

**RGO Library & Learning Commons Usability Testing October 2022: Findings and
Recommendations**

Ethan Allard & Dave Mucz

RGO Library & Learning Commons, Bow Valley College

Abstract

In October 2022, the RGO Library & Learning Commons conducted usability testing focusing on the functionality and ease of use of the website and online catalog. Recruitment for testing was done via advertising on Bow Valley College TV, campus bulletin boards, and in the student newsletter. Students, staff, and faculty members were invited to participate in testing; eight students expressed interest. Feedback from the participants was largely positive, and most tasks were completed successfully by all learners. Issues were mostly relating to visibility of certain options and redundancy on the main library page. Quick fixes that could be made to the library homepage were identified and implemented. The next step will be to monitor the effects of the changes already made and to plan more significant changes.

RGO Library & Learning Commons Usability Testing October 2022: Findings and Recommendations

Context

In 2019, 2,201 students were enrolled in online course delivery (Bow Valley College, 2022). In 2021, during the campus closure, that number more than doubled to 6,097. Throughout 2019, 92.4% of reference transaction conducted by the library were in-person, while online methods; email, LibAnswers Question Queue, and online chat; amounted to 4%. In 2020, online interactions increased to 36.1% of transactions and in 2021 this number increased to 80.8%.

In addition, Bow Valley College has an extremely diverse student group in terms of first language, prior education levels, age, and technological literacy. This presents unique challenges when creating an accessible website. In 2021, 6,502 students, or 60.3% of Bow Valley College's student population, had a first language other than English (Bow Valley College, 2022). 50% of students had an education level of grade 12 or lower. In addition to this data, library staff anecdotally observed that students were having difficulty locating important information on the library website and that staff were addressing the same queries repeatedly. Due to these factors, the library decided to move ahead with usability testing. The usability study had two objectives:

- Discover usability issues in the navigation of the library homepage and catalogue.
- Discover user preferences in the navigation of the library homepage and catalogue.

Introduction to Usability Testing

Do-it-yourself usability testing is a form of informal qualitative testing that aims to gain insight into how users interact with a website in order to improve it (Krug, 2010). It is a form of usability testing that can be done by library staff, without the need to hire professionals to

conduct the testing. The process involves creating tasks and scenarios for participants to complete, recruiting volunteer participants from among the website's users, and observing the participants completing each task. Following the test, library staff hold a debriefing meeting to discuss the takeaways from the test. At least two staff members are involved in the tests: a facilitator in the room to give the participant their tasks and an observer in another room watching the test on screenshare and taking notes.

According to Krug (2010), usability testing is effective because all websites have problems, usability problems tend to be obvious when observing users interact with websites, and because testing helps designers keep the user experience in mind when organizing the information on a website. This is particularly relevant for library staff, as they have greater familiarity with the library website and better searching expertise than most students, who are the primary users. Turner (2011) identified mental models as being strongly correlated with proficiency with research tools and databases; library staff have a strong mental model for how these tools work, while more inexperienced students have a limited understanding of how these tools work and favour simpler, natural language searches. By observing students as they interact with the library website, the library staff hoped to identify disconnects between how library staff expect students to approach common library tasks and how students actually approach them.

Test Preparation

The first step in preparing to conduct usability testing was to submit a proposal to Bow Valley College's Research Ethics Board. In the summer of 2022, a proposal including a 500-word summary of the research project's objectives and data collection methods was submitted to the Research Ethics Board. The following objectives were listed in the summary:

- Discover usability issues in the navigation of the library homepage and catalogue.
- Discover user preferences in the navigation of the library homepage and catalogue.

The ethics board gave permission to observe participants using the website but not to record the participant's voice or face. Library staff developed task scenarios for participants to work through and allocated a budget of \$80 for participation incentives in the form of \$10.00 Tim Hortons gift cards.

Recruitment was done through advertisements posted on online college portals including D2L and College Connect, ads on Bow Valley College TV screens, and printed signs posted around the downtown campus. Recruitment ran from September 19th to September 23rd, 2022. Eight learners were recruited; one did not show up for their scheduled session and did not reschedule. Observation during the tests was conducted through the use of the screenshare feature in a Microsoft Teams meeting. The observer joined the meeting from a different computer in a separate room and took notes while watching the participant and listening to them while they thought out loud. After each test, a debrief was held where staff discussed observations and identified potential solutions to problems encountered.

Findings

Task 1: Identify Library Opening Hours

This task was considered the simplest, as the library homepage features a prominent “contact us and hours” link that leads directly to the library's opening hours. Each of the seven participants completed the task successfully; three attempted other methods before locating the link. Participant 1 initially attempted a Bing search while participant 4 used the Bow Valley College search bar at the top of the page. Neither search attempt led the participants to their goal.

Participant 7 went into the library's FAQs page but was also unable to locate the hours.

Eventually, all participants found their way to the link on the homepage and used it to complete the task.

Task 2: Book a Project Room

Six of the seven participants completed this task. The intended way to complete this task was for participants to use the book a space link from the main library page, book a specific room for any date and time, and confirm the booking using email. The test facilitators were unaware prior to beginning testing that students would be unable to access their myBVC email on the testing computer as it was logged into a staff account. Most participants were able to get around this by getting email confirmation from their phone, but participant 6 was unable to. This will be a consideration for future tests.

Participant 1 was unable to complete the task because they attempted to use a Yahoo email address to book a room, not realizing that they needed to use a myBVC email account for this purpose. All participants except for participant 4 booked a half-hour time slot and did not make any attempt to book a longer period. As this is the default time for the booking software, it is unclear if the participants realized they could book for longer. Future tests will ask participants to book a longer period of time. Participants 1, 6, and 7 almost clicked away from the booking confirmation page without noticing that they had to click the link in the confirmation email.

Participant 7 suggested that the text on the confirmation page be made larger and more attention-grabbing to prevent users from clicking away too early.

Task 3: Search Library Catalog

In this task, participants were asked to search the catalog for an article on the topic of childcare that had been published in the last five years. The ideal path was for them to search for the term from the library search (Primo), then use the limiters on the results page to filter for articles published between 2017 and 2022. All participants except for participant 1 were able to successfully complete the task. Library staff observed several approaches participants took to completing this task.

All participants except for participant 4 searched for childcare from the main library search. Participant 4 navigated to the A-Z databases page and browsed the list of databases until they located one that they believed would contain relevant material, the Child Development & Adolescent Studies database. They used that database's date filter feature to limit their results to articles from 2017-2022 and searched for the term childcare. In this way, the participant was able to successfully locate a full-text article and complete the task.

The other participants took the more conventional approach and used the library search. While all participants besides participant 1 used the date filter feature, only participants 2, 4, and 7 used the article limiter to filter out non-article results. Participant 2 expressed a desire for this filter but was unable to locate it. Participant 3 was unable to locate the publication date of their chosen article but trusted that the filters ensured that the date fell within the appropriate range. Participant 7 had difficulty with their filters as they did not locate the save all filters button. Participant 5 seemed to be more experienced with the Primo search as they knew how to sign into their library account and retrieve their search history.

Task 4: Request a Reserve Textbook

This task asked participants to place a hold on a specific book in the textbook reserve collection. The book used for the task was *Canadian Advertising in Action*; this book was chosen because it rarely circulates, allowing it to be set aside for the usability testing. The ideal path for this task was for the participants to search for the book's title on the library homepage, click on the book's title in the search results, sign into their library account, and click the request item button to place the hold.

All seven participants completed the task successfully. All except for participants 1 and 4 typed the book's title into the search bar; participant 1 first typed the phrase "request a reserve textbook Canadian Advertising Fundamentals in Action" and proceeded to remove terms from the search until the book appeared as a result in the search. Participant 4 went to the databases page again and mistook the "database search" box on that page as a means to search within the databases. They then returned to the library homepage and did the search from there. All participants were able to request the book from this point, although five of the seven participants had difficulty finding the request link. The loan policy that is displayed when reserving the book erroneously lists the loan as being for 24 hours instead of 3.

Task 5: Cite and Reference a Webpage in APA Style

In this task, participants were asked to find information on how to create a citation and a reference in APA style for Alberta Health Services' webpage on COVID-19 information. The ideal path for this task was for participants to click on either the APA guide or the FAQs link and find information specific to citing and referencing webpages.

All seven of the participants felt that they had found sufficient information to complete their citation and reference. Every participant found their information in the APA guide; none used the FAQs. Each participant believed that the generalized information they found in the APA guide was enough to complete the task. However, because we did not ask participants to create the reference as part of the test, we do not know how effective this information would be. For future testing, we will consider incorporating asking participants to create a reference into the usability test to evaluate the usefulness of the information.

Task 6: Find the APA Template in the APA Guide

This task had the lowest successful completion rate, with five of seven participants finishing it successfully. The task asked participants to locate a link to the Microsoft Word APA template within the library's APA guide. Of the two participants who did not complete this task, participant 1 did not understand what a template was, and we were unable to effectively clarify. Participant 2 located a different document the library has for APA help, the fill-in-the-blank sheet, and determined that was the document they were asked to find.

The participants who successfully completed the task were able to locate it in two different places within the APA guide; links to it are present on both the formatting page and on the how-to resources pages of the guide. Two of the participants found the template while attempting to locate information on citing webpages in the previous tasks and were able to return to where they found the template before to complete this task.

Recommendations & Actions

After reviewing the notes taken during the usability tests, the following problems were identified:

- Almost no participants went into the FAQs, though all tasks outside of the library catalogue could be completed using them.
- No participant used the small links underneath the search bar.
- Participants 1, 6, and 7 almost clicked away from the project room booking confirmation page.
- Not all participants found the article limiter in the Primo search.
- Many participants had trouble finding the request item link due to its small size.
- The item policy for reserve textbooks in Primo is incorrect.
- The APA guide contains many tabs within each section and getting to any piece of information takes several clicks.
- The citations & reference examples tab on the APA guide contains links to several FAQs but is missing important types of sources such as webpages.
- The APA template can be found in several places in the APA guide, but the link can still be difficult to find either because it is behind several clicks or the link is part of a sentence and can be missed.

We then identified potential solutions for these issues. Some of these solutions were able to be implemented shortly after the tests were complete. These include:

- FAQs were renamed to “Help” in the hopes of making its purpose clearer for patrons.

- The small links under the search bar were removed. Most of these links were redundant with other links, so they proved to be unnecessary.

There are also solutions that have been discussed by the library team, but which will require more time to implement. Some of these are due to technical challenges while others are more complex changes that will take time to plan:

- Either the requirement to confirm project room bookings via email should be removed or the message that confirmation is required should be much more attention-grabbing.
- The article limiter in the Primo search could be moved under the “show only” heading to be more prominent on the page or the number of resource types that can be filtered by could be reduced so more important filters are not buried.
- The request item link should be enlarged and made to appear more prominent on the catalog page.
- The item policy for reserve items in Primo should display the correct loan policy of three hours.
- It should be made easier for patrons to reach information on referencing and citing specific types of sources from the APA guide.

Conclusion

Krug (2010) outlines the reasons usability testing is effective: all sites have problems, serious problems tend to be easy to spot, and that watching people use a website leads to a more informed perspective on design. After having concluded this round of usability tests, the library team has found these reasons to be reflected in the results. The testers were able to observe a wide variety of problems that patrons encounter when using the library website, many of which

were apparent during the test, such as the incorrect reserve textbook policy in Primo. Together, the team was also able to identify fixes for many of the problems, some of which were quick and others that will be the basis of longer-term projects. Usability testing has proved to be so valuable that the team has already begun making plans for future rounds of testing that will include tests targeted to specific aspects of the library website and catalog.

References

Bow Valley College. (2022, October 17). *Fact book: 2021-2022*.

janeb13. (n.d.) *Computer*. Pixabay. <https://pixabay.com/photos/computer-apple-business-workplace-1185569/>

Krug, S. (2010). *Rocket surgery made easy: The do-it-yourself guide to finding and fixing usability problems*. New Riders.

Turner, N. (2011, October 1). Librarians do it differently: Comparative usability testing with students and library staff. *Journal of Web Librarianship*, 5(4), 286-298.
<https://doi.org/10.1080/19322909.2011.624428>

Appendix A: Call for Participants



(janeb13, n.d.)

Call for participants: Library website and catalogue usability testing

The RGO Library and Learning Commons would appreciate feedback and insights from learners, staff, and faculty regarding the usability of the library homepage and library catalogue.

In June, the BVC library will conduct task-based usability sessions. Each session will last approximately 1 hour. The testing will take place in N149 (the library computer lab). A signed informed consent form will be required to participate.

What's involved

You will complete six library website related tasks. During the tasks you will be screen recorded, you will be observed, and encouraged to think aloud.

Each participant will receive a \$10.00 Tim Horton's gift card for participating.

Please Contact: Dave Mucz (dmucz@bowvalleycollege.ca) if you are interested! Please indicate a date and time that is convenient for you.

Appendix B: Usability Task Scenarios

Task	Scenario Details	Successful Completion
(1) Identify library opening hours	What are the Saturday opening hours for the library?	Participant will identify that the Saturday opening hours are 9-5PM. Ideal Path: Homepage -> 'Contact us and hours' -> Saturday 9:00 am to 5:00 pm
(2) Book a project room	Book project room N248 for any day and time. Confirm the booking.	Participant will select and book project room N248. To confirm the booking the participant will be required to open their email and click on the confirmation link. Ideal Path: Homepage 'Book a space -> 'Book a Project Room' -> 'Time/Date of choice -> 'Submit Times' -> Fill out booking form -> 'Submit my booking' -> Go to MYBVC email to confirm booking. Click on link to confirm booking
(3) Search library catalog	Find an article on the topic 'childcare' that was published in the last 5 years.	Participant will conduct a catalog search on the topic of childcare. By applying filters or reviewing the brief result details, the participant will select an appropriate article.

		<p>Ideal Path: Homepage -> catalog search for 'childcare' -> Apply article filter -> Apply date filter (2017-2022) -> Click on relevant article from brief results page or verbally identify</p>
<p>(4) Request (place a hold) on a reserve textbook</p>	<p>You need the nursing textbook Canadian Advertising in Action (2018). Reserve a copy of this book for pick-up at a date/time of your choice.</p>	<p>Participant will reserve the textbook Canadian Advertising in Action (2018) for pick-up.</p> <p>Ideal Path: Homepage -> catalog search for 'Canadian advertising in action -> Review versions/select title -> 'Request' -> 'Pickup Date' of choice</p>
<p>(5) Cite and reference a webpage in APA style</p>	<p>You are paraphrasing information from the Alberta Health Services COVID-19 information webpage. You are required to cite and reference the source in APA Style and to follow the guidelines on the library's website.</p>	<p>Participant will locate and apply the instructions on the Citation tab of the APA guide or the 'How do I reference and cite a webpage?' answer in the library's FAQs.</p> <p>Ideal Path: Homepage -> 'APA Guide' or 'FAQs' -> Identify relevant information for this specific type of source</p>
<p>(6) Find the APA template within the APA guide</p>	<p>You are starting an assignment in APA style. Locate and download the APA</p>	<p>Find the APA template within the APA guide</p>

Appendix C: Facilitator Script¹

Usability Test Facilitator Script

Hello, **PARTICIPANT NAME**. My name is Dave Mucz (Facilitator), and I'm going to be walking you through this usability session today. Thank you for participating!

My coworker Ethan will be observing the screen capture from a different room.

Before we begin, I have some information for you, and I'm going to read it to make sure that I cover everything.

We asked you here today to help us test the BVC Library website and library catalogue interface to make sure that everything works as we intended. The screen will be recorded through MS Teams.

The entire session should take about an hour. If you feel fatigued, you can have a 2-3 minute break between a two tasks.

Let's review the consent form in its entirety now (read through consent form). Do you have any questions about it?

I want to make clear that we are testing the website, not you. For each task, there are no right or wrong answers.

As you use the website and catalogue, I'm going to ask you to **think aloud** as much as possible: to say what you're thinking. This will be a big help to us. That is not a very natural thing to do, so sometimes I will prompt you.

Think aloud protocol instructions:

- As you work, say out loud everything that you say to yourself silently.

¹ Adapted from *Rocket Surgery Made Easy: The Do-It-Yourself Guide to Finding and Fixing Usability Problems* (pp. 147-152), by S. Krug, 2010, New Riders. Copyright 2010 by Steve Krug.

- Don't plan what you're going to say or try to explain to me what you mean.
- If you are silent, I'll remind you to think aloud.
- Do you understand?

Please don't worry that you're going to hurt our feelings. We're doing this to improve the website and catalogue, so we need to hear your honest reactions.

If you have any questions as we go along, just ask them. I may not be able to answer them right away, since we're interested in how people do when they don't have someone sitting next to them to help. If you still have questions when we're done, I'll try to answer them then. If you need to take a break at any point or want to stop participating, just let me know.

Do you have any questions so far?

Thank you, that's great. We're done with the questions, and we can start looking at the tasks. I will introduce each task and provide you with a written copy of the task as well.

[Open BVC Library homepage in Google Chrome Web browser]

As much as possible, it will help us if you can try to think out loud as you go along.

[Hand the participant a task scenario and have them read it aloud. Allow the participant to proceed until the task is complete or the participant becomes frustrated. Repeat for each task or until time runs out.]

Thank you for your time, that was very helpful.

Do you have any questions for me now that we're done?

Appendix D: Observer Guidelines²

Observing in the Room with Participant

- Please sit out of the participants' line of sight (behind them) and try to be completely silent.
- Smile in a friendly way and watch carefully while taking notes.
- Usability testing is about the user's real actions – focus on what they do.
- During and before the sessions, do not engage participants in conversation, offer advice, correct them, or answer their questions, because introducing new information or giving unintentional clues can bias the research results and even invalidate that session's data.
 - It's difficult not to respond when someone asks you questions, because it seems impolite, but this is really important. Say something like, "I'll be glad to talk with you about that later".
- Make as many detailed notes as possible including the number of clicks taken before successful/unsuccessful completion of the task

Notetaking Instructions

- Make many notes. Write about everything because you don't know what might prove valuable during data analysis. Get more paper (or copy/paste more table rows) if you run out.
- Write one observation per note, don't write paragraphs with several ideas; just keep notes in sequence when they go together.

² Adapted from *Observer Guidelines for Usability Research*, by S. Farrell, 2016, Nielsen Norman Group (<https://www.nngroup.com/articles/observer-guidelines/>). Copyright 2023 by Nielsen Norman Group. Adapted with permission.

- Include the scenario number on each note and timestamp of the screen recording if possible.

Examples of Effective Notes:

- Note whatever seems important:

Mistakes

- He skipped the *Contract us and hours* link on the library homepage.
- She didn't click *Refine* when trying to limit her search between 2017-2023.

System errors and error messages

- The menu didn't drop down the first time she clicked it.
- Error message: "Database error on line 55."

Click-paths (navigation sequences):

- *Homepage > Workshops > Upcoming Workshops* (looking for next upcoming Academic Integrity workshop)
- Searched "communication techniques" in library catalogue > *applied 'When was it created?' filter for 2017-2022 > applied filter 'What type of source?' for articles > Clicked on result #2 > Communication Techniques During and After a Crisis > Became confused as to how to access the full article*

Strategies and tools

- He said he always chooses two search terms because that tends to bring up more relevant results.
- She chose *Ask Us* (library chat) and said she was looking for "contact us."
- He used Google to locate the BVC Library website and then entered the search terms into the library catalogue search box.

Search terms and results

- Search 1: “industrial wind turbines” (nothing useful)
- Search 2: “wind turbines” Alberta (correctly identified an article)

Quotes

- “This is great!”
- “I expected this to work like Google.”

Anything that seems overlooked, misunderstood, ambiguous, or confusing.

Suggestions, questions, and comments