E **Evidence Based Library and Information Practice**

Through the Students' Lens: Photographic Methods for Research in Library Spaces

Shailoo Bedi
Director, Academic Commons & Strategic Assessment
University of Victoria Libraries
University of Victoria
Victoria, British Columbia, Canada
Email: shailoo@uvic.ca

Jenaya Webb
Public Services and Research Librarian
Ontario Institute for Studies in Education (OISE) Library
University of Toronto Libraries
University of Toronto
Toronto, Ontario, Canada
Email: jenaya.webb@utoronto.ca

Abstract

Objective – As librarians and researchers, we are deeply curious about how our library users navigate and experience our library spaces. Although we have some data about users' experiences and wayfinding strategies at our libraries, including anecdotal evidence, statistics, surveys, and focus group discussions, we lacked more in-depth information that reflected students' real-time experiences as they move through our library spaces. Our objective is to address that gap by using photographic methods for studying library spaces.

Methods – We present two studies conducted in two academic libraries that used participant-driven photo-elicitation (PDPE) methods. Described simply, photo-elicitation methods involve the use of photographs as discussion prompts in interviews. In both studies presented here, we asked participants to take photographs that reflected their experiences using and navigating our

library spaces. We then met with participants for an interview using their photos as prompts to discuss their experiences.

Results – Our analysis of students' photos and interviews provided rich descriptions of student experiences in library spaces. This analysis resulted in new insights into the ways that students navigate the library as well as the ways that signage, furniture, technology, and artwork in the library can shape student experiences in library spaces. The results have proven productive in generating answers to our research questions and supporting practical improvements to our libraries. Additionally, when comparing the results from our two studies we identified the importance of detailed spatial references for understanding student experiences in library spaces, which has implications beyond our institutions.

Conclusion – We found that photographic methods were very productive in helping us to understand library users' experiences and supporting decision-making related to library spaces. In addition, engaging with students and hearing their interpretations and stories about the photographs they created enhanced our research understandings of student experiences and needs in new and unique ways.

Introduction

Students' images can elicit stories that are not easily captured through other research methods. They can generate rich descriptions of library spaces and reveal new and important insights into the ways our users experience, navigate, and perceive the library. However, when planning changes and improvements to library spaces or services, librarians often rely on methods such as surveys or focus groups to seek input from users. As Halpern, Eaker, Jackson, & Bouquin (2015) note, "over-reliance on the survey method is limiting the types of questions we are asking, and thus, the answers we can obtain" (p. 1). Although surveys and focus groups are valuable for many types of research, they are limited in providing "in the moment," experiential data about how students use our library spaces. In surveys and focus groups, students may be asked to recall their perceptions or provide hindsight thinking about their experiences with library spaces, services, or resources. However, when equipped with cameras students can photographically document their experiences in a library space as they move through it. The exercise of collecting images and discussing them during follow-up

interviews allows for deeper consideration of the perceptions and experiences of being in a particular library space.

Over the past couple of decades, many libraries have focused their efforts on becoming user-centered, dynamic learning environments developed to support student success. This change in focus has rendered much discussion in the library and information science (LIS) literature about the library as the "third place" (Ferria et al., 2017; Harris, 2007; Montgomery & Miller, 2011). Authors often point out that despite the proliferation of online resources the library's physical space is still critical to our users (Brown & Lippincott, 2003; Harris, 2007; Montgomery & Miller, 2011). Thus, continued exploration into library user experience of library space, design, and wayfinding is worthy of attention.

We propose that visual research methods, specifically photographic methods, have a much larger role to play in describing, interpreting, and understanding library users' experiences. Although visual research methods remain underrepresented in the LIS literature, there are a few compelling examples that demonstrate

great promise for LIS research, especially for research focused on physical library spaces and the student experience. Moreover, visual research methods offer valuable evidence for decision-making and user-focused improvements to library space and design.

In this article we present two studies that use visual research methods. The first uses participant-driven photo-elicitation (PDPE) to understand users' wayfinding strategies at the University of Toronto's Ontario Institute for Studies in Education (OISE) Library, with the added goal of making user-focused improvements to directories and signage. The second explores students' experience in the library spaces at the University of Victoria using photo-narrative as a way of guiding decisions for upcoming renovations and to understand the student experience in library space. In addition to focusing on questions in our immediate institutional contexts, we also make the broader argument that students' experiences with the library are interwoven with the spaces and objects they encounter, and that visual methods, and photographic methods in particular, can reveal new and important insights into the ways library users experience, navigate, and perceive library spaces.

Literature Review

Visual methods are well established across the social sciences and encompass a wide range of approaches, techniques, and types of images. Among many other purposes, they can be used as a way for researchers to document social processes (Hartel & Thomson, 2011), as part of ethnographic approaches to elicit information from participants (Foster & Gibbons, 2007), or as a way to engage and empower communities (Julien, Given, & Opryshko, 2013). Pollak (2017) provides a summary of visual methods used in the social sciences and argues visual approaches are well suited to LIS researchers "exploring information worlds filled with vagueness, contradiction, fluidity, and movement" (p.105). The literature on visual methods is vast, but

Weber (2008) offers a comprehensive summary list of reasons to use images in research

1. Images can be used to capture the ineffable, the hard-to-put-into-words.
2. Images can make us pay attention to things in new ways.
3. Images are likely to be memorable.
4. Images can be used to communicate more holistically, incorporating multiple layers, and evoking stories or questions.
5. Images can enhance empathic understanding and generalizability.
6. Through metaphor and symbol, artistic images can carry theory elegantly and eloquently.
7. Images encourage embodied knowledge.
8. Images can be more accessible than most forms of academic discourse.
9. Images can facilitate reflexivity in research design.
10. Images provoke action for social justice. (p. 44)

Visual research methods have slowly begun to gain ground as part of a move toward more holistic approaches to studying libraries and library users. The groundbreaking ethnographic project, *Studying Students: The Undergraduate Research Project at the University of Rochester,* led by Foster and Gibbons (2007), employed a wide range of methods including visual methods in which students produced photographs, maps, and drawings as part of the research process. Briden (2007) discusses the Rochester project's use of photo-elicitation interviews as a way to have students share "details about their lives in a way that conventional interviews alone could not achieve" (p.47). Researchers put cameras in the hands of participants and provided them with a list of 20 photo prompts such as "All the stuff you take to class", "Your favorite place to study", and "Your favorite part of the day" (p. 41). The resulting images, in conjunction with interviews, brought together a vivid description of students' lives at the University of Rochester,

and helped shed light on how the library factored into the total student experience.

More recent examples of visual methods applied in library contexts also show significant promise for providing new insights into our users' experiences (Haberl & Wortman, 2012; Julien, Given, & Opryshko, 2013; Lin & Chiu, 2012; Neurohr & Bailey, 2016; Newcomer, Lindahl, & Harriman, 2016; Treadwell, Binder, & Tagge, 2012). Furthermore, these studies point to the constructive, user-centered input that visual methods can provide for making improvements to library spaces and services. For example, Newcomer et al. (2016) used photo-elicitation as part of a broader ethnographic project to solicit student input on the design of a new arts campus at their institution. In their conclusion they highlight the value of ethnographic approaches for gathering unexpected data from user populations, and note that the results of their study have already been used to inform planning for the new arts campus.

There are many considerations in using photographs in research, one of the primary ones being that photographs are not neutral; they are contextual, intentional products. By using photographs in conjunction with interviews in methods such as photo-elicitation and photo-narrative, researchers can investigate these complexities and understand the photographer's intentions. Narrating *through* an image means storytelling about things and experiences related to what has been photographed; it does not mean telling or describing only what can be seen in a picture (Collier, 2001; Pink, 2001). The photo by itself is not an independent data point or an objective representation of data. Rather the photo is an interpretation of the creators' subjective experience (Liebenberg, 2009). The process of photographic research methods, such as photo-narrative or photo-elicitation, goes beyond describing each photograph taken by the participant, and includes an interview that incorporates questions about what it is we are seeing, and what it is that we are *not* seeing and

why. Questions about what was happening before and after a given photo are also critical to understanding the contextual details (Liebenberg, 2009; Pink, 2001). Ultimately, photographs can be thought of as a starting point in photo-elicitation. As Weber (2008) writes, photographs and other artworks "provide a versatile and moveable scaffolding for the telling of life history, life events, life material" (p.48).

Aims

As librarians and researchers, we wanted to know more about how our library users experience our library spaces. Although we had data from our own libraries about space use and wayfinding gained through anecdotal evidence and assessment instruments like statistics, surveys, and focus group discussions, we recognized that we were missing more in-depth research information that reflected specific and "in the moment" student experiences in our spaces. As a result, the aim of both studies presented here is to gather data that provides detailed and in-depth knowledge about user experiences in our library spaces.

The overarching research question that frames the two studies is: how do students use and navigate our library spaces? While both projects have goals for local service improvements, this work will also contribute to the LIS literature by expanding our understanding of how students' experiences within the library are tightly interwoven with the spaces and objects they encounter during their visits. By examining and comparing the use of photographic methods in two independent studies and argue that photographic methods have broad applicability for researchers interested in library space and design.

Methods

The studies we present in this article use two types of photo-elicitation methods to examine student experiences in library spaces. Described

simply, photo-elicitation involves the use of photographic data to provide discussion stimuli in interviews. The photos used in the interview can be photos taken or collected by the researcher, but more commonly, are photographs taken by the research participants themselves that are then later discussed in the photo-elicitation interview. This method is often referred to as participant-driven photo-elicitation (PDPE). The studies presented here both use forms of PDPE where research participants took the photographs used in the research.

In her summary of the literature, Rose (2012) identifies four main strengths of photo-elicitation interviews:

1. Photo-elicitation interviews evoke different information than other social science techniques. In other words, "things are talked about in these sorts of interviews that don't get discussed in talk-only interviews" (p. 305).
2. Photographs can be helpful in shedding light on the more mundane or day-to-day activities of participants' lives. Having research participants take photographs and then discuss them in interviews, gives participants a "distance from what they are usually immersed in and allows them to articulate thought and feelings that usually remain implicit" (p. 306).
3. PDPE gives participants more power in the research process. Putting research participants in charge of making photographs, rather than simply answering a researcher's questions, "gives them [participants] a clear and central role in the research process" (p. 306).
4. Photo-elicitation also facilitates *collaboration* between the researcher and participants that other methods do not.

By using photo-elicitation, we sought to gain new insights into students' day-to-day experiences in library spaces. Moreover, we hoped to engage in a more user-driven type of research. The particular adaptations of photo-elicitation applied in each situation, and the research instruments used, are described below.

OISE Library, University of Toronto

Context

The OISE Library's Wayfinding Study was designed to gain insight into the challenges and successes that users face when navigating the OISE Library space. The OISE Library is 1 of 44 libraries in the University of Toronto Libraries system, with collections and services that support graduate students and faculty in the field of education. The library houses a main stacks collection and several special collections, including a historical education collection, a juvenile fiction collection, and a curriculum resources collection for teacher candidates.

Research Questions

Reference desk interactions, directional statistics, informal observations, and anecdotes from staff at the library's Service Desk all indicate that users experience difficulties navigating the library space and locating resources. However, our current knowledge falls short of understanding what actually happens when students leave the desk. Moreover, we have very little meaningful knowledge of users' personal experiences navigating the library space. In seeking to fill these gaps, my research sought to answer the following questions:

- How do users navigate the library?
- How do users locate places and items in the library?
- Where are they successful?
- Where, specifically, do they encounter barriers?
- How do they perceive libraries?

Recruitment

I used a broad recruitment strategy directed to students in the first year of their programs at OISE. I targeted new OISE students because I sought participants with a range of library experiences but also wanted to include students who were new to the OISE Library space. I sent invitations to all of OISE's incoming students via the Library's Personal Librarian Program emails (~1,000 students). Over 20 students responded, and I was able to recruit 17 of those to complete the study. The 17 participants represented a combination of frequent OISE Library users, students who had never been to the OISE Library but had experiences in academic libraries, students who described themselves as having rarely used any library (academic or public), and several international students who considered the experience quite different from library experiences in their home countries.

Method: Participant-driven photo-elicitation

At its basic level, photo-elicitation is a method that employs photographs in interviews. I asked the research participants to complete a short, independent photo survey followed by a one-on-one interview to discuss the photos they made. For the photo survey activity, I asked participants to walk through the OISE Library and complete tasks that they might carry out on a trip to the library, including locating books (see *Appendix A - OISE Library Participant Photo Survey Tasks*). I asked them to photographically document their efforts and decisions along the way. I reinforced that the intent of the tasks was not to test their ability to locate library materials, but simply to get them moving through the library space. Whether or not they located the items was not important.

Once participants had completed the photo survey tasks, we met for an interview to discuss their photos and unpack their experiences. The timing of interviews immediately following the photo survey meant that participants could easily recall the intention of most of the photos,

and their feelings and experiences were still fresh in their minds. The interviews themselves were very loosely structured, which allowed discussion to emerge from the photos. After several introductory questions, most of the interview questions were quite broad, and were driven by the participants' photos: "Why did you take this one?" or "What's happening here?" (see *Appendix B - OISE Library Interviewer's Guide*). This allowed the discussion to move beyond the description of the photograph ("this is the stairwell") and start in-depth discussions about participants' experiences with specific objects and spaces.

My primary aim in using this style of structured PDPE for the OISE Library study was to focus on navigation within the library. Although I did provide specific tasks for participants to complete, I wanted to ensure, as much as possible, that the data meaningfully reflected their experiences in the space. In other words, I wanted to be able to focus on the decisions *they* made, the photos *they* decided to take, and *their* explanations of what was important in this exercise. This can be contrasted with methods where researchers are present (e.g., Haberl & Wortman, 2012) or where video cameras are used to document participants' every move (e.g., Kinsley, Schoonover, & Spitler, 2016). By handing them the camera and allowing them to work through the tasks and space on their own, I was asking participants to independently decide what was important, what they wanted to photograph, to show and talk about.

University of Victoria

Context

At the University of Victoria Libraries, we recently received some funding to explore potential physical changes to all three campus libraries, with the help of external consultants and architects. The interest in implementing a research study using photo-narrative was to generate data on how students use the library space as they are using it and what they think

about the space and design and how that impacts their experience. As mentioned, photo-narrative is a type of photo-elicitation and differs only in the final presentation of results where the photos and interview are used together to create a narrative of telling of the experience. Also, a photo-narrative approach lends itself to include an exhibition component. Although there are three libraries on campus, the photo-narrative study focused on the Mearns Centre for Learning/McPherson Library, the main library. The reason for this limited scope was to make this research project more manageable.

Research Questions

For this particular study, the main research questions included:

- How are students using the library space?
- How do they shape or re-shape the spaces?
- What type of learning is going on in that library space?
- What is missing from the space and design that might impact their learning or general experience of the space?

These questions served to guide the project.

Recruitment

Aiming to generate a broad set of student experiences through the photo-narrative study, all current undergraduate and graduate students were eligible to participate in the study. After gaining Human Research Ethics approval, I employed print and virtual promotional posters using the slogan "Let your photos tell the story" (*Appendix C - University of Victoria Promotional Poster*). In addition, I sent emails to all department secretaries on campus asking them to put out a recruitment email on their student listservs. My goal was to recruit between 10 to 15 students who use and experience the library space on a regularly basis.

Student research participants were not required to be professional photographers. Also, no incentive was offered other than an enlarged image of a student photograph that would be mounted as a thank you for their participation. Recruitment began in September 2016, and 10 students took part in the study between September and December 2016.

Method

As students expressed interest to participate, I asked them to meet with me briefly to review the research project, to sign a participant consent form, and to review the ethics and privacy issues if taking photos that might include other students. I also clarified with the students that they would keep the intellectual property for their images and that they could choose to keep their name attached to their photos. I provided the student research participants with lanyard tags that identified them as student research participants and encouraged them to spend some time collecting photos that represented their experience and use of library space and design. Although most students opted to use their smart phone cameras, some expressed interest in using a higher resolution camera that they either owned or else borrowed from the University of Victoria Libraries' Music and Media unit. Once student participants had completed collecting their photos, I asked them to meet for a semi-structured interview where we would review their top 10-12 images that represented their experiences (see *Appendix D - University of Victoria Interview Questions*).

Another component of this photo-narrative research project includes an opportunity for participants to co-curate an exhibition in 2017 with me, featuring select photos from each participant with an opportunity for viewers of the exhibit to leave comments. The comments collected in the guestbook will be part of the overall data collection for this photo-narrative study. Exhibiting as a method of inquiry is occasionally used in combination with photo-narrative, not just as a method of research

dissemination, but also to serve the purpose of data collection. In this way, exhibition as a method of inquiry has the potential to strengthen research participants' connections to other viewers and their environment (Gubrium & Holstein, 2012). Gathering viewer input is focused on the shared experiences reflected in the exhibited photos, and not on the quality of the image. Research participants were asked to select the images they would like included in an exhibit and could elect to remain anonymous in the display. The exhibition component of the research was explained to all participants at the point of recruitment, and consent to participate in the research clearly highlighted all components of the research process.

Results

OISE Library

Participants' photographs and the subsequent interviews for the OISE Library Wayfinding Project yielded sophisticated descriptions of their experiences navigating the library space. Between January 2015 and January 2016, a total of 17 participants made 533 photographs, ranging from 4 photos from one participant to 75 from another. The follow-up interviews yielded 536 minutes of interview recordings, with interviews ranging from 20-44 minutes.

Although the data analysis is not yet complete, initial results point to some key areas where signage can be improved to help make the journey through the library easier for users. In the first stage of analysis I examined the recorded interviews and the accompanying photographs, listening for mentions of things related to the photo tasks I provided. I did not code the photographs separately from the interview transcripts. Rather, they are stored together in NVivo and analyzed as part of the same dataset. To address my research questions, I focused on gaining insights into the successes and challenges participants faced in navigating the library, noting any suggestions or recommendations they made. While the

interviews reflected a wide range of experiences and suggestions, three broad themes emerged from this first phase that have proven valuable for recommendations for improvements. They include: (1) the overall *layout* of the library; (2) the *consistency* of directional prompts, including naming conventions and the visual consistency across collections, signage, call numbers labeling, and catalogue records; and (3) the *terminology* used for directional cues in the space. For the purposes of this article, I will briefly discuss how photo-elicitation helped shed light on problems with the consistency of directional prompts as well as the signage terminology at the OISE Library.

Many participants described the process of locating items as connecting "clues" (or directional prompts) they encountered over the course of their journeys. They described observing clues in places like call numbers, signage, the names of collections, or by the titles of the books, and then making a guess about their next steps. Many participants remarked that these clues did not always lead clearly to the next step in ways they expected. One participant provided a brilliant example of where inconsistent naming across signs, call numbers, and the catalogue record caused a temporary barrier in her search for the second book on the list.

The first photograph in Figure 1, taken near the entrance to the Children's Literature Collection, prompted an in-depth discussion about the inconsistent directional prompts Participant 6 encountered. For example, she pointed out that the book's call number included the letters "JUV FIC," but the catalogue record indicated that the item was located in the "Children's Literature" collection, not the Juvenile Fiction collection. In the section itself, there are signs that read "Juvenile Fiction" and "The Margo Sandor Collection," as well as labels that read "Children's Literature Collection (CLC)" but at the time there was no sign that clearly indicated she had arrived in the Children's Literature
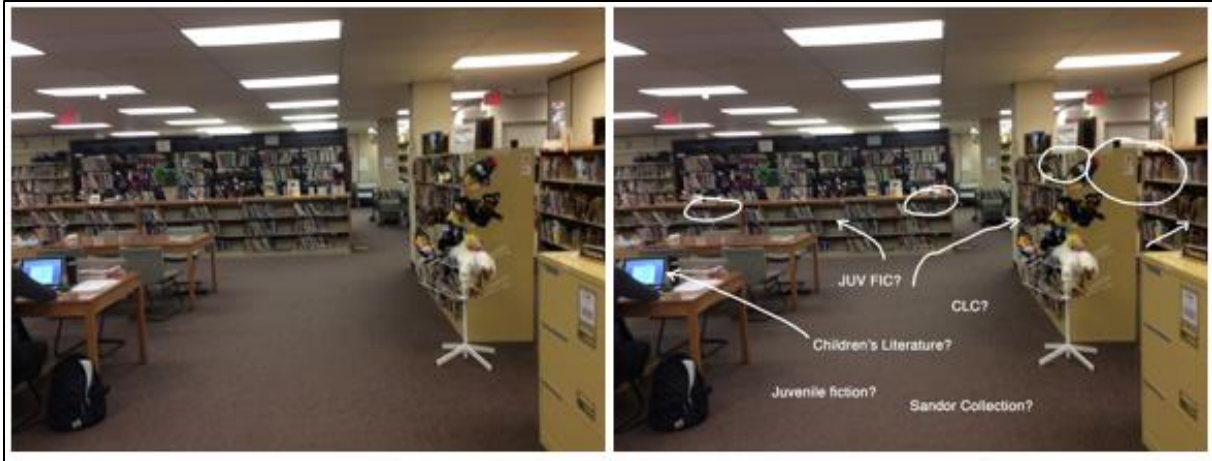
Figure 1
Participant 6's photo of the Children's Literature Collection in the OISE Library, and the same photo as annotated by the researcher after the interview.

Collection area. Ultimately, she said, "I just wasn't sure what to trust" (Participant 6).

In several other interviews, participants pointed to terminology on key library signage and made comments that challenge what we often take for granted when describing library spaces and collections. For example, Figure 2 sparked a frank discussion with one student about the term "stacks":

> So, I saw that stacks was on the second floor, so I went up and then I got lost and I wasn't sure where I was anymore. And to be honest [pointing to above photo], I don't know what stacks means…. And then I felt silly, I didn't want to ask cause I thought that was a stupid question [Participant 7].

As library insiders, we know that there are gaps in the trail of clues our users attempt to follow. The photo-elicitation data, tied to specific places and particular items in the OISE Library, provided detailed insights into a library outsider's journey. Participants' photographs, coupled with their thoughtful discussions about library environments, provide an alternate view that can re-open our eyes to things like signs and even common terms such as "stacks" that have

become second nature to those of us who work in libraries. As Weber (2008) notes, participants' photographs can make us pay attention in new ways. Viewing my own library space in new ways allowed me to pinpoint specific problems, such as inconsistencies in signage, or problematic library terms, and to make suggestions for improvements.

In addition to providing evidence to support improvements to the OISE Library's signage, my initial analysis has revealed new and unexpected insights into aspects of users' library experiences that went beyond my research questions. As a result, I plan to review the data to explore additional themes that emerged around student-library relationships. The initial analysis has already revealed some of the complexities about how students inhabit library spaces, including how they work together (or don't) to develop etiquettes to share space and resources, the connections and ownership they feel with the particular locations and items in the library, how they work *around* library policies and processes to accomplish what they need, as well as the things make them anxious, and the things make them happy.

Figure three shows a photo made by Participant 1 to capture their favourite study spot. The

Figure 2
Participant 7's photo showing a sign for the stacks at the OISE Library.

participant explained that the combination of natural light and electrical outlets made this place "prime real estate." The photo also led to a long discussion about the use of library spaces for events, the importance of quiet study spaces, and the sense of ownership students feel for their favourite library places. I hope the second phase of analysis will reveal more examples like this and open the door to potential new research questions regarding the student culture in library spaces.

University of Victoria Libraries

The research project is not yet complete at the University of Victoria. Although the data collection from the student research participants has been completed, along with the accompanying interviews, and the interview data has been analyzed, the exhibition of photos is still forthcoming, and scheduled for late

Spring 2017. Since the guestbook comments are considered part of the data collection for this study, the results are therefore incomplete. However, I am able to share some emerging trends and themes from the photo collection and interviews with participants.

Of the 10 participants, 6 students are graduate students, 3 in master's programs and 3 in doctoral programs. The remaining 4 are undergraduate students. Also worthy of note is that 6 of the 10 participants identified as international students. All but 3 agreed in having their name identified with the images they had taken, while the others will be identified with pseudonyms for the exhibition of photos and in any publications that include samples of the photos from the study. In total, I recorded 314 minutes of interview time from 10 participants. The collection of photos exceeded the 10 to 12 images I requested from each

participant. The photos were not coded separately from the interview. Rather, the themes emerged as part of the discussion with the research participant that included their photos. This is an important part of a visual research method, in that themes are not generated from the perspective of the researcher but are co-constructed with the participant and the researcher.

From reviewing the photos and interview data with each participant, the preliminary themes include furniture, technology, lighting, artwork, and group learning space. Within these themes there was much discussion about how each aspect was working within each category, and also how each could be improved to make the student experience even better. Although there is much to share and highlight from the results, I will limit the discussion to only two of the themes: furniture and lighting.

Figure 3
Participant 1's photo showing their favourite study spot in the OISE Library.

The photos that students took of the furniture, and as demonstrated through their interview discussion, highlighted a strong appreciation of the variety of furniture available to them, including large comfy chairs or sofas, individual study carrels, large desks in the Learning Commons workstations, big open table spaces, and the ever popular person-shaped Bouloum lounge chairs. Although this variety was much appreciated, several students took images of how worn-out some of the furniture fabric has become, making them less appealing. Several commented on their reluctance to sit in such spaces, but they often had no choice because the library very busy and full. One participant commented, "…most days you are lucky to even get a seat, so you just take what you can get. Really many students are sitting on the floor between stacks…" This comment also pointed to another aspect of the furniture theme, which is that we simply do not have *enough* furniture to meet student needs. This was conveyed through photos that also highlighted students spread out on the floor with their laptops, books, coats, and backpacks.

The theme around the lighting also had many equally positive reflections, including areas in the library where lighting could be improved. Several students took images of the large windows facing west that are almost floor to ceiling and look out on the grassy quads and water fountain (see Figure 4).

Students' comments about such images were overflowing with praise about the abundance of natural light. One international student commented,

> …coming from China and my experience with my undergraduate library, we had very few windows. The lighting was almost always fluorescent tubes. I feel my day is lucky when I have the opportunity to sit at one of the large windows to study and…enjoy the view of such a beautiful campus.

Figure 4
Participant's photo of natural light at UVic McPherson Library.

Figure 5
Participant's photo of a dark corner of UVic McPherson Library.

Yet there were also many photos of areas in the library that are dark and ominous (see Figure 5).

One student mentioned that as a graduate student they

have an assigned carrel in one of the darkest and most closed off spaces in the library. I really appreciate the carrel but find I move to another carrel next to a window if it is not being used. I don't like feeling like [I] am in a cave, especially when I have hours ahead of

me working on a laptop and reading and composing.

Meanwhile, another graduate student added,

if I can get a carrel by the window, I find I stay longer to do my work…On the days, I can only get a study space in the dark areas of the library, I don't find I am as productive and I have a tendency to leave before I am done what I planned.

The study suggests that the quality of the lighting in the library impacts how long a student will stay in the library and how much work they might complete.

Discussion

Strengths

One of the commonly reported strengths of methods such as photo-elicitation or photo-narrative is that the power of data collection is shifted, in part, into the hands of the research participant (Liebenberg, 2009; Pink, 2001; Rose, 2012; Schwartz, 1989). In the two studies presented here, participants' photographs acted as the main prompts during the interview, and this, in turn, allowed the research participants drive more of the conversation. In this context, the research participant is placed in an active role in co-constructing knowledge with the researcher. Harper (2002) describes the collaborative work inspired by photo-elicitation well, noting "When two or more people discuss the meaning of photographs they try to figure out something together" (Harper, 2002, p. 23). Furthermore, the opportunity to incorporate an exhibition aspect with a visual research method (as in the University of Victoria study), allows for more voices to be included in the data-gathering phase of the research (Gubrium & Holstein, 2012).

Another key strength of photographic methods is their applicability to spatial research. The

methods used in the two studies presented here allowed researchers to follow lines of questioning with participants that tied participants' experiences directly to particular locations, objects, signs, furniture, etc. We are interested in how students' experiences are interwoven with particular spaces and objects, and the photographs served as visual queues that prompted space-specific discussions that would be lost in other research methods. For example, the photograph in Figure 1 prompted a description of various signs visible from a particular location in the library. Then, building on the description of the space, the participant's comments broadened into a conversation about the difficulties that inconsistent cataloguing, signage, and labeling systems cause for library users. This type of detailed spatial reference could not be elicited through methods such as focus groups or surveys.

Some of the key benefits of visual images for library research are also very practical. For instance, both researchers found that working with images facilitated the interview process and established a level of comfort between the researcher and the participant. This is in line with Collier's (2001) comment that photographs can be seen as an "ice-breaker," a medium that creates a comfortable space for discussion.

Learning and Recommendations

As with any research project, we identified things we would do differently next time as researchers. One key challenge we both experienced using photographic methods was with the large amount of data that was collected. At the University of Victoria, despite the criteria to the research-participants to bring only their top 10-12 photos to the interview with the researcher, students wanted to share many more photos than that. At times, this became quite overwhelming in guiding the students to be more analytical about their images and experience, since many students are accustomed to taking copious amounts of photos with today's technology and image-rich culture,

perpetrated by the Internet and social media. For those considering a similar approach, it might make sense request a budget to buy disposable cameras with a finite number of exposures that would ensure the same number and quality of images among research participants.

At the OISE Library, participants also created a lot of photos, 533 in total. Because of the "journey" style process, participants were documenting as they completed the photo tasks, so allowing them to make an unlimited number of images worked well. These images also flowed easily at the interview stage and really shaped the telling of participants' stories. However, because of the number of participants involved, data analysis was labour intensive. For researchers planning to use a data collection method such as PDPE, the number of participants is also an important consideration. As key patterns and themes begin to emerge in the interview process, consider whether more data is needed to address the questions at hand. For the OISE Library study, 10 participants would likely have provided the insights needed to address the research questions.

A significant and unexpected outcome of this project relates to the contributions of international students. When international students at the University of Victoria were asked why they were interested in the study, many spoke about the comfort they had in the image-based nature of this research project. For many of the international students, English was an additional language, but with the focus of the study on photographs they felt there was a common language between them and the researcher, especially during the interview phase. Similarly, one international student participant at the OISE library also pointed to the potential of photographs for research with international students. Although the participant expressed concern about her English not being very good, she also explained that she was excited for the chance to engage in research in a

way that allowed her to articulate her ideas through reference to her photographs.

International students comprise a diverse group of users that have traditionally been on the periphery in terms of engagement with library research projects at many institutions. The interviews with international students in our two studies suggest that they feel a positive connection to photographic research methods because the use of images created an inclusive method to facilitate participation by a diverse community of users. This outcome, while unexpected, is consistent with Julien, Given, & Opryshko's 2013 article that draws on feminist theory and puts forward photographic methods as a way to highlight the voices of marginalized communities. This outcome also inspires the need for more careful thought around the theoretical frames that are associated with visual research methods, including Freire's (1970) foundational work in critical education, which aimed to empower disadvantaged or marginalized communities, as well as the work of visual researchers such as Wang & Burris (1994), who drew on Freire's work and feminist theory to develop the photovoice method as a research tool for bringing voices to marginalized groups. The theoretical underpinnings as well as the potential benefits of photographic methods for international students and other marginalized student populations are areas for further exploration.

Conclusions

Preliminary findings from the two studies presented support trends in the LIS literature that point to the value of photographic methods in library research. We feel that photographic methods have a strong role to play in understanding how spaces and objects shape user experiences. Additionally, we found that photographic methods are well suited for providing unexpected insights and engaging participants in meaningful discussions about libraries. Although as researchers we set the criteria and parameters of the projects and

developed the photographic tasks and interview questions, the fact that our participants were moving through the spaces by themselves and deciding what to photograph led to many moments of realization for us during the interviews. Whether it was the discovery of a long forgotten (and misleading) directional sign, a personal admission that not understanding library terminology was embarrassing, or an in-depth discussion about a student's favourite place in the library, these unexpected lines of discussion provided fresh perspectives on the spaces we take for granted.

Given that many libraries are focusing their efforts on becoming user-centered learning environments, it is critically important for librarians to continue to ask research questions that help solve the needs of our users in our physical spaces and to promote better physical access. Expanding our research methods allows us to reach our users in different ways, and to promote better engagement with them, and ultimately gain additional, and perhaps even more meaningful, data. The photo-elicitation data presented here has already proven productive in generating answers to our research questions and supporting practical improvements to the library. Additionally, participants' willingness to describe the intentions of their photographs and engage in in-depth conversations about libraries led to many unexpected insights for us. In fact, it is in these moments (our "aha" moments) when we learn something completely new about how users experience our libraries, that we enjoy this research the most.

Acknowledgments

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Appendix A
OISE Library Participant Photo Survey Tasks

Library A Photo Survey Participant Instructions

INSTRUCTIONS: Please use the following tasks to guide your visit to the library and take photos along the way. Please return with the iPad to the OISE Library Service Desk when you have completed the tasks. Have fun!

Task 1: Locate the following item:

Antler, J., & Biklen, S. K. (1990). *Changing education: Women as radicals and conservators*. Albany: State University of New York Press.
(call number 305.420973 C4562)

Please take photos along the way.
Consider things like:

- Signage
- Locations and layout
- Tools you use, actions you take
- Things that helped as well as problems/barriers

Task 2: Make your way to the following item:

Cleary, B., & Tiegreen, A. (1981). *Ramona Quimby, Age 8*. New York: Dell.
(call number JUV FIC C623Rq)

Please take photos alone the way.
Consider things like:

- Signage
- Locations and layout
- Tools you use, actions you take
- Things that helped as well as problems/barriers

Task 3: Anywhere in the library, take photographs of the following:

1. One or more places in the library where you felt lost
2. Something that helped or assisted you
3. Something you really like
4. Something you really dislike
5. Anything else that you take note of (good or bad!)

Appendix B
OISE Library Interviewer's Guide

Thank the student again for participating in the study. Review the purpose of the study and the participant's own participation. Review the participant's consent options, withdrawal options, compensation options, ways the data will be stored and used, and the reason for the project.

We are interested in what students really do in the library, how they locate information, and what types of useful guides and barriers might exist in the OISE Library. We'll be talking about the photographs you took last week and I'll be recording this session.

A few questions to get started:

1. *Prior to this project, how often had you used the OISE Library?*
2. *How would you describe your overall experience navigating the OISE Library?*

Following these initial questions, the interview will be guided by going through the participants' photographs and associated tasks. Questions will be open-ended and will seek to elicit descriptions related to understanding the actions of participants and how they navigated the library space. For example:

This photograph looks like it is associated with Task #1 from the photo survey list. Tell me about what's happening here… Why did you take this one? Where did you go next? What did you do next?

Once all the photographs have been examined, the PI will ask the following questions:

1. *What was your least favorite activity in the photo tasks? Why?*
2. *What are the key things you would change to improve the OISE Library experience?*
3. *Next time you have to locate something in the OISE Library, what would you do? Would you try anything different?*
4. *Do you have any other suggestions, thoughts, or questions?*

Following completion of the interview, the PI will thank the participant again, sign off on completion of participation and provide the incentive funds. The PI will ask whether/how the student would like to be contacted with follow-up about the research project and whether they would be interested in continuing to participate on providing input to the OISE Library on service improvements.

Appendix C
University of Victoria Promotional Poster

Appendix D
University of Victoria Interview Questions

Interview Questions
Research Project: Student Experience of Library Space Told through Student Photo-narratives

This interview questions used with research participants in a semi-structured interview to discuss their top 10 to 12 photos.
1.   Tell me about the photographs you have selected.
2.   Why have you selected these images?
3.   If you were to describe your images, what would you say about them?
4.   How do these images resonate with your experiences of library space?
5.   What struck you as particularly interesting or concerning about the space?
6.   Did you learn something about your use of space you were not aware of before this project? If so, what?
7.   From this experience, what are the top 3 things that library could do to improve your experience of library space?

For the photography exhibit, what impression about student use of library space would you like viewers to walk away with? And why?