and to get our feedback on whether their proposed research focus would be useful to us as their client. At this point we were able to share additional information with them (e.g. facility constraints that made it difficult to add power outlets; the feasibility of compressing the book collections to create more open study spaces). The students provided us with a brief memo (in some cases a few bullet points delivered via email), and we responded with encouragement, additional information, or suggestions for directions that might be more productive for them. One of the major surprises at this stage was that the students had not focused as we had anticipated on particular technologies or interfaces as a research topic. It quickly became clear at this point and then in the students' final reports that the most interesting issues regarding student use of technology in the library had to do with human factors: student experiences of wasting time, understanding how things work, being aware of options, and levels of comfort or awkwardness in negotiating the technology environment.

At the time of this meeting, the quality of the students' work was unclear. It seemed unlikely that this group would be able to match the level of effort and quality of the previous year. This is worth mentioning because by the quarter's end, these students' reports were, if anything, superior to the work produced in winter 2009. The lesson was that a lot of learning can take place in ten weeks – and the speed with which the students developed, conducted, and then shared their research was impressive. Libraries can rarely commit their own staff to research for enough time that they can experience such an intense learning curve.

Over the next several weeks we had no further direct contact with the students apart from the occasional email or student stopping by on behalf of their group to ask about some factual point. After the second meeting, the students' research continued along with focus group and survey research. The survey research was of an exploratory nature - though it did help confirm insights from the qualitative research. The students continued to be engaged in developing interview questions and conducting interviews. In addition, the class recruited students from across campus to participate in one of two focus group sessions (one session with first and second year students and a second with upper division students). As the client, the Library contributed small incentives to the twenty focus group participants (though we did not participate or observe the focus groups themselves). The students also conducted additional research (e.g. on available products and technologies) to support their recommendations for how the Library can better meet our customers' needs. This research included conducting a video-taped field trip to a library using a recommended solution; developing a prototype of a video for an informational video series; or researching products, including costs and installed sites, recommended for purchase.

Final contact: Each student group compiled a comprehensive report, including executive summaries and detailed appendices. Our final contact with the class was on the morning of the last regular class session, when the students presented their findings orally to each other and to a client group consisting of four Library staff. Each group then presented their complete written findings to us, and shared electronic copies with us as well.

Follow up: While the presentations concluded the Library's official interactions with the class, we followed up in several ways. First, we provided a small gift to each student and to Professor Neill to thank them for their work. Second, we read, summarized, and shared the students' reports within the Library's leadership team. We also contacted the students to let them know about our follow up actions. For example, because of the students' recommendation that we adopt wireless printing using Pharos, we made inquiries of our central campus IT group that revealed that wireless printing had in fact been implemented two months previously – but without notifying the campus or developing the driver packages students would need to use this service in the Library. Another student group recommended that we develop a series of short informational videos; they offered to create a series of real videos based on the prototype they had shared in their final presentation. We have allocated a small budget to support this development and are working with these students now.

The primary recommendations made by the students were that we provide wireless printing; create more and smaller group study spaces; raise awareness of library services and policies using visual cues and video channels and memorable slogans; and use technology to help students locate available study spaces and computers.

For the Library staff, additional findings that were of interest to us were issues we were aware of in general, but for which we'd never had such concrete evidence. Among these were:

- The prevalence of laptop ownership (97%) - mostly Macs - and cell phones (100%)
- The distinction between students needing group study vs. true collaborative space
- The challenges of negotiating computing logistics (software availability, Mac vs. PC vs. UNIX; battery power; workstation availability; access to personal files from anywhere)
- The frustration and discomfort experienced when wandering around looking for available resources (prefer transparency and clear cues)
- The blend of the personal and academic while studying: the desire for personal space, space to spread out; and the flow between personal and academic activities throughout the day
- Visual communication of information is crucial – no small print, pictures, not explanations
- Our names and their names for things are different (we call them "collaboration rooms", they call them "fishbowls")
- The core communication channels that reach most students are the campus newspaper and course management system

4. Discussion

Could these same findings have resulted from research conducted by the library? Perhaps, but it's likely that student research subjects were more comfortable with the students who conducted interviews, made observations, and ran focus groups. In addition, the business students clearly offered us a fresh disciplinary perspective, based on their research, reading, and discussions in class. These factors argue that student research on libraries has the potential to offer fresh and unexpected findings not otherwise available to libraries.

One of the most useful aspects of this particular student research project was that the students shared their detailed data with us. This made it possible for us to review their findings, do our own analysis and interpretation of the data, and also validate some findings by comparing data across multiple team reports. These are, after all, the findings of researchers in training; sorting out convincing findings from those without strong evidence is a useful exercise, as is differentiating actionable ideas from those beyond the scope of our resources or mission. Even when the data is inconclusive, exploratory and provocative student research can help the library identify topics to learn more about through their own assessment and research efforts.

When the dust settles on the students' final reports, the library's work begins in earnest. The amount of data and the ambitiousness of student recommendations may seem overwhelming: reading through seven "comprehensive" marketing reports, filled with raw data and pie charts, is no small thing; let alone extracting high level findings and sharing those appropriately within the library. The final and most critical investment of time by the library in the process is finding actionable recommendations and moving quickly to close what has been called the "knowing-doing gap."

Finally, an experience as positive as the one described here inspires us to consider how a program of student research on libraries might become a regular part of a library's assessment strategy. Such a program would need to achieve desirable outcomes for faculty, students, and the library; understanding all of these clearly and realistically is essential to a successful student research venture. Being prepared to offer students research opportunities across many disciplines, whether as individuals, groups, or classes, is a challenge worth meeting in order to benefit from a wide range of disciplinary perspectives.

5. Conclusion

What does it mean to be a "participatory" library? How does a library become "customer-driven"? Zaltman writes that "customers create their own meaning" out of "company" stories, brand information, and product concepts. Like other organizations, it is important that libraries not be guided by data quantity alone – demographic and transactional data may at best serve as rough proxies for underlying customer needs. Data *quality* may yield a deeper understanding of customers' latent as well as obvious needs, and may illuminate deep commonalities users experience that will "likely be more important determinants of choice and tend not to change very quickly."

Zaltman goes on to say that "the ability to capture and apply insights from diverse fields" is essential to survival and adaptation of any enterprise, particularly since "consumers do not live their lives in silo-like ways by which universities and businesses organize themselves… [Companies are] now drawing on previously ignored research from an array of disciplines….to understand what happens within the complex system of mind, brain, body, and society when consumers evaluate products."

At Cal Poly, a deeply-rooted and widely-practiced undergraduate pedagogy marrying theory and practice means that when our customers turn their research eyes on the library, all kinds of surprising and actionable information may follow. And if some of these changes seem small – a yellow chair comes to mind - "as in the gradual twisting of a kaleidoscope, a multitude of small modifications eventually yields a substantially different picture" (Zaltman, 2003).

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