

# Noranda Earth Sciences Library

## User Experience Research Project — Final Report

by

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# Noranda Earth Sciences Library

## User Experience Research Project — Final Report

### EXECUTIVE SUMMARY

As part of the INF2304H course, our team worked with the staff and patrons at Noranda Earth Sciences Library and conducted user experience research on how patrons use the library and its physical resources. While the staff had some specific areas of interest, they were generally seeking information on the best ways to fulfill patron needs within the library.

For our research, we conducted 32 surveys (moderated and unmoderated) and 14 semi-structured interviews at the library (see Appendix A–H for study materials and raw data).<sup>1</sup> Our intention was to focus on facilitating a positive user experience (UX) at Noranda by meeting patron needs, while balancing financial and institutional considerations. Once we had the research data, we organized them by similar topics (e.g. opening hours, books, aesthetics, study spaces), and created a user persona (Appendix I) and an empathy map (Appendix J) to help us empathize with the users. That enabled us to identify existing positive qualities, which should be continued and maintained, and frequently occurring issues.

This report includes a **Recommendations** section which highlights the 11 UX recommendations we have identified for the library, based on our data analysis toward improving the overall patron experience at Noranda. We adapted Jakob Nielsen's "10 Usability Heuristics for User Interaction Design"<sup>2</sup> to base our recommendations on. Most of these centred around the following heuristics: *Aesthetics and Minimalist Design*, *Consistency and Standards*, *Error Prevention*, *Flexibility and Efficiency of Use*, and *Recognition Rather than Recall*. Listed by priority, each recommendation is supported by a rationale and relevant data.

The **Formative Evaluation** section provides details on our process of evaluating the recommendations to ensure that they are user-focused, supported by research data, feasible for the library and well-categorized. We sought feedback on our recommendations from three industry professionals, and the **Summary of Findings** section documented the revisions we made to the recommendations.

In the final section, **Summary of Learnings**, we detail the UX skills we have gained through this project as budding user experience practitioners in the field of academic libraries and information science.

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<sup>1</sup> Participants were assigned unique IDs for anonymity (e.g. P13)

<sup>2</sup> <https://www.nngroup.com/articles/ten-usability-heuristics>

# RECOMMENDATIONS

## Overview

The following recommendations are grounded in an evidence-based analysis of user experience research (32 surveys and 14 semi-structured interviews) conducted at Noranda Earth Sciences Library between February 11, 2020 and March 9, 2020.<sup>3</sup> Our intention is to focus on facilitating a positive user-centred experience at Noranda by meeting the needs and desires of library patrons, while balancing financial and institutional considerations. Based on our analysis, we were able to identify existing positive qualities—which should be continued and maintained—and frequently occurring issues, according to our research participants.

To identify these issues, we adapted Jakob Nielsen’s “10 Usability Heuristics for User Interaction Design” to ensure that our recommendations are rooted in user experience principles and best practices, and to provide potential solutions that address the frustrations experienced by library patrons. We found that the majority of our recommendations were centred around the following principles:

- |  |  |
|--|--|
| <b>Aesthetic and Minimalist Design</b>   | Elimination of items or information which are not useful or relevant, and addition of items that are conducive to a positive study environment.                              |
| <b>Consistency and Standards</b>         | Users should know what to expect in a space and not be surprised or confused (e.g. appropriate signage and availability of services, tools, spaces, and technology).         |
| <b>Error Prevention</b>                  | Supportive mechanisms should exist to help students avoid time-consuming or frustrating mistakes (e.g. appropriate signage and the location (or lack thereof) of amenities). |
| <b>Flexibility and Efficiency of Use</b> | The space should cater to many different users, new or experienced, and can be tailored to meet these different needs (e.g. study spaces, amenities).                        |
| <b>Recognition Rather Than Recall</b>    | Users should be able to navigate a space without having to memorize specific information (e.g. clear signage and wayfinding indicators).                                     |

Ultimately, analyzing the user data collected at the library alongside these heuristic principles led to the development of user-focused recommendations (listed below by priority) to promote a positive experience for patrons of Noranda.

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<sup>3</sup> 15 responses to the Reference Statistics form filled out by library staff were excluded from our analysis entirely due to statistical significance.

## 1. Maintain Patron-Defined Positive Qualities of Noranda

**Priority** Critical

**Recommendation** Ensure maintenance of core positive qualities of Noranda (e.g. quiet atmosphere, bright natural light, comfortable and welcoming space).

**Rationale** The aforementioned qualities are what students consistently noted as their reasons for selecting Noranda as their study space of choice. Thus, these qualities are key to a positive user experience, which enables students' productive work and ensures their repeated patronage. Students simultaneously expressed high regard and positivity for the library for these qualities, as well as concern about their disruption.

Therefore, it is critical that any changes do not significantly detract from what patrons generally consider to facilitate a positive user experience at Noranda.

**Relevant Data** All interview transcript data and surveys.

## 2. Increase Availability of Power Bars/Electrical Outlets

**Priority** Critical

**Recommendation** Loan power cords for in-library use only.

**Rationale** Most students visiting the library come before or after class, study for extended periods of time, and use their personal laptops, tablets, or mobile phones in order to access library materials and personal academic work. At Noranda, research participants expressed frustration about a lack of power outlets on the first floor, causing their study sessions to be disrupted or cut short.

In order to ensure uninterrupted studying, students need a guaranteed power source for their technology. While power outlets are available in the individual study carrels on the second floor, they are unavailable on all but one table on the first floor. A low-cost solution as suggested by a participant, would be to install power bars along the periphery of the reading room:

*"This problem can be solved with 3 extensions cords, a power strip and some tape. Give me the money and I'll go buy them." (P30)*

However, power cords are not only costly, but were previously investigated and considered a tripping hazard by the U of T Library Health & Safety Committee.

As such, we recommend considering power cords for loan—a cost-effective solution given existing financial and administrative concerns. While this does not solve the lack of outlets near study areas on the first floor, it would increase the overall availability of outlets, and thus facilitate a more positive experience at Noranda.

**Relevant Data** 10/14 interview participants indicated a need for additional power outlets on the first floor.

## 3. Extend Opening Hours

**Priority** Moderate

**Recommendation** Consider a pilot period of extended weekday hours until 10pm, and opening hours on the weekend.

**Rationale** Students strongly preferred Noranda over other libraries as a space of productive study. However, the atypical hours on Friday evening (closing at 6pm), and lack of available hours on the weekend, meant that students were not always able to use the library when it was most convenient for them. One student noted that the hours on Fridays or weekends meant they often frequented other libraries on campus despite their preference for Noranda. Given the financial and administrative implications concerning library and cleaning staff availability, we recommend a pilot period of extended hours and/or weekend hours to help determine whether it's worth continuing or not. However, a lack of extended hours would likely not deter patrons from attending the library when it is open.

**Relevant Data** 8/14 interview participants requested extended opening hours.  
3/14 specified 10pm.<sup>4</sup>

## 4. Implement Navigation and Wayfinding Signage in Visible Locations

**Priority** Moderate

**Recommendation** Reassess available signage both outside and inside of the building leading to the library, and signage indicating the location of amenities such as the bathroom and water fountain.

**Rationale** While many students agreed that navigating the library itself was not difficult, it was frequently mentioned that locating Noranda was challenging the first time.

*"There should be more signs—especially outside. I wouldn't have known to come into this building. But I was lucky—I had the time and didn't mind wandering around." (P12)*

Furthermore, some participants expressed confusion concerning the location of the nearest bathrooms, and one indicated they were unaware of the water fountain. These challenges detract from the overall user experience at Noranda—especially for new patrons. Some participants also suggested that existing signage is ineffective, remarking in post-interview discussions that they never noticed the hanging signs such as "Reading Room" and "Reference Section".

While recognizing that the library does not control signage outside the building—we recommend continuing to lobby for improved signage in order to reduce wayfinding challenges experienced by patrons. Additionally, consider reassessing signage inside the library and conduct additional iterative UX testing on navigational aids/signage (e.g. testing the effectiveness of signage prototypes).

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<sup>4</sup> Data concerning travel distance to Noranda was not collected. Thus, it is possible that the participants requesting additional hours live near or on campus—and as such, may not be fully representative of the average patron.

**Relevant Data** 7/14 interview participants experienced difficulties locating Noranda.  
1/14 interview participants were unaware of the nearest washroom.  
1/14 interview participants were unaware of the water fountain.

## 5. Add Soundproofed Group Study Rooms

**Priority** Moderate

**Recommendation** Implement bookable study rooms with soundproof walls or sound insulation, separate from designated quiet study areas.

**Reasoning** Currently, Noranda's design encourages individual study, and given the strict noise policy, students have mentioned they feel uncomfortable talking with others in the Reading Room. However, group projects and thus, group work, are a central component of academic work and so students must go to other libraries for accommodation.

The addition of bookable group study spaces could increase the use of the space, and encourage patronage. However, it is vital that this is only considered if the library can guarantee the continued quiet and scholarly atmosphere. Increased noise could drive students *away* from Noranda; participants mentioned that between group study spaces and a quiet environment, they would prioritize the latter.

*"There are times when I think it would be nice to have a group study space but it would ruin the acoustics and there are other places on campus for that." (P30)*

As such, while we recommend adding group study spaces, it is equally (or more) important that these spaces are designed and situated in a way that reduces noise and away from individual study spaces.

**Relevant Data** 4/14 participants requested more individual study carrels.  
7/14 interview participants indicated a need for group study rooms.

## 6. Update Physical Surroundings

**Priority** Low

**Recommendation** Add live plants and a fresh coat of paint.

**Reasoning** When asked what other recommendations or ideas could improve the overall user experience at Noranda, one participant suggested that new paint and carpeting would enhance the library's comfortable atmosphere and aesthetics. However, given that the carpeting was only changed 18 months ago, we only recommend considering a fresh coat of paint. Furthermore, many participants expressed that they enjoyed the open, rounded dome space of the reading room, with its natural lighting. Along this theme, 2/14 interview participants suggested adding live plants:

*"Plants would fit with the theme of the library really nicely. They would boost morale, especially in the dead of winter." (P12)*

While not critical, these suggestions would improve the general qualities that make studying in Noranda a positive user experience: a comfortable, welcoming, and aesthetically pleasing study space.

**Relevant Data** 2/14 interview participants requested live plants.  
15/18 comments concerning existing furniture (chairs, tables, and lights) were *positive*; no changes are recommended at this time.

## 7. Downsize Reference Section

**Priority** Low

**Recommendation** Reduce the size of or convert materials from the reference section for regular circulation to free up space for other purposes.

**Reasoning** Most participants reported that they do not use the reference material. Among those that did discuss using it, they reported using only a limited section, and using it infrequently. Reducing or removing the reference section by converting material for regular circulation could provide increased space for other purposes, such as a group study room, that may be more beneficial for patrons.

As these have considerably low use, this will not affect patrons negatively, and can free up space for other purposes—such as group study areas—which could have a stronger impact on the user experience at Noranda.

**Relevant Data** Only 2/32 survey participants and 2/14 interview participants reported making use of reference materials.

## 8. Downsize Library Stacks

**Priority** Low

**Recommendation** Maintain, but downsize general collection by discarding or sending low-circulation items to the UTL @ Downsview storage facility if additional space is needed.

**Reasoning** Despite the popularity of online resources (19/32 survey participants), many patrons were against the removal of the print collection. Some participants mentioned using the print materials for coursework, and one noted using them to explore personal topics of interest.

*“There’s a whole section on soils which may sound boring but I find it interesting. It’s outside my coursework and it fuels my interest and passion...There’s a serendipity of discovering books in a library which is something you wouldn’t get otherwise.” (P30)*

Another participant noted that reading print material allows her to focus better compared to an electronic version. On the other hand, 7/14 participants noted that they enjoy making use of the books and the environment that books create, as it encourages studying.



Regardless, as online resources are more widely used, it would not negatively impact the user experience if the collection is partially downsized if space is required for other purposes.<sup>5</sup>

**Relevant Data** 19/32 survey participants and 7/14 interview participants make use or prefer online resources over print material.  
7/14 interview participants expressed enjoyment from using the books or the environment created by having books nearby.

## 9. Reassess Signage for Technologies, Printing Options, & Software

**Priority** Low

**Recommendation** Maintain existing computer workstations. Improve instructional signage for troubleshooting printer problems. Investigate wireless printing options and software beneficial to student academic success.

**Reasoning** Participants are generally satisfied with the number of computers at the library, and the fact that on average, in comparison to other libraries, computers are readily available. However, one student mentioned that additional software (e.g. GIS and RStudio) on the computers would be beneficial to the completion of coursework related to earth sciences. While our research did not evaluate—and therefore does not suggest—the use and benefits of specific software for the average patron, this has potential to benefit the overall user experience, and warrants further exploration in a future study.

Printing services and help offered at Noranda are considered well maintained by users. One participant recalled an incident where they experienced an issue with their TCard payment while printing notes in a rush, and praised the front desk for providing timely help without incurring additional charges. Another appreciated that printers are located near the front desk so that help is nearby if necessary.

While technology issues are infrequent, placing signage with clear layouts and plain language in visible areas can proactively address any concerns or inform patrons of where to go to request help. Furthermore, only one computer outside of the printing area is currently designated for printing—but it may provide a better user experience if that computer is moved next to the printer or if remote printing (from personal devices) can be enabled.

**Relevant Data** 9/32 survey participants answered “Somewhat Agree” and 9/32 answered “Strongly Agree” when given the prompt “There are enough computers”.  
1/14 interviews requested additional software on computers.  
2/14 reported having previous issues with printing.

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<sup>5</sup> However, we would advise against removing a significant portion, as patrons continue to use and enjoy the stacks, or consider it crucial in facilitating an effective studying environment.

## 10. Washrooms

**Priority** Low

**Recommendation** Consider using existing lockers on the second floor above the Reading Room to allow students to store belongings safely when they want to use the washroom.

**Reasoning** Participants frequently expressed frustration over how distant the nearest washrooms to Noranda are, specifically as it required them to pack up belongings (or risk having items stolen) and potentially lose their study spot when stepping out for a bathroom break.

*"I leave the library entirely if I need to go to the washroom...I don't like to leave my stuff unattended." (P31)*

As a long-term solution—a new washroom on the same floor—would be expensive and financially unfeasible, we suggest an economical alternative that would still effectively improve the user experience at Noranda: making use of existing lockers near the library, or install a small bank of temporary lockers (such as those offered in many recreational centres). With these lockers, users would be able to store their belongings securely when needing to exit the library for brief breaks, by taking the key with them.

Another solution—suggested by two unique participants—is to provide students with a way to safely store their belongings with library staff. This would also alleviate the frustration users have regarding the distance to the washrooms, as it provides a secure and quick way to temporarily store belongings. However, this solution would pose liability issues, and is therefore not recommended.

**Relevant Data** 5/14 interview participants expressed frustration that washrooms are too far from the library.  
4/14 were discontent with needing to pack up their belongings to use the washroom when studying alone.

## 11. Replace the Water Fountain

**Priority** Low

**Recommendation** Replace the fountain with a water bottle refilling station.

**Reasoning** Participants noted a lack of power/water pressure from the existing water fountain, causing them to be unable to refill water bottles.

*"The water fountain could also be better. I wish it had more power.*

*"[It feels like] it's on its last legs." (P3)*

As such, we recommend replacing the water fountain with a water bottle refilling station. Not only is it important for there to be uniformity amongst facilities at the university, but a water bottle refilling station is also more hygienic than water fountains.

Furthermore, it would be suitable for the Earth Sciences Library to promote the use of an environmentally sustainable water bottle refilling station. A theme-appropriate feature would be a model that informs the user of the number of plastic water bottles saved from waste by using the station.

**Relevant Data** 3/14 interview participants expressed frustration with previous experiences with the water fountain.

# FORMATIVE EVALUATION

## Overview

A critical aspect of user experience research and design is to conduct evaluations during the prototype—in our case, recommendations—development process. However, due to the current situation regarding COVID-19, we were unable to conduct evaluations with Noranda Earth Sciences Library patrons. As an alternative, we identified three industry professionals (anonymized as P1–P3) to conduct an evaluation of our draft recommendations (Appendix K). These individuals are listed as follows, based on their professional and personal qualifications in relation to the library, and the user experience field:

- **P1, Head Librarian, Earth Sciences Library** (*see pages 9–10 of Appendix L1 for response*)
  - Stakeholder and community partner of this project.
  - Participated in a stakeholder interview with our project team.
  - Knowledgeable about administrative or budgetary concerns specific to the library.
  - Familiar with our research procedures and objectives.
- **P2, Web & User Experience Librarian, University of Toronto Scarborough Library** (*Appendix L2*)
  - University of Toronto Libraries librarian since 2015.
  - User experience practitioner, particularly in the context of academic libraries.
  - Familiar with common administrative or budgetary concerns encountered when pitching UX-related recommendations, research, projects, or designs.
- **P3, Master of Information Candidate, Faculty of Information** (*Appendix L3*)
  - A graduate student concentrating in Library & Information Science, enrolled in INF2304H (*UX for Galleries, Libraries, Archives, and Museums*).
  - Physically visited the Earth Sciences Library during the Winter 2020 term.
  - Conducted information interviews with librarians at Noranda.

## Objectives & Procedure

The primary objectives of this evaluation was to ensure that the final recommendations we provide to the Noranda Earth Sciences Library are as follows:

1. Recommendations are user-focused.
2. Recommendations are supported by relevant user experience research.
3. Recommendations are logistically and financially feasible for the library.
4. Recommendations are categorized by importance and impact to users.

Based on these objectives, we identified three questions to focus our evaluations:

1. Are these recommendations feasible? Financially? Administratively?
2. Are our priority categorizations reasonable?
3. Is there anything we may have overlooked or forgotten to consider?

As a general guide, these questions were provided to our evaluation participants, and we requested brief, written comments or feedback for each recommendation. Furthermore, we offered participants an opportunity to meet online with a member of our team if they preferred to discuss these “in-person”, and to answer any questions they might have.

## Summary of Findings

Overall, we received positive responses to our draft recommendations (see Appendix L). However, the feedback also revealed that eight recommendations contained problematic or unclear wording, or could be improved. Accordingly, we clarified the wording of four recommendations, and altered four others based on information or considerations we were previously unaware of. Generally, the feedback or comments were not surprising, as many had been previously discussed or considered. These changes have been retroactively reflected in the previous section (“Recommendations”), and are detailed as follows:

### 2. Increase Availability of Power Bars/Electrical Outlets

**Recommendation** ~~Add power bars and/or electrical outlets near study spaces on the first floor of the reading room.~~ Loan power cords for in-library use only.

**Rationale** [...]

~~By increasing the number of available power outlets near the first floor tables, this can facilitate a more positive user experience at Noranda.~~ However, power cords are not only costly, but were previously investigated and considered a tripping hazard by the U of T Library Health & Safety Committee.

As such, we recommend considering power cords for loan—a cost-effective solution given existing financial and administrative concerns. While this does not solve the lack of outlets near study areas on the first floor, it would increase the overall availability of outlets, and thus facilitate a more positive experience at Noranda.

### 3. Extend Opening Hours

**Recommendation** Consider a pilot period of extended weekday hours ~~Extend hours~~ until 10pm, and ~~consider~~ opening hours on the weekend.

**Rationale** [...]

~~As such, provided it is feasible for financial and staffing related concerns, we recommend increasing opening hours.~~ Given the financial and administrative implications concerning library and cleaning staff availability, we recommend a pilot period of extended hours and/or weekend hours to help determine whether it's worth continuing or not. However, a lack of extended hours would likely not deter patrons from attending the library when it is open.

### 4. Implement Navigation and Wayfinding Signage in Visible Locations

**Recommendation** ~~Provide additional~~ Reassess available signage ~~in visible locations~~ both outside and inside of the building leading to the library, and signage indicating the location of amenities such as the bathroom and water fountain.

**Rationale** [...]

~~Thus, a proactive solution (or an area for future study) would be to provide clearer signage indicating the location of available amenities near or in the library, and/or the lack of certain amenities in the library.~~ While recognizing that the library does not control signage outside the building—we recommend continuing to lobby for improved signage in order to reduce wayfinding challenges experienced by patrons. Additionally, consider reassessing signage inside the library and conduct additional iterative UX testing on navigational aids/signage (e.g. testing the effectiveness of signage prototypes).

## 6. Update Physical Surroundings

**Recommendation** Add live plants, ~~and~~ a fresh coat of paint, ~~and new carpeting~~.

**Rationale** When asked what other recommendations or ideas could improve the overall user experience at Noranda, one participant suggested that new paint and carpeting would enhance the library's comfortable atmosphere and aesthetics. However, given that the carpeting was only changed 18 months ago, we only recommend considering a fresh coat of paint. Furthermore, many participants ...  
[...]

## 8. Downsize Library Stacks

**Recommendation** Maintain, but downsize general collection by discarding or sending low-circulation items to the UTL @ Downsview storage facility if additional space is needed.

## 9. Reassess Improve Signage for Technologies, ~~& Enable Wireless Printing~~ Printing Options, & Software

**Recommendation** Maintain ~~the existing number of~~ computer workstations. Improve instructional signage for troubleshooting printer problems ~~according to the UTL Web Style Guide (See "Writing best practices" and "Standards"). Set up/enable wireless printing~~. Investigate wireless printing options and software beneficial to student academic success.

**Rationale** [...]

While our research did not evaluate—and therefore does not ~~conclusively~~ suggest—the use and benefits of specific software for the average patron, this has ~~the~~ potential to benefit the overall user experience, and ~~can be considered for warrants~~ further exploration in a future study.

[...]

While technology issues are infrequent, placing signage with clear layouts and plain language (~~see UTL Web Style Guide~~) in visible areas can proactively address any concerns or inform patrons of where to go to request help.

[...]

## 10. Washrooms

**Recommendation** Consider using existing lockers on the second floor above the Reading Room to allow ~~install a small bank of temporary lockers in the library that~~ students ~~can use~~ to store belongings safely when they want to use the washroom.

**Rationale** [...]

... an economical alternative that would still effectively improve the user experience at Noranda: ~~making use of existing lockers near the library, or install installing~~ a small bank of temporary lockers (such as those offered in many recreational centres).

[...]

Another solution—suggested by two unique participants—is to provide students with a way to safely store their belongings with library staff.

[...]

However, this solution would ~~place additional responsibilities on library staff~~ pose liability issues, and is therefore **not** recommended.

## 11. ~~Repair or~~ Replace the Water Fountain

**Recommendation** ~~Repair or r~~ Replace the fountain with a water bottle refilling station.

**Rationale** [...]

As such, we recommend replacing the water fountain with a water bottle refilling station. Not only is it important for there to be uniformity amongst facilities at the university, but a water bottle refilling station is also more hygienic than water fountains. Furthermore, it would be suitable for the Earth Sciences Library to promote the use of an environmentally sustainable water bottle refilling station. A theme-appropriate feature would be a model that informs the user of the number of plastic water bottles saved from waste by using the station.

As for the recommendations with no changes (1. *Maintain Patron-Defined Positive Qualities of Noranda*; 5. *Add Soundproofed Group Study Rooms*; and 7. *Downsize Reference Section*), these received full concurrence from all three participants. Although all expressed concerns over the financial costs and potential challenges of 5. *Add Soundproofed Group Study Rooms*, all acknowledged the need—and likely, support from the University of Toronto Libraries administration—to address the shortage of group study spaces on campus.

## Next Steps

Should this project have continued, we would conduct further evaluations with our updated recommendations with other stakeholders (e.g. frontline library staff) and library patrons on-site, in order to gather additional feedback in an iterative development process of these recommendations. To ensure that the physical and digital spaces and services at the Noranda Earth Sciences Library is user-centric toward the goal of facilitating a positive experience at Noranda Earth Sciences Library, we would also conduct (or recommend) further research into the following topics or areas:

1. A cost and benefit analysis of the implementation of a temporary locker policy.
2. Identifying what additional software would be beneficial toward student academic success based on an examination of previous, existing, and future course curricula, and consultation with faculty members.
3. Further user experience research in effective wayfinding signage locations and design.
  - Is the current signage ineffective? If so, how might we improve it?
  - What might be visible and effective alternative signage for users? Colour? Shape? Location?
4. Is it feasible for opening hours to be extended to 10pm on weekdays? On weekends?
  - Costs of staffing? Availability of cleaning staff?
5. Is there a need for additional opening hours?
  - Is distance from the library a factor? (e.g. a comparison of demand for library hours of students living near- or on-campus **versus** commuter students)
6. Space planning?
  - Ideal number of study rooms while considering financial costs and impact to existing study environment and library spaces?
  - Ideal location(s) for a water bottle refilling station? Lockers? Printer? Power outlets?

## SUMMARY OF LEARNINGS

During this project, our team worked with the staff and patrons of the Noranda Earth Sciences Library. Library staff wanted to learn about how patrons use the library and its physical resources, and while they had specific areas of interest, they were also seeking broad information about patron needs. To accomplish this, we gathered and analyzed data from users to develop a set of recommendations for the library. These recommendations are based on *actual* desires and needs of library users, and can be implemented to improve the overall user experience by addressing problematic areas such as wayfinding/signage, space planning needs, and collection development. We also identified aspects of the library that patrons enjoy, and areas for future research.

Our project was informed throughout by user experience (UX) design principles, and the unique conflation of UX and librarianship reinforced several important lessons about designing for one's user. For instance, it became clear while conducting surveys and interviews that patrons *want* the library to meet their needs, and they were willing to enthusiastically discuss those needs and necessary changes with us during interviews. Further, our data proved that we cannot assume what our users want, justifying the basis for user research. While some of the staff's assumptions were confirmed by data, others were ultimately unfounded (e.g. the need for colour printing was raised by staff, but only mentioned by one participant). Our data also proved that UX is not solely about facilitating change, but is also about maintaining existing positive aspects. For instance, patrons mentioned numerous aspects of Noranda that they enjoyed, and that elimination of these (like natural light and a quiet environment) would be detrimental.

Considerations of how to meet user needs and improve their experiences are not new to the field of library science. This was evidenced in both our secondary research and evaluations. As an example, we learned that staff were aware of the need for electrical outlets and had already explored one of our recommended solutions. Though the solution was not implemented for cost and safety reasons, this suggests that the library was already considering their patron experiences through a UX lens—albeit without the data to support or advocate for change. The final lesson we learned was that some factors that impact a user's experience may be outside our control. For example, some patrons complained about the distance from the library to the bathroom, but the library staff cannot address this as the bathrooms are physically outside of the library and thus administratively out of their control. Each project has parameters that may make it impossible to meet every single one of the user's needs. We, therefore, had to be creative when coming up with alternate solutions that might lessen this issue or improve the overall experience in other ways.

Overall, our team enjoyed this project and appreciated the opportunity to employ our UX knowledge in a practical setting. As students, it was rewarding for us to hear participants talk about their love of the library and its features. Our partners also made the project enjoyable through their friendliness and genuine interest in the project. They supplied us with what we needed without being overbearing, and let us proceed with our work in the way we saw fit. The main challenge of completing this project—besides unavoidable COVID-19 related closures —was that Noranda is small with low traffic, so it was difficult to get a sufficient sample of participants over a short period of time.



This project has given us a strong foundation for UX work in libraries in the future. Importantly, we have learned that a solid grounding in UX research helps inform how we build our user research tools and interpret the results. Additionally, we found that well-designed surveys can be useful in collecting quantitative information while interviews are more suitable for gathering specific qualitative information. To improve upon our outcomes in future projects, we would test our product (in this case, our recommendations) with actual patrons of the library to evaluate the effectiveness of our proposed solutions—after all, we are not the users. Additionally, we believe we would have benefitted from a larger sample size when it came to quantitative data (e.g. reference statistics and survey participants). Ultimately, we found this project to be enjoyable, interesting, and practical, and we look forward to putting what we have learned to use in other libraries.

# APPENDIX

## INDEX

*Where available, digital (view-only) versions have been linked below, but are not included in full in this document.*

- A. [Study Protocol](#) (Google Document)
- B. Reference Statistics (Google Form)
- C. [User Experience Survey – Questions](#) (Google Document version)
- D. [Interview Prompts](#) (Google Document)
- E. [Reference Statistics – Raw Data](#) (Google Spreadsheet)
- F. [User Experience Survey – Raw Data](#) (Google Spreadsheet)
- G. [Interview Transcripts](#) (Google Folder)
- H. [Affinity Diagram “Document”](#) (Google Document; user comments sorted by topic)
- I. Polished Persona (Fictional representation of an average Earth Science Library patron)
- J. Empathy Map (Visualization of the persona’s thoughts, words, actions, and emotions)
- K. Draft Recommendations – April 10, 2020 (Pre-evaluation version)
- L. [Evaluation Responses](#) (Google Folder)

# APPENDIX A

**Appendix A.** Study Protocol (*Google Document*). Please see:

[https://docs.google.com/document/d/1y6-\\_jCYl6xlvcobLwYtjb7phxsso\\_6Hn\\_bUKTkEEg4k/edit?usp=sharing](https://docs.google.com/document/d/1y6-_jCYl6xlvcobLwYtjb7phxsso_6Hn_bUKTkEEg4k/edit?usp=sharing)

## APPENDIX B



# Noranda Earth Sciences Library — Reference Statistics

Dear Noranda Earth Sciences Library, University of Toronto Libraries frontline staff,

As part of an ongoing user experience research project between the Faculty of Information and the Earth Sciences Library, please use this form to record information concerning ALL questions or inquiries by patrons of the library during the study period between February 11, 2020 and March 9, 2020.

This study aims to answer questions such as: a) Is additional signage needed? b) Do students have a need for group study rooms? c) Are there any issues finding or accessing library resources or spaces? d) Do current opening hours address the need of students?

Data collected from this form will be used to develop an understanding of the current user experience (UX) at the Earth Sciences Library, identify user challenges, and to develop potential recommendations if necessary.

Thank you for your cooperation and assistance!

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### TYPE OF QUESTION/INQUIRY CATEGORY:\*

**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.

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Created by the INF2304H (UX for GLAM) Project Team. Please contact [joshua.shum@mail.utoronto.ca](mailto:joshua.shum@mail.utoronto.ca) for any clarifications, inquiries, or questions regarding this form.



## APPENDIX B

User Group

- ☐ Student
- ☐ Alumni
- ☐ Faculty
- ☐ Staff
- ☐ Other: \_\_\_\_\_

Affiliation (Name of Department or Faculty, Program of Study, etc.)

Your answer

Question/Inquiry Category (What information do users really need? What is the intent of the question?)\* \*

- ☐ In-depth reference (e.g. asking for help to research a topic)
- ☐ Look up or directional (e.g. wayfinding; "where are the course reserves? washroom?")
- ☐ Technical or circulation (e.g. library materials, computers, and resources; "How do I use a computer? How long can I check out a book for?" )
- ☐ Other/Miscellaneous

Details \*

Your answer

# APPENDIX C

**Appendix C.** User Experience Survey – Questions (*Google Document*). Please see:  
[https://docs.google.com/document/d/14v48h0qRJf5pOb8lzNPfKshz\\_26vVdd1oXhJ6HTydBg/edit?usp=sharing](https://docs.google.com/document/d/14v48h0qRJf5pOb8lzNPfKshz_26vVdd1oXhJ6HTydBg/edit?usp=sharing)

# APPENDIX D

**Appendix D.** Interview Prompts (*Google Document*). Please see:

<https://docs.google.com/document/d/1A8YTfGnClvbX0U2hNZiAi51tPTgNfV7sQw0Lh6AlpkA/edit?usp=sharing>

# APPENDIX E

**Appendix E.** Reference Statistics — Raw Data (*Google Spreadsheet*). Please see:

<https://docs.google.com/spreadsheets/d/1qu-AHrIvnxYE3qAxFVAk93ExULmbN2YgSgJHmiltmIM>



# APPENDIX F

**Appendix F.** User Experience Survey — Raw Data (*Google Spreadsheet*). Please see:  
<https://docs.google.com/spreadsheets/d/1ZHJMCu0YnHFr7ZZbTbPuyBqt77lwibxz1qap3oSxKhk>

# APPENDIX G

**Appendix G.** Interview Transcripts (*Google Folder*). Please see:  
[https://drive.google.com/drive/folders/1Y\\_AnlnlQl8lP7e0QQsmg7JnM87YQYkFI?usp=sharing](https://drive.google.com/drive/folders/1Y_AnlnlQl8lP7e0QQsmg7JnM87YQYkFI?usp=sharing)

# APPENDIX H

## **Appendix H. Affinity Diagram “Document”.**

(*Google Document; user comments sorted by topic*). Please see:

[https://docs.google.com/document/d/1aUwlpbLSUfsW\\_pTP3F9kxqbv0TOX8\\_C6o6hrk8z3ab4/edit?usp=sharing](https://docs.google.com/document/d/1aUwlpbLSUfsW_pTP3F9kxqbv0TOX8_C6o6hrk8z3ab4/edit?usp=sharing)

# 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

## 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

## 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.

## Study Environment

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

## 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.

Photo: <https://unsplash.com/photos/MuVPKqG9XpI>

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

# EMPATHY MAP

- ▶ "I appreciate the silence, it's pin-drop silent."
- ▶ "The windows are great! I like having natural light and seeing when it's getting dark."
- ▶ "I come here when I actually want to focus."
- ▶ "[The architecture] makes me think of libraries in Disney movies, especially the library in Beauty and the Beast."

## SAYS



- ▶ Studies individually using the cubicles on the top floor of the reading room
- ▶ Accesses online resources on personal electronics (phone, tablet, laptop)
- ▶ Charges laptop at outlets upstairs
- ▶ Occasionally uses the desktop computers and printing services

## DOES

- ▶ I wish there were more outlets on the main floor! It's so inconvenient when I'm studying at the tables and I don't have somewhere to charge my electronics.
- ▶ Trying to find this library the first time was hard, but it was easy once you knew where to look!
- ▶ I'm glad that the staff don't mind telling people to be quiet.
- ▶ It would really add to the atmosphere if the library was decorated with live plants.

## THINKS

## FEELS

- ▶ Motivated to study and succeed
- ▶ Calm and cozy in the library's natural light
- ▶ Productive in the quiet environment
- ▶ Frustrated that she can't charge her laptop downstairs
- ▶ Guilty when she needs to make noise, because it's so quiet

Alyson  
20 Years Old  
University Student

# APPENDIX K

*INF2304H (UX for Galleries, Libraries, and Museums)*  
April 10, 2020

## Noranda Earth Sciences Library

### User Experience Research Project

## FORMATIVE EVALUATION

### Instructions & Questions

Thank you for agreeing to conduct this evaluation of our UX recommendations for the Noranda Earth Sciences Library. Below are some of the questions that we are looking to answer. However, please do not feel restricted or constrained to these questions. Any comments or feedback (positive, negative, or neutral) would be greatly appreciated.

1. Are these recommendations feasible? Financially? Administratively?
2. Are our priority categorizations reasonable?
3. Is there anything we may have overlooked or forgotten to consider?

We ask that you offer some brief, written comments or feedback for each of the 11 recommendations. If you would prefer to discuss these "in-person", please contact me, and a member of our team would be happy to schedule a meeting with you online (e.g. Microsoft Teams, Zoom, etc.) between April 10<sup>th</sup> and April 16<sup>th</sup> to answer any questions you may have.

Thank you kindly for your time, and we look forward from hearing with you.

Best,

Joshua Shum, Kathleen Anderson, Melanie Secco, Anna Szakaly, and James (Sikai) Zhan

# APPENDIX K

## RECOMMENDATIONS

### Overview

The following recommendations are based on an evidence-based analysis of user experience research conducted at Noranda Earth Sciences Library. Our intention is to focus on facilitating a positive user experience at Noranda by meeting the needs and desires of the library's patrons, while balancing financial and institutional considerations. As such, we identified existing positive qualities—which should be continued and maintained—and frequently occurring issues, according to our research participants.

To identify these issues, we adapted Jakob Nielsen's "10 Usability Heuristics for User Interaction Design"<sup>1</sup> to ensure that our recommendations would be rooted in user experience principles, and to provide potential solutions that address the frustrations experienced by library patrons. We found that the majority of our recommendations were centred around the following principles:

<b>Aesthetic and Minimalist Design</b>	Elimination of items or information which are not useful or relevant, and addition of items that are conducive to a positive study environment.
<b>Consistency and Standards</b>	Users should know what to expect in a space and not be surprised or confused (e.g. appropriate signage and availability of services, tools, spaces, and technology).
<b>Error Prevention</b>	Supportive mechanisms should exist to help students avoid time-consuming or frustrating mistakes (e.g. appropriate signage and the location (or lack thereof) of amenities).
<b>Flexibility and Efficiency of Use</b>	The space should cater to many different users, new or experienced, and can be tailored to meet these different needs (e.g. study spaces, amenities).
<b>Recognition Rather Than Recall</b>	Users should be able to navigate a space without having to memorize specific information (e.g. clear signage and wayfinding indicators).

Ultimately, analyzing the user data collected at the library alongside these heuristic principles led to the development of user-focused recommendations (listed below by priority) to promote a positive experience for patrons of Noranda.

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<sup>1</sup> <https://www.nngroup.com/articles/ten-usability-heuristics>

# APPENDIX K

## 1. Maintain Patron-Defined Positive Qualities of Noranda

**Priority** Critical

**Recommendation** Ensure maintenance of core positive qualities of Noranda (e.g. quiet atmosphere, bright natural light, comfortable and welcoming space).

**Rationale** The aforementioned qualities are what students consistently noted as their reasons for selecting Noranda as their study space of choice. Thus, these qualities are key to a positive user experience, which enables students' productive work and ensures their repeated patronage. Students simultaneously expressed high regard and positivity for the library for these qualities, as well as concern about their disruption.

Therefore, it is critical that any changes do not significantly detract from what patrons generally consider to facilitate a positive user experience at Noranda.

**Relevant Data** All interview transcript data and surveys.

## 2. Increase Availability of Power Bars/Electrical Outlets

**Priority** Critical

**Recommendation** Add power bars and/or electrical outlets near study spaces on the first floor of the reading room.

**Rationale** Most students visiting the library come before or after class, study for extended periods of time, and use their personal laptops, tablets, or mobile phones in order to access library materials and personal academic work. At Noranda, research participants expressed frustration about a lack of power outlets on the first floor, causing their study sessions to be disrupted or cut short.

In order to ensure uninterrupted studying, students need a guaranteed power source for their technology. While power outlets are available in the individual study carrels on the second floor, they are unavailable on all but one table on the first floor. A low-cost solution as suggested by a participant, would be to install power bars along the periphery of the reading room:

*"This problem can be solved with 3 extensions cords, a power strip and some tape. Give me the money and I'll go buy them." (P30)*

By increasing the number of available power outlets near the first floor tables, this can facilitate a more positive user experience at Noranda.

**Relevant Data** 10/14 interview participants indicated a need for additional power outlets on the first floor.



# APPENDIX K

## 3. Extend Opening Hours

**Priority** Moderate

**Recommendation** Extend hours until 10pm, and consider opening hours on the weekend.

**Rationale** Students strongly preferred Noranda over other libraries as a space of productive study. However, the atypical hours on Friday evening (closing at 6pm), and lack of available hours on the weekend, meant that students were not always able to use the library when it was most convenient for them. One student noted that the hours on Fridays or weekends meant they often frequented other libraries on campus despite their preference for Noranda. As such, provided it is feasible for financial and staffing related concerns, we recommend increasing opening hours. However, a lack of extended hours would likely not deter patrons from attending the library when it is open.

**Relevant Data** 8/14 interview participants requested extended opening hours.  
3/14 specified 10pm.<sup>2</sup>

## 4. Implement Navigation and Wayfinding Signage in Visible Locations

**Priority** Moderate

**Recommendation** Provide additional signage in visible locations both outside and inside of the building leading to the library, and signage indicating the location of amenities such as the bathroom and water fountain.

**Rationale** While many students agreed that navigating the library itself was not difficult, it was frequently mentioned that locating Noranda was challenging the first time.

*"There should be more signs—especially outside. I wouldn't have known to come into this building. But I was lucky—I had the time and didn't mind wandering around." (P12)*

Furthermore, some participants expressed confusion concerning the location of the nearest bathrooms, and one indicated they were unaware of the water fountain. These challenges detract from the overall user experience at Noranda—especially for new patrons. Some participants also suggested that existing signage is ineffective, remarking in post-interview discussions that they never noticed the hanging signs such as "Reading Room" and "Reference Section".

Thus, a proactive solution (or an area for future study) would be to provide clearer signage indicating the location of available amenities near or in the library, and/or the lack of certain amenities in the library.

**Relevant Data** 7/14 interview participants experienced difficulties locating Noranda.  
1/14 interview participants were unaware of the nearest washroom.  
1/14 interview participants were unaware of the water fountain.

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<sup>2</sup> Data concerning travel distance to Noranda was not collected. Thus, it is possible that the participants requesting additional hours live near or on campus—and as such, may not be fully representative of the average patron.

# APPENDIX K

## 5. Add Soundproofed Group Study Rooms

**Priority** Moderate

**Recommendation** Implement bookable study rooms with soundproof walls or sound insulation, separate from designated quiet study areas.

**Reasoning** Currently, Noranda's design encourages individual study, and given the strict noise policy, students have mentioned they feel uncomfortable talking with others in the Reading Room. However, group projects and thus, group work, are a central component of academic work and so students must go to other libraries for accommodation.

The addition of bookable group study spaces could increase the use of the space, and encourage patronage. However, it is vital that this is only considered if the library can guarantee the continued quiet and scholarly atmosphere. Increased noise could drive students *away* from Noranda; participants mentioned that between group study spaces and a quiet environment, they would prioritize the latter.

*"There are times when I think it would be nice to have a group study space but it would ruin the acoustics and there are other places on campus for that." (P30)*

As such, while we recommend adding group study spaces, it is equally (or more) important that these spaces are designed and situated in a way that reduces noise and away from individual study spaces.

**Relevant Data** 4/14 participants requested more individual study carrels.  
7/14 interview participants indicated a need for group study rooms.

## 6. Update Physical Surroundings

**Priority** Low

**Recommendation** Add live plants, a fresh coat of paint, and new carpeting.

**Reasoning** When asked what other recommendations or ideas could improve the overall user experience at Noranda, one participant suggested that new paint and carpeting would enhance the library's comfortable atmosphere and aesthetics. Furthermore, many participants expressed that they enjoyed the open, rounded dome space of the reading room, with its natural lighting. Along this theme, 2/14 interview participants suggested adding live plants:

*"Plants would fit with the theme of the library really nicely. They would boost morale, especially in the dead of winter." (P12)*

While not critical, these suggestions would improve the general qualities that make studying in Noranda a positive user experience: a comfortable, welcoming, and aesthetically pleasing study space.

**Relevant Data** 2/14 interview participants requested live plants.  
15/18 comments concerning existing furniture (chairs, tables, and lights) were *positive*; no changes are recommended at this time.

# APPENDIX K

## 7. Downsize Reference Section

**Priority** Low

**Recommendation** Reduce the size of or convert materials from the reference section for regular circulation to free up space for other purposes.

**Reasoning** Most participants reported that they do not use the reference material. Among those that did discuss using it, they reported using only a limited section, and using it infrequently. Reducing or removing the reference section by converting material for regular circulation could provide increased space for other purposes, such as a group study room, that may be more beneficial for patrons.

As these have considerably low use, this will not affect patrons negatively, and can free up space for other purposes—such as group study areas—which could have a stronger impact on the user experience at Noranda.

**Relevant Data** Only 2/32 survey participants and 2/14 interview participants reported making use of reference materials.

## 8. Downsize Library Stacks

**Priority** Low

**Recommendation** Maintain, but downsize general collection if additional space is needed.

**Reasoning** Despite the popularity of online resources (19/32 survey participants), many patrons were against the removal of the print collection. Some participants mentioned using the print materials for coursework, and one noted using them to explore personal topics of interest.

*“There’s a whole section on soils which may sound boring but I find it interesting. It’s outside my coursework and it fuels my interest and passion...There’s a serendipity of discovering books in a library which is something you wouldn’t get otherwise.” (P30)*

Another participant noted that reading print material allows her to focus better compared to an electronic version. On the other hand, 7/14 participants noted that they enjoy making use of the books and the environment that books create, as it encourages studying.

Regardless, as online resources are more widely used, it would not negatively impact the user experience if the collection is partially downsized if space is required for other purposes.<sup>3</sup>

**Relevant Data** 19/32 survey participants and 7/14 interview participants make use or prefer online resources over print material.  
7/14 interview participants expressed enjoyment from using the books or the environment created by having books nearby.

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<sup>3</sup> However, we would advise against removing a significant portion, as patrons continue to use and enjoy the stacks, or consider it crucial in facilitating an effective studying environment.

# APPENDIX K

## 9. Improve Signage for Technologies & Enable Wireless Printing

Priority Low

**Recommendation** Maintain the existing number of computer workstations. Improve instructional signage for troubleshooting printer problems according to the [UTL Web Style Guide](#) (See “Writing best practices” and “Standards”).<sup>4</sup> Set-up/enable wireless printing.

**Reasoning** Participants are generally satisfied with the number of computers at the library, and the fact that on average, in comparison to other libraries, computers are readily available. However, one student mentioned that additional software (e.g. GIS and RStudio) on the computers would be beneficial to the completion of coursework related to earth sciences. While our research did not evaluate—and therefore does not conclusively suggest—the use and benefits of specific software for the average patron, this has the potential to benefit the overall user experience, and can be considered for exploration in a future study.

Printing services and help offered at Noranda are considered well maintained by users. One participant recalled an incident where they experienced an issue with their TCard payment while printing notes in a rush, and praised the front desk for providing timely help without incurring additional charges. Another appreciated that printers are located near the front desk so that help is nearby if necessary.

While technology issues are infrequent, placing signage with clear layouts and plain language (see [UTL Web Style Guide](#)) in visible areas can proactively address any concerns or inform patrons of where to go to request help. Furthermore, only one computer outside of the printing area is currently designated for printing—but it may provide a better user experience if that computer is moved next to the printer or if remote printing (from personal devices) can be enabled.

**Relevant Data** 9/32 survey participants answered “Somewhat Agree” and 9/32 answered “Strongly Agree” when given the prompt “There are enough computers”.  
1/14 interviews requested additional software on computers.  
2/14 reported having previous issues with printing.

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<sup>4</sup> <https://content.library.utoronto.ca/communications/utl-web-style-guide.pdf>

# APPENDIX K

## 10. Washrooms

**Priority** Low

**Recommendation** Install a small bank of temporary lockers in the library that students can use to store belongings safely when they want to use the washroom.

**Reasoning** Participants frequently expressed frustration over how distant the nearest washrooms to Noranda are, specifically as it required them to pack up belongings (or risk having items stolen) and potentially lose their study spot when stepping out for a bathroom break.

*"I leave the library entirely if I need to go to the washroom...I don't like to leave my stuff unattended." (P31)*

As a long-term solution—a new washroom on the same floor—would be expensive and financially unfeasible, we suggest an economical alternative that would still effectively improve the user experience at Noranda: installing a small bank of temporary lockers (such as those offered in many recreational centres). With these lockers, users would be able to store their belongings securely when needing to exit the library for brief breaks, by taking the key with them.

Another solution—suggested by two unique participants—is to provide students with a way to safely store their belongings with library staff. This would also alleviate the frustration users have regarding the distance to the washrooms, as it provides a secure and quick way to temporarily store belongings. However, this solution would place additional responsibilities on library staff.

**Relevant Data** 5/14 interview participants expressed frustration that washrooms are too far from the library.  
4/14 were discontent with needing to pack up their belongings to use the washroom when studying alone.

## 11. Repair or Replace Water Fountain

**Priority** Low

**Recommendation** Repair or replace the fountain with a water bottle refilling station.

**Reasoning** Participants noted a lack of power/water pressure from the existing water fountain, causing them to be unable to refill water bottles.

*"The water fountain could also be better. I wish it had more power. [It feels like] it's on its last legs." (P3)*

**Relevant Data** 3/14 interview participants expressed frustration with previous experiences with the water fountain.

# APPENDIX L

**Appendix L.** Evaluation Responses (*Google Folder*). Please see:  
<https://drive.google.com/drive/u/0/folders/1prSGKDs6D-gVjfBapfDgimYcx17C0oc>