GIVING A VOICE (AND PEN) TO STUDENTS: COGNITIVE MAPPING AND STUDENT LEARNING SPACES

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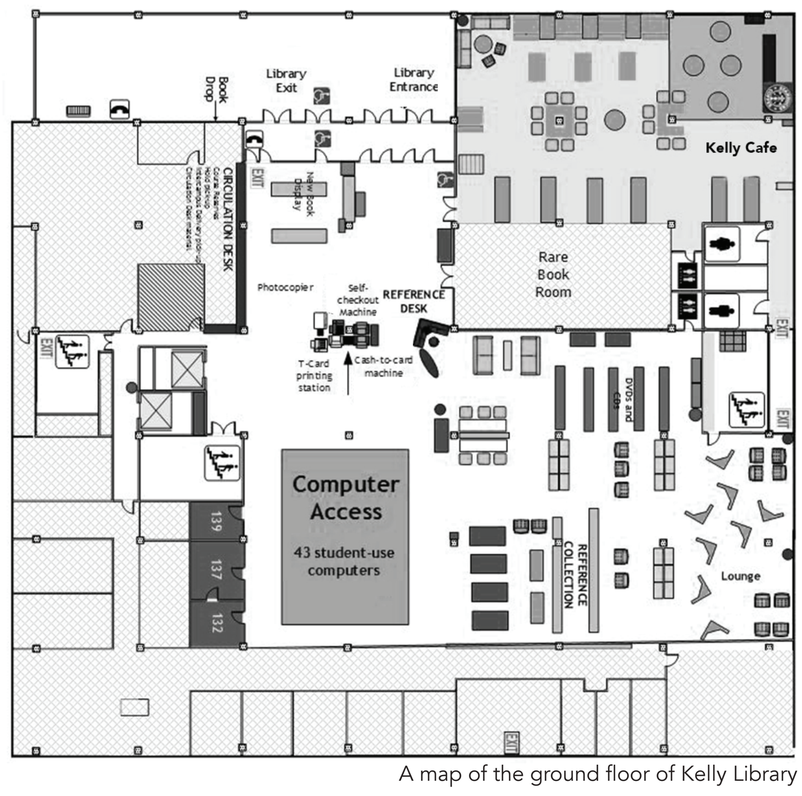
INTRODUCTION

More outlets, better lighting, and new group study furniture. These are the typical library features the John M. Kelly Library hears in surveys. While this information has been useful in planning and purchasing new furniture and technology for spaces, the library wanted to understand how students imagined their ideal learning spaces with a little imagination. The survey items restricted students to particular responses and open text survey questions were descriptions that were expansions on survey answer items. To engage students in a deeper discussion about their learning spaces rather than focus solely on basic needs in a library space, the Kelly Library conducted several focus groups and asked students to provide feedback through a visual method, sketch mapping.

Over the course of two weeks, librarians and staff at the Kelly Library gathered groups of students from across the University of St. Michael's College campus to participate in a series of focus groups. We wanted to give students the opportunity to think outside the box and provide a space where students could discuss creative solutions to their library needs. In groups of six to eight, students drew their ideal libraries based on verbal and visual cues provided by the session facilitators. Mitchell et al. (2011) emphasize that "drawing as a research tool is often complemented by verbal research methods that encourage collaborative meaning-making that allows the drawer to give voice to what the drawing was intended to convey" (p. 20).

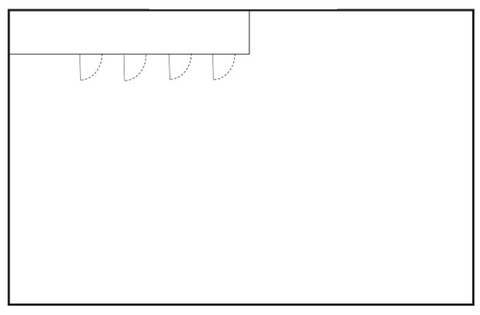


A map of the ground floor of Kelly Library

METHODOLOGY

Participants were recruited via the university's weekly email updates. A small incentive of a gift card from an authorized vendor was offered as well as a further incentive of drinks and light snacks during the focus group. Groups were kept relatively small, with no more than eight students participating at a session at once. The focus groups ran for one hour and students were able to choose from a variety of time slots.

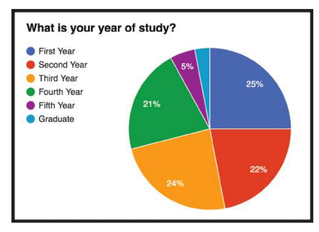
Upon arrival, students were given a brief introduction to the library and shown different examples of libraries, museums, and makerspaces to break the ice and get them thinking about what makes a great library space. Following the icebreaker exercise, students were given a series of prompts from the facilitator and asked to respond in the form of a drawing. Each student was presented with a blank floor plan of the Kelly Library and asked to draw existing features and/or services they liked in black pen, new ones they would like to see in red, and new technological features and services they envisioned in blue. After the drawing exercise, students gave verbal feedback with the facilitator took field notes. Students were ensured of their anonymity in the study and the maps were collected by the facilitator.

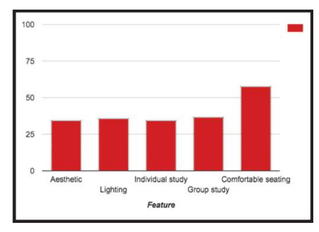


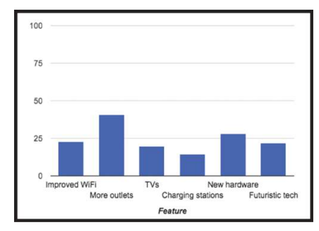

FINDINGS

The majority of focus group participants were undergraduate students. The majority of participants, 79%, stated that they were commuter students, while 14% lived in residence, 3% were theology students and 4% classified themselves as "other". The main purpose of these visits was: to check out materials; use computers for school work; for individual study; to meet friends; and/or to use the Kelly Café. Finally, when asked about the frequency with which they visit the library, 48% of respondents indicated that they use the library only "Sometimes" (1-3 times per week) and another 28% indicated that they "Rarely" (0-1 times per week) visited Kelly.

The top five new features students indicated they would like to see were: more comfortable seating (including bean bag chairs, recliners, and even beds); better lighting; a category we dubbed "aesthetic" which included artwork, changing the wall colour or flooring, and adding plants; more group study spaces; and more individual study spaces. In the new technology section, almost 50% of students indicated that they wanted more electrical outlets. New hardware, improved WiFi, futuristic technologies, televisions, and personal device charging stations were also popular in the "new technology" category.







CHALLENGES

Logistics

During the data collection process, our team encountered issues with the logistics and staff time necessary to complete the cognitive mapping project. To complete the mapping exercise, students were required to draw on an existing floor plan of Kelly Library with three different coloured pens to indicate features and services they wanted to keep, new features or services they wanted to add, and any new technological features or services they wanted to see. Existing features were to be marked in black, new in red, and technology in blue. This way, when our team began coding the images, we would be able to easily distinguish between these different elements. However, confusion about which colour to use for each section by both students and staff was an issue. Additionally, students' indecision over whether certain elements counted as technology or not led to colours being used incorrectly or not at all by some participants.

Pragmatism

While the cognitive mapping exercise certainly afforded students an opportunity to express their creativity, some of the ideas and recommendations were not necessarily practical solutions for library improvement. While many students drew common library features, such as tables, chairs, and study rooms, others imagined more creative features such as holograms, robots, and slides (see image at right).

Time Management

Coordinating the schedules of so many people meant that some focus group participants would arrive late, limiting the amount of time they were able to spend on the exercise. Since students already work at different paces during the exercise, the addition of latecomers had an impact on the timeliness with which the maps were completed. Time was also a concern for those running the focus groups, as each session ran for an hour and limited time staff could spend on other library projects. Compared to traditional methods of gaining student feedback, such as surveys, running set focus groups took a significantly larger time commitment. Additionally, the coding of the images was quite time consuming, as different elements needed to be recorded and then coded by multiple team members to ensure intercoder reliability.

Clarity of Drawings

Some students expressed discomfort at the idea of drawing, telling facilitators they were "not artists" and feeling embarrassed about their perceived lack of skill. This led many students to using textual responses to indicate their preferences and features they wanted to see in the library. Another challenges we faced as coders was how to interpret the drawings. For example, a drawing of a small rectangle could indicate anything from a computer to a chalkboard, a projector or a smartscreen.

RECOMMENDATIONS

So you want to try a cognitive mapping exercise with your students? While taking on a project like this can be daunting, these points can be useful in determining the scope and timeline of your project. First, ensure that all staff and students are clear on procedure. For example, if using a multicolour approach, make sure staff are clear on which colour represents which element and stock enough of each colour. Draft a welcome speech that outlines our ethics protocol to ensure students understand the nature of the participations. It is also important to supplement the drawing exercise with an interview section to clarify any ambiguous information.

The most important takeaway our team learned from this process was the need to account for extra time at all levels of the project. Students draw at different paces and some are inevitably going to show up late, make sure to budget your time accordingly. Additionally, budget even more time for analysis, if possible enlist the help of a research assistant. Coding images is time consuming and requires patience and teamwork to generate intercoder reliability.

BENEFITS OF COGNITIVE MAPPING

Student Engagement

Unlike traditional data collection methods, the cognitive mapping exercise and group setting allowed students and librarians to engage with one another personally. Given that many of our participants stated that "rarely" or "sometimes" visited the library, meeting the students in small groups was an excellent opportunity for student outreach and engagement. Since they had the opportunity to ask questions and discuss their answers with peers and library staff, students seemed to put more thought into these responses, whereas a survey might elicit the bare minimum of effort. Students remarked that they found the session fun and lively discussion often ensued when the drawing segment of the session was over.

A New Perspective

The cognitive mapping technique also gave students free reign over what they wanted to see in the space. The exercise helped library staff better understand how things look from the student perspective. We saw opportunities for us to improve that we may not have otherwise seen if students responses had been restricted by multiple choice options. Since their answers were not limited by librarians' own conceptions of what student learning spaces should be, the students showed great creativity and ingenuity in what makes a great modern library. Great detail was given to features and services that students found important, from plants and art to more research help options. This freshness of ideas ensures that libraries remain relevant and committed to the needs of a changing population.

Immediacy

Another benefit of this technique is the immediacy with which results are attained. Facilitators get to see first-hand what is on the minds of students and start on ways to incorporate these ideas more quickly. While the coding of images is a time consuming task, the field notes and verbal feedback given by the students is an excellent starting point to begin thinking about new library initiatives. Additionally, the post-mapping interviews gave us the opportunity to discuss anything that needed clarification right away.

REFERENCES

Mitchell, C., Theron, L., Stuart, J., Smith, A., & Campbell, Z. (2011). Drawings as research method. In L. Theron, C. Mitchell, A. Smith, & J. Stuart (Eds.), *Picturing Research: Drawing as Visual Methodology* (pp. 19-36), AW Rotterdam, The Netherlands: Sense Publishers.

Pen Icon. From Noun Project, by Calvin Goodman, 2016, www.thenounproject.com.

Map Icon. From Noun Project, by KAPCLAM, 2016, www.thenounproject.com.

Thinking person. From Noun Project, by Bhasker Sharma, 2016, www.thenounproject.com.

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