Noranda Earth Sciences Library

User Experience Research & Analysis

by

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Noranda Earth Sciences Library

User Experience Research Project

1. PRIMARY RESEARCH

1.1. Data Collection Plan

A study protocol (Appendix A) was created for this project, with a data collection plan consisting of three gathering methods: surveys, semi-structured interviews, and a form to gather reference statistics. For the first, we created a short online survey with 17 questions and collected information on demographics, how often people use the library, what they use it for, and what improvements they would make. Our second collection method was to interview participants. These 15–30 minute, semi-structured interviews prompted participants to discuss how they use the library, what they enjoy, and what they would change. Finally, we provided the staff at the library with an online form to log reference statistics. This form collected information on users' inquiries at the front desk and was filled out by frontline staff.

1.2. Participant Description

Survey participants were recruited at the library by approaching patrons and asking them if they were interested in participating in a survey and/or interview. We briefly explained the purpose of the study and offered them an incentive for participating. Often we sat at the reference desk near the entrance to intercept people as they entered the library, although we sometimes recruited from other areas in the library too. Flyers advertising the survey were also posted throughout the library on bulletin boards (Appendix B). We also recruited interviewees by including a final question on the survey where participants could leave their email if they wanted to be invited to interview. In total, data from 32 surveys, 14 interviews, and 15 reference desk inquiries were collected. All participants who were interviewed also completed surveys. All of the participants were over the age of 18. Most of the participants were full-time undergraduate students in various programs. One participant was not a current University of Toronto student. We did not collect any demographic information besides age, status at the university, and affiliated program.

1.3. Data Collection Procedures and Timeframe

1.3.1. Reference Statistics Surveys

The "Noranda Earth Sciences Library — Reference Statistics" form (Appendix C) was created and provided online through Google Forms from February 11th until March 9th. The URL of the form was bookmarked on circulation desk computers, and staff were asked to record a 1) patron's user group, 2) affiliation or status at the University of Toronto, 3) question/inquiry category,[1] and 4) question/inquiry details. The first two questions were

[1] Inquiry and category definitions were reused with permission from an internal University of Toronto Scarborough (UTSC) Library Google Form intended for internal use only. As such, it cannot be directly linked.

optional, while the last two questions were required. The definitions for the question or inquiry categories were provided as follows:

- **TECHNICAL OR CIRCULATION** – Facilitates or troubleshoots the use of physical equipment or technology. Facilitates the logistical use of the library and does not involve the knowledge, use, recommendation, interpretation, or instruction in the use or creation of information sources except those that describe the library, such as loan policies, library policies, floor plans.
- **LOOKUP OR DIRECTIONAL** – Involves locating a known item, referring to a service point or staff member within or outside the library, or confirming whether a specific service exists and where.
- **IN-DEPTH REFERENCE** – All other interactions that require library resources or expertise, including quick topic or subject searches.

1.3.2. Surveys

The "Noranda Earth Sciences Library — User Experience Survey" (Appendix D) was created and provided online through Google Forms from February 11th until March 9th. This survey was designed based on secondary research of similar library surveys, such as the Faculty of Information's 2019 "The Future of the Inforum" Survey report (Appendix E), the University of Toronto, Dentistry LIbrary's 2018 "Library Space Survey" (Appendix F), and Concordia University, Vanier Library's 2015 "Vanier Library Space Survey" form (Appendix G).

When recruiting students in-person at the library, the survey was opened and made available on a computer terminal next to the Reference Desk. We also placed flyers (Appendix B) around the library which provided a QR code that operated as the link to the online survey, so students could fill it in on their own devices and at their own leisure. The survey consisted of five sections and took roughly ten minutes to complete. When students answered surveys in the presence of group members, we ensured we were not hovering near the student or watching the screen, but remained nearby to answer any questions. Student responses to the survey were automatically logged and entered into a Google Sheets document.

1.3.3. Interviews

The interviews were conducted over a 3 week period from Feb 19th- March 9th and each was roughly 10-20 minutes each. Participants were offered a consent form (Appendix H) and the interview only proceeded after attaining affirmative consent that they had read and understood the contents within. They were conducted with two group members present, one as an interviewer, the second as a notetaker. Operating from the same "Interview Prompts" template (Appendix I), the interviewer asked the participant questions and the participant's answers were transcribed verbatim by the notetaker into a pre-made Word template and later uploaded to Google Docs, titled according to the anonymized Participant Number. A project team member later edited these transcripts for consistency and formatting only.

1.3.4. Other

Other data collected included floor plans of the library that one group member noticed laid out on the interview desk. The group member inquired with a member of the staff, who explained they were library floor plans and offered to photocopy them for our use. A member of staff also provided the group with headcount data of the library, detailing the number of students present in the library—conducted by a member of staff physically walking around the library—between 9:30am–8:30pm for every day the library was open from 2009 until the present.

2. DATA ANALYSES

2.1. Overview

For both surveys and interviews, all data collected was included in our final analysis, with the exception of two survey questions, which were excluded. As the survey form collected email addresses of participants who expressed interest in participating in the interview, all email addresses and other personally identifiable information was redacted and removed from the data. Furthermore, the prompt "There are enough group study rooms" was initially included with a 5-point Likert scale for response, with the options as follows: *Strongly Disagree*, *Disagree*, *Neutral*, *Agree*, and *Strongly Agree*. As no group study rooms currently exist in Noranda Earth Sciences Library, survey participants verbally expressed confusion about the wording of the question, thus bringing into question the reliability of the data. Therefore, we made the decision to remove the question from the survey and remove the collected data from the survey responses spreadsheet, and address the topic of group study rooms in the interviews instead. Prior to its removal, the question was answered by the first 7 survey participants.

For survey responses, there was little to clean up since most answers were choices made from pre-selected options. Free-form responses (such as Q17 or "Other: ____" options) were left as-is. Occasionally, abbreviations used by participants were clarified using the "Comment" function on Google Sheets (e.g. "EEB" → Ecology & Evolutionary Biology) by project members.

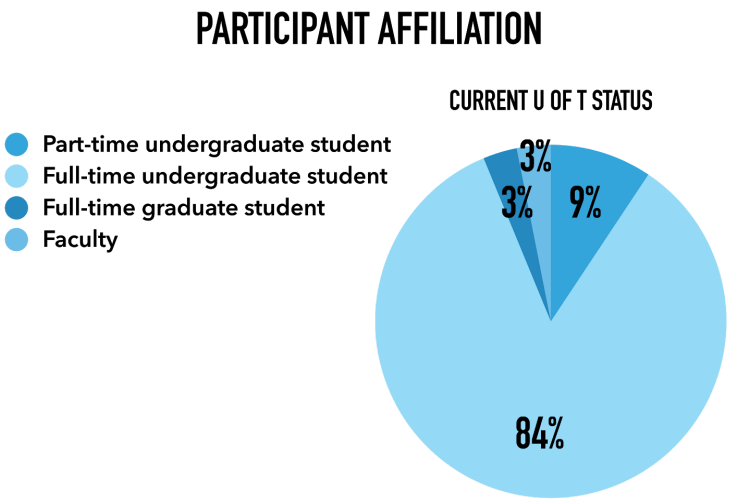
All of the interviews and associated data were also retained for our analysis. Written transcriptions of participant responses were recorded by designated notetakers during the interviews, and typed up into separate Word documents or Google Docs for each individual interview. These notes were formatted for consistency, and reviewed for spelling errors but grammatical errors made on the behalf of the participants were retained. Vague statements were clarified by the notetaker using track changes and comments in the margins without altering the original text, and noteworthy quotes were highlighted in yellow by individual project team members' discretions.

The headcount statistics provided by library staff were consulted to identify peak hours for our project team to conduct research, but was not integrated into our data. The 15 responses to the Reference Statistics form filled out by library staff were excluded from our analysis entirely due to statistical significance. An informational interview with a member of staff was transcribed and referenced for knowledge of the library's operation and history, but was not included with the formal data analysis of the other interviews.

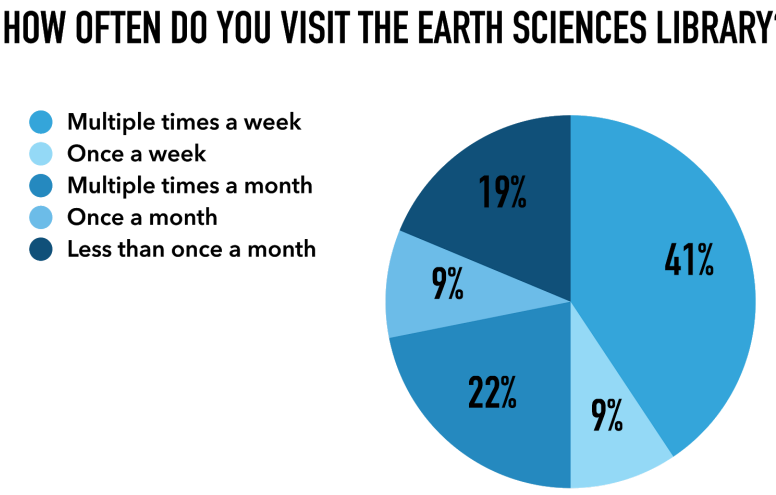
To summarize our qualitative data, we created an **Affinity Diagram "document" (Appendix M)** by analyzing and categorizing participant thoughts, comments, and ideas by major themes and ideas. In order to protect the privacy of our interview participants, all data was anonymized by assigning participants unique IDs (e.g. P1, P2, P3, etc.). This document is included in the appendix as Appendix M. To represent our quantitative data, we created **bar graphs and pie charts** (below).

2.2. Quantitative and Qualitative Data Summary

An analysis of our quantitative data revealed broad patterns about the demographics of users who visit the Noranda Earth Sciences Library, as well as their behaviour, and thoughts and opinions on the library's spaces and services.

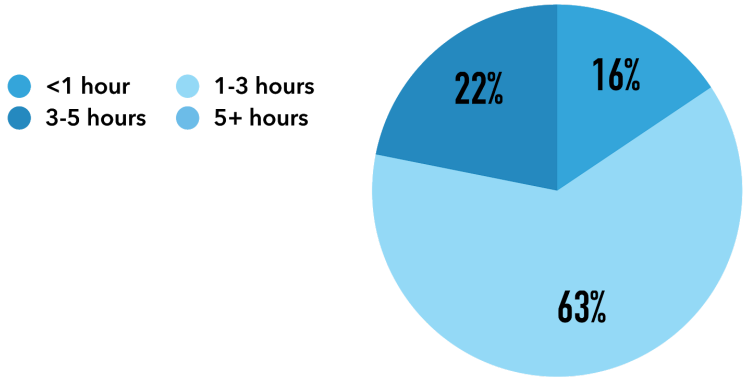


The majority of users surveyed were full time undergraduate students (27/32).



On average, most users visited the library once or more a month (26/32).

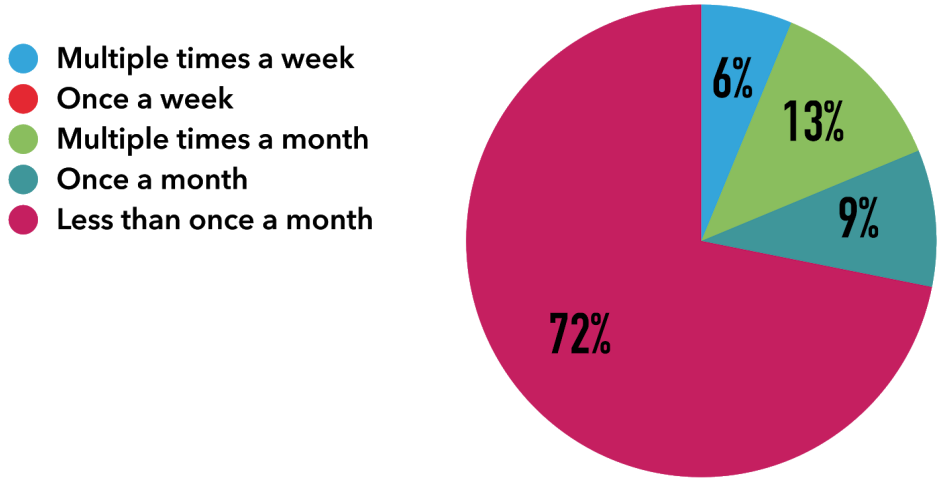
HOW LONG DO YOU SPEND AT THE LIBRARY?



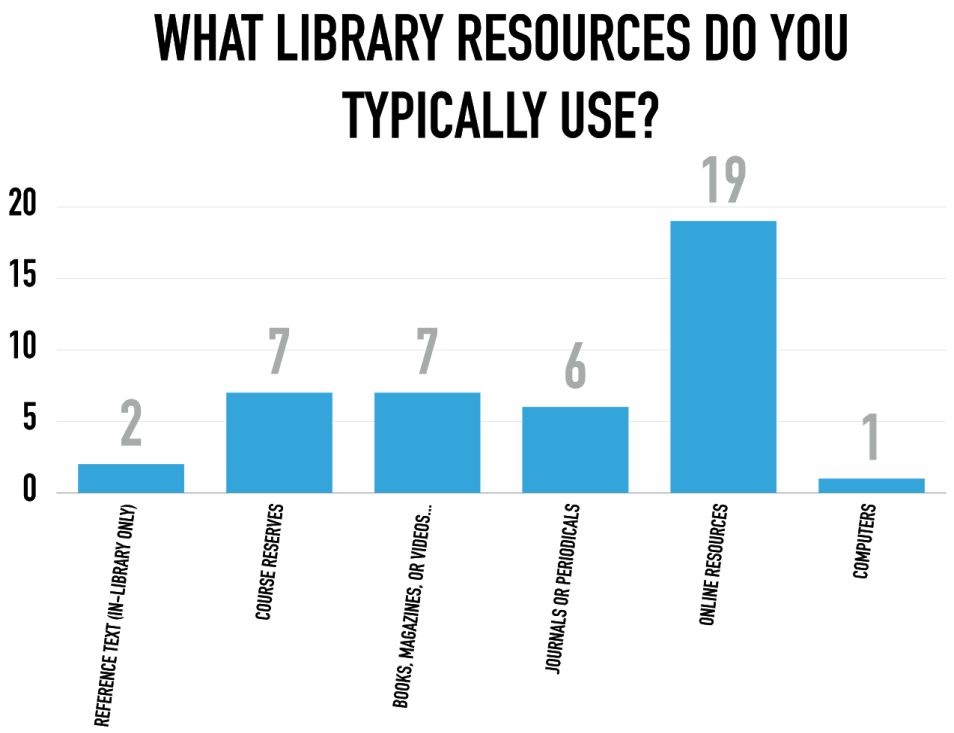
Students often used their time at the library for quiet individual study, utilizing online materials, and stayed on average between 1–3 hours.

Generally, the participants agreed that there was adequate study space (14/32 “Somewhat Agree”; 14/32 “Strongly Agree”), light (23/32 “Strongly Agree”), and computers (9/32 “somewhat agree”; 9/32 “Strongly Agree”), stated that the furniture was comfortable (14/32 “Somewhat Agree”; 12/32 “Strongly Agree”) and that navigation around the space was easy (12/32 “Somewhat Easy”; 12/32 “Very Easy”).

HOW OFTEN DO YOU USUALLY USE PRINT RESOURCES FROM THE LIBRARY?



Patrons do not frequently use print material (23/32; “Less than once per month”).



Patrons prefer to consult online sources rather than query staff for questions (19/32).

The qualitative data further illuminated some of these findings. Interviews revealed that **the average patron's main motivation for visiting the library was its quiet, comfortable, and bright atmosphere** which was prized for being conducive to studying. Noranda was often **favourable compared to other libraries on campus** that were alternatively described as "brutalist" (P13), "cold" (P12) or "too serious" (P16) and "scary" (P16). Patrons also expressed a strong preference for the presence of books, noting it as **critical to the pleasant and scholarly atmosphere of the library**, even if participants rarely used them.

There was also a low reported use of reference and course material. In the surveys, only 7/32 students noted they used course reserves and in the interviews only 2/14 specified the same. For reference material only 2/32 survey participants cited use, the same as in the interviews. In the interviews, participant 5 mentioned reference material was useful but that they only used a limited section, while Participant 25 said they "don't use it a lot" (P25).

Students noted that finding Noranda was often a result of happenstance. Finding it either through serendipitously wandering in, or through a friend or social media post recommending it. Though many stated that Noranda was "hidden" and difficult to find the first time they visited, most agreed it was easy to find and navigate internally afterwards:

> *"When you approach from outside, you wouldn't know that the library is here because it doesn't say so on the sign." (P1)*
>
> *"There should be more signs—especially outside. I wouldn't have known to come into this building." (P12)*

One major area for improvement was a lack of electrical outlets on the library's bottom floor (6/32 survey participants and 10/14 interviews). One participant suggested that even just taping a powerbar to the floor would be an improvement (P30).

On the topic of washrooms, 5/14 interviewees expressed that the **washrooms are too far away from the library**. 4/14 interview participants expressed frustration at having to pack up one's belongings (or risk having items stolen) to use the bathroom. One participant did not know where the nearest washrooms was located (P16). Notably, two participants (P13, P17) did not find the washroom's distance to be an issue, with one saying that the walk downstairs acts as a "mental break" (P13). Furthermore, three participants (P3, P9, P12) expressed dissatisfaction with the water fountain in the library:

> *"I can't fill my water bottle with the one that's here, it's the wrong angle." (P12)*
>
> *"The water fountain could also be better. I wish it had more power. [It feels like] it's on its last legs." (P3)*

Insufficient library hours were frequently addressed in interviews. 8/14 interviewees wished that the library was open later into the evening on weekdays (3 of which specified 10pm), open on the weekends, or both. However, of the survey participants and interviewees that mentioned library hours, 5/14 did not express concerns about the current hours. One patron noted that he uses other libraries with extended hours when Noranda is closed (P1).

On the topic of study spaces, 4/14 participants wanted **more individual study carrels**. Of the survey and interview participants that mentioned group study spaces, 7/13 expressed interest in group study spaces. Others (P2, P16, P17 and P30) were concerned about the noise that comes with group study spaces, but mentioned that **if rooms were soundproofed and the noise level was not affected** that it would not be a deterrent to studying there. Conversely, several patrons were against the idea of group study rooms as a whole:

> *"If that's the case I would just go to one of the main public libraries. This is the kind of library you go to when you study by yourself." (P3)*
>
> *"My need for group study space is less than wanting a quiet library." (P12)*

Finally, some suggestions were more aesthetic than functional. One participant suggested that new flooring and paint would **freshen up the library** (P1). Additionally, two interview participants (P12, P31) suggested that adding live plants to the space would improve the atmosphere. Overall, the participants' general impression of Noranda Earth Sciences library was very positive, and they were eager to offer suggestions to make the space even better.

3. PERSONA

3.1. Proto-Persona

Alyson the Arts and Science Student

Alyson is 20 years old. She is a smart, independent third-year undergraduate student in the Arts and Sciences faculty at the University of Toronto, studying full-time. She currently lives near St. George campus with three roommates.

Interests and skills:

- Member of the Green Up Initiative, an environmental club at U of T
- High level of digital literacy

Goals:

- To be on the Dean's List
- To maintain good marks to potentially apply to grad school

Behaviour:

- Studies in the library a few times a week
- Usually stays in the library between one to three hours
- Mainly uses the library for independent study, occasionally uses the computer
- Generally access the library's resources online and does not often use print resources
- Usually seeks out information about the library online

Needs:

- A quiet, well-lit environment to study
- Outlets to charge laptop
- Wi-Fi

Obstacles:

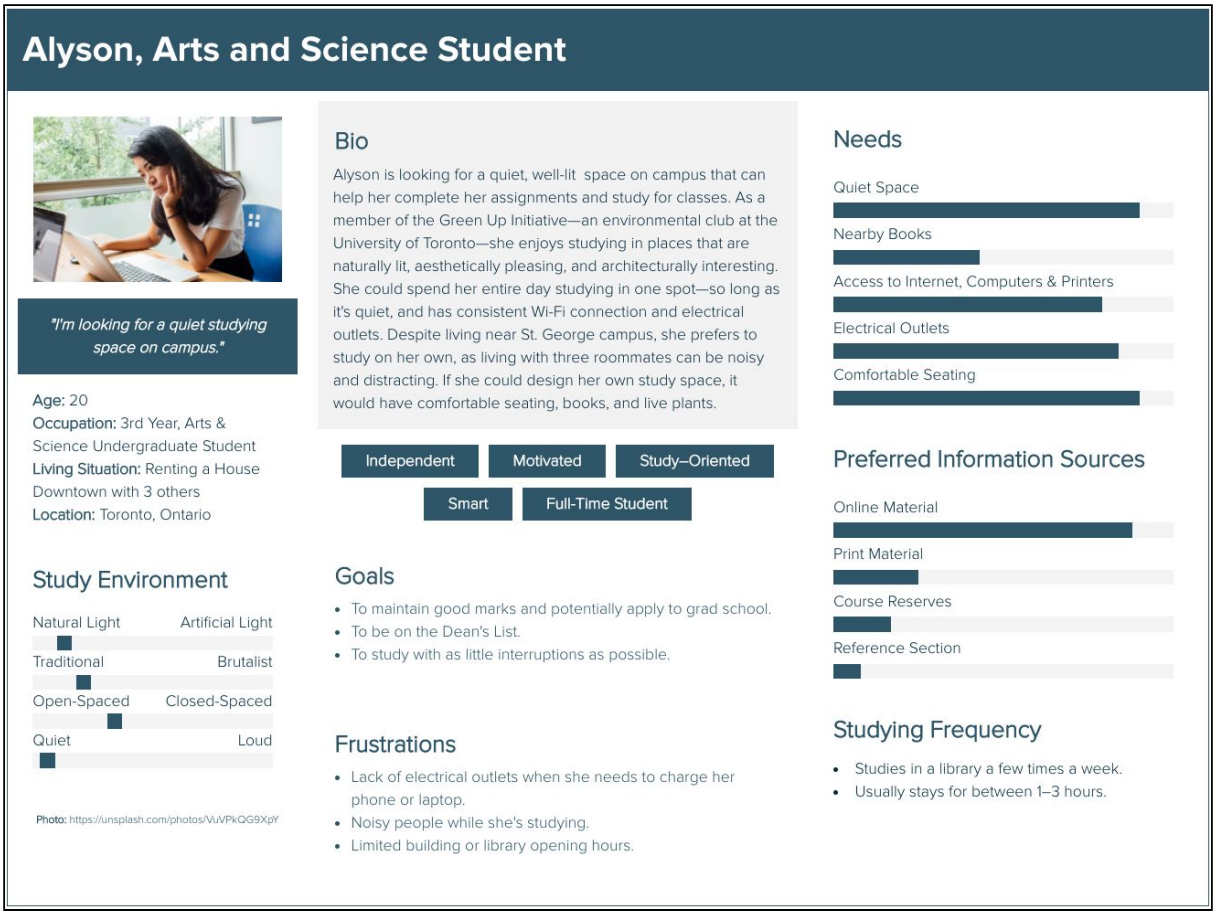
- People being noisy in the library
- Lack of available outlets
- Limited library hours

Desires:

- Comfortable seating
- Architecturally interesting and aesthetically pleasing environment
- Lots of natural light
- Live plants to decorate the library space

Proto-Persona. Alyson, Arts and Science Student (also attached as Appendix N).

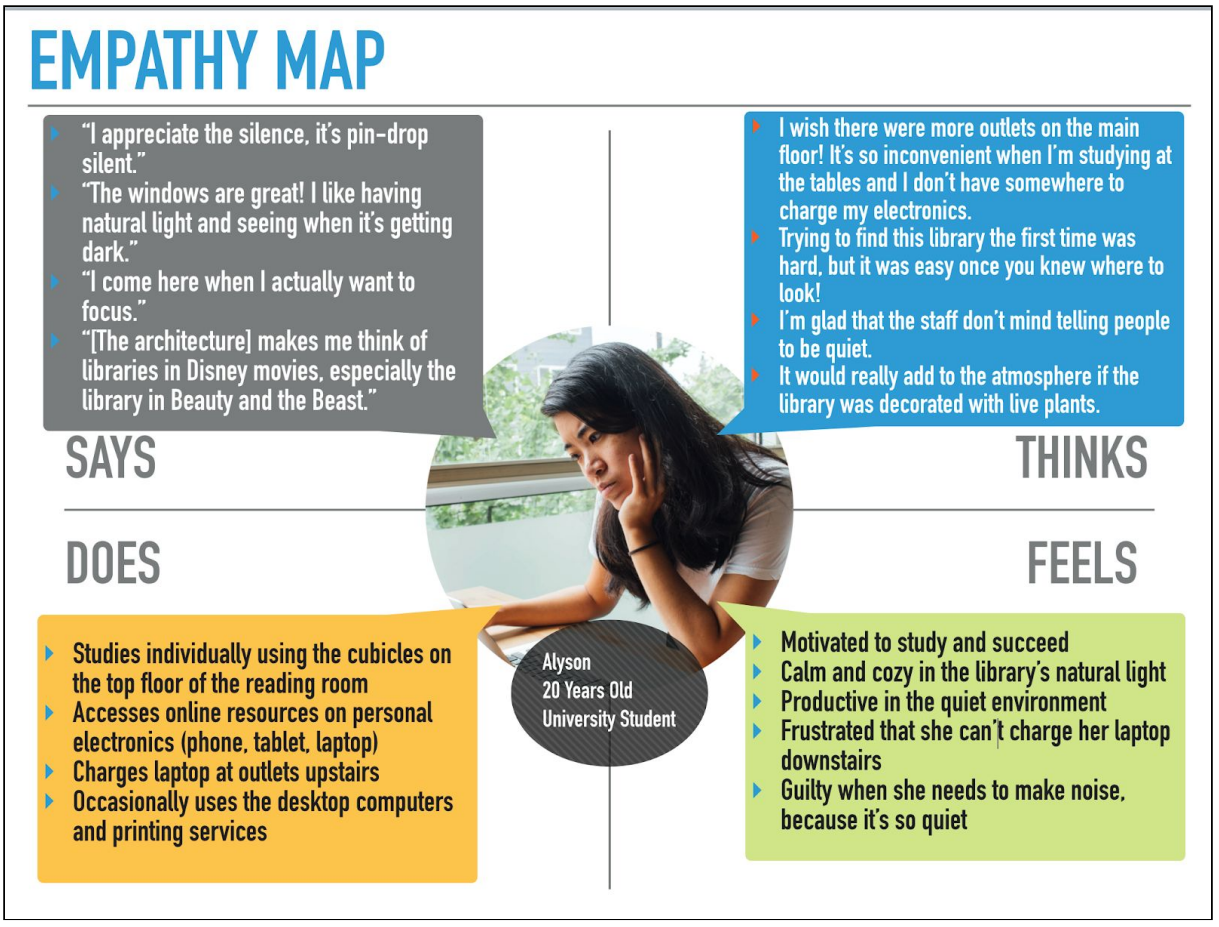
3.2. Polished Persona



Polished Persona. Alyson, Arts and Science Student (See Appendix O for larger version).

4. EMPATHY MAP

4.1. Empathy Map



Empathy Map. Alyson, Arts and Science Student (See Appendix P for larger version).

4.2. Summary

Based on the research we conducted and interpreted through our data analysis, affinity diagrams, persona, and empathy map, the users of Noranda Earth Sciences Library can be somewhat generalized along common desires and frustrations. Overwhelmingly, students mentioned they visited Noranda and highly prized it for its welcoming atmosphere (with bright, natural light and open, round architecture) and its quietness. These qualities, paired with the easy and open availability of individual study spots make Noranda the favoured space for concentrated and productive studying. Even though the discovery of the library was often through happenstance—with many students mentioning its difficulty to find at first—once found the library became a favourite spot. Students often returned multiple times a month, if not multiple times a week, and sought Noranda over other libraries on campus.

While students prized the books for the added scholarly atmosphere, few students used the print collection, course reserves, or reference material, but instead used Noranda as a study space. Our research revealed that the average Noranda patron prefers to use information technology such as computers (personal devices in most cases, rather than library workstations), but prefers to use online library resources. As a result, there was a high demand

for outlets to charge phones, tablets, and laptops. Users commonly experienced frustration from a lack of available power outlets on the first floor, which has disrupted their study sessions or have deterred them from choosing Noranda over other study spaces. While Noranda does have outlets at each of the individual carrels on the top floor of the reading room, there is only *one* outlet on the bottom floor.

Another source of frustration was noise disruptions in the library, either by talking or buzzing fluorescent lights. Students strongly appreciated the strict maintenance of the quiet policy in the reading room and even provided suggestions on how to increase it. Concern about the maintenance of the quiet atmosphere was also a source of contention in discussions around group study rooms. A number of students expressed a desire for the addition of group study rooms as a place to allow students to gather and chat in larger groups. That said, the addition of group study rooms was predicated on the assumption that they would be soundproofed and separate from designed quiet study areas. The potential for group study rooms to be a source of disruptive noise prompted some students to claim that their addition would prompt them to not return to Noranda if added.

Students also mentioned that the lack of evening and weekend hours kept them from visiting Noranda more often, with a handful mentioning frequenting other libraries that were less convenient and they preferred less when the Noranda was closed. Meanwhile, a faulty water fountain and a distant bathroom were causes of disruptive exasperation. Despite this, many research participants who visited Noranda were long-time users, and valued it for the positive, welcoming space it provided for studying. Some even offered suggestions such as the addition of plants, new flooring, new paint, and more frequently updated displays, as a means of further improving the space and atmosphere. Therefore it is the maintenance of the qualities that makes Noranda great, with the addition of small improvements, that could ensure it remains a favourite study space for students for many years.

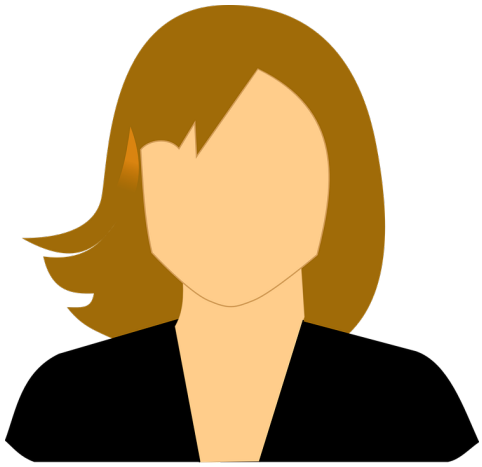
APPENDIX

INDEX

For convenience, digital (view-only) versions have been included where available.

A. Study Protocol
B. Promotional Flyer
C. Reference Statistics (Google Form)
D. User Experience Survey — Questions (Google Form)
E. "The Future of the Inforum" Survey Report
F. University of Toronto, Dentistry Library Space Survey 2018
G. Vanier Library Space Survey
H. Consent Form
I. Interview Prompts
J. Reference Statistics — Raw Data (Attached separately as .xlsx)
K. User Experience Survey — Raw Data (Attached separately as .xlsx)
L. Interview Transcripts
M. Affinity Diagram "Document"
N. Proto-Persona
O. Polished Persona
P. Empathy Map

APPENDIX N



Alyson the Arts and Science Student

Alyson is 20 years old. She is a smart, independent third-year undergraduate student in the Arts and Sciences faculty at the University of Toronto, studying full-time. She currently lives near St. George campus with three roommates.

Interests and skills:

- Member of the Green Up Initiative, an environmental club at U of T
- High level of digital literacy

Goals:

- To be on the Dean's List
- To maintain good marks to potentially apply to grad school

Behaviour:

- Studies in the library a few times a week
- Usually stays in the library between one to three hours
- Mainly uses the library for independent study, occasionally uses the computer
- Generally access the library's resources online and does not often use print resources
- Usually seeks out information about the library online

Needs:

- A quiet, well-lit environment to study
- Outlets to charge laptop
- Wi-Fi

Obstacles:

- People being noisy in the library
- Lack of available outlets
- Limited library hours

Desires:

- Comfortable seating
- Architecturally interesting and aesthetically pleasing environment
- Lots of natural light
- Live plants to decorate the library space

Appendix N. Proto-Persona — Alyson, the Arts and Science Student.

Alyson, Arts and Science Student

"I'm looking for a quiet studying space on campus."

Age: 20
Occupation: 3rd Year, Arts & Science Undergraduate Student
Living Situation: Renting a House Downtown with 3 others
Location: Toronto, Ontario

Study Environment

Natural Light	Artificial Light
Traditional	Brutalist
Open-Spaced	Closed-Spaced
Quiet	Loud

Photo: https://unsplash.com/photos/VuVPkQG9XpY

Bio

Alyson is looking for a quiet, well-lit space on campus that can help her complete her assignments and study for classes. As a member of the Green Up Initiative—an environmental club at the University of Toronto—she enjoys studying in places that are naturally lit, aesthetically pleasing, and architecturally interesting. She could spend her entire day studying in one spot—so long as it's quiet, and has consistent Wi-Fi connection and electrical outlets. Despite living near St. George campus, she prefers to study on her own, as living with three roommates can be noisy and distracting. If she could design her own study space, it would have comfortable seating, books, and live plants.

Independent | Motivated | Study–Oriented | Smart | Full-Time Student

Goals

- To maintain good marks and potentially apply to grad school.
- To be on the Dean's List.
- To study with as little interruptions as possible.

Frustrations

- Lack of electrical outlets when she needs to charge her phone or laptop.
- Noisy people while she's studying.
- Limited building or library opening hours.

Needs

- Quiet Space
- Nearby Books
- Access to Internet, Computers & Printers
- Electrical Outlets
- Comfortable Seating

Preferred Information Sources

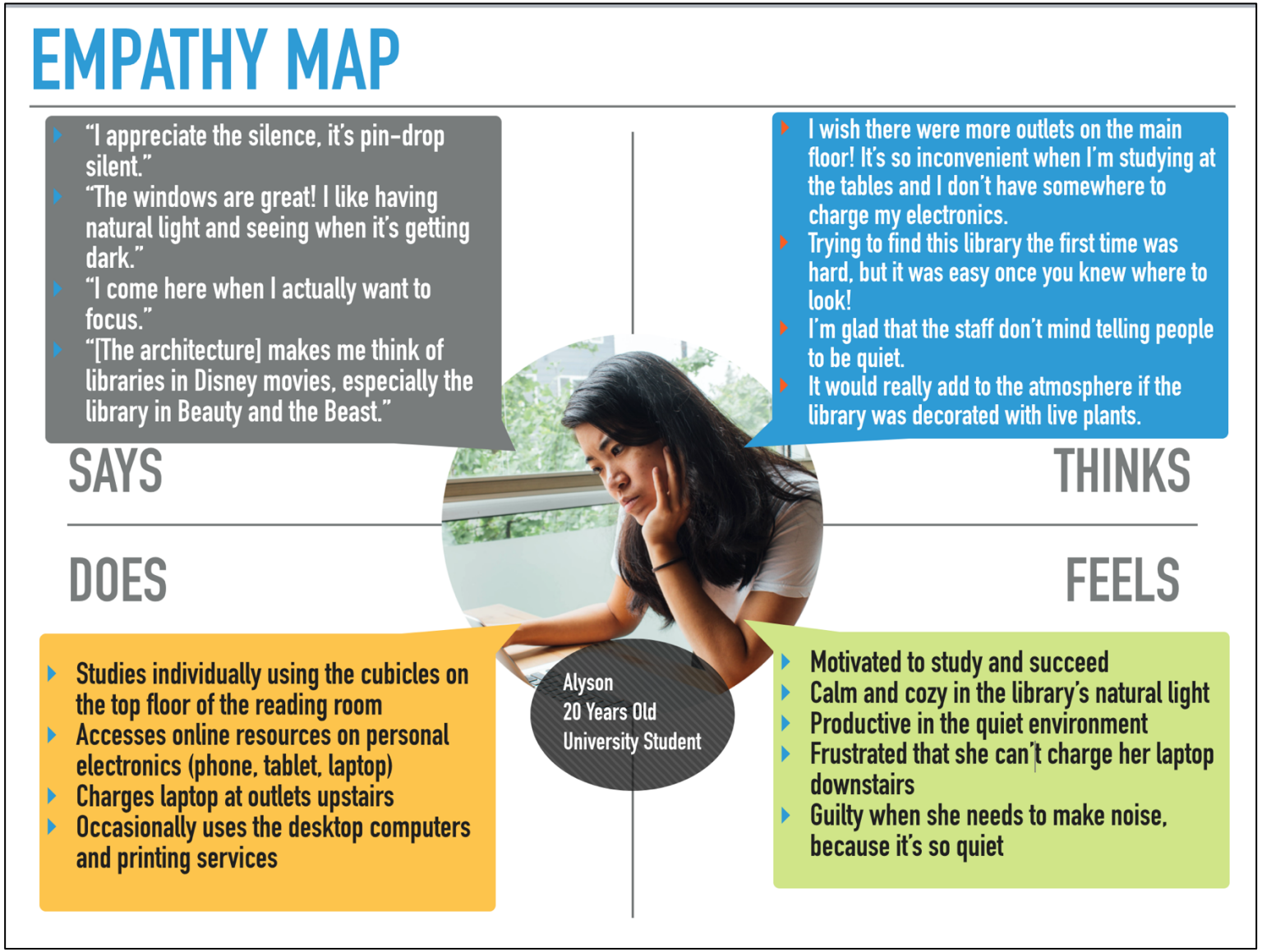
- Online Material
- Print Material
- Course Reserves
- Reference Section

Studying Frequency

- Studies in a library a few times a week.
- Usually stays for between 1–3 hours.

APPENDIX O

Appendix O. Polished Persona — Alyson, Arts and Science Student.



Appendix P. Empathy Map