

Hannon Library Web Properties

Fall 2024 Usability Testing

Introduction & Background

The term “usability” refers to a characteristic of user interfaces: essentially, how easy is a given interface to use? Usability is defined and assessed by such factors as “learnability: how easy is it for users to accomplish basic tasks the first time they encounter the design?” and “errors: how many errors do users make, how severe are these errors, and how easily can they recover from the errors?” (Nielsen, 2012).

Usability testing is a research method for evaluating the usability of an interface; it involves observing the behavior of typical users as they interact with an interface, often in a controlled environment (Blakiston, 2015). A facilitator provides the participant with scenarios representing “common user needs or behaviors” and encourages them to narrate their thought process as they complete them (Guay, 2019, p. 88). The facilitator and note-taker record what the participant says and does: What seemed to confuse the user? How many attempts did they make before they successfully completed a scenario? Or before they gave up in frustration?

In November 2024, The Hannon Library conducted testing with five undergraduate students to evaluate the usability of its website and its discovery platform (Primo VE).

Methods

Participants and Recruitment

Our target audience for this round of testing were undergraduate students, by far our largest group of users. By means of flyers posted around campus with QR codes leading to a web-based survey, we identified undergraduate students to participate in testing.

In the survey, we asked for demographic information (age, gender, race/ethnicity, disability status), academic year, and major. We also asked if students used assistive technology when browsing the web (none did), if they had ever used the Hannon Library website before, and if so, how often and for what purposes. We also asked all potential participants if they had ever worked for the Hannon Library. Because library workers are likely to have a deeper knowledge of our web properties and be more invested in the success of the Library, they are not good proxies for our target users (Sexton, 2022). We therefore excluded students who answered “yes” to this question.

With an eye to diversity in terms of demographics, academic year, major, and experience with the Library, we recruited five participants for our study. As usability expert Jakob Nielsen has argued, conducting usability tests with five users is optimal. Recruiting additional users for a single study adds little new information: “as you add more and more

users, you learn less and less because you'll keep seeing the same things again and again” (Nielsen, 2000).

Documentation

Before beginning testing, we applied for an exemption for projects using human subjects from the Institutional Review Board (IRB) of Southern Oregon University. A representative of the IRB reviewed our promotional poster, survey, moderator script, and other documents related to the study. In a letter dated November 11, 2024, our study was confirmed exempt under Category #2: Interactions Involving Educational Tests, Surveys, Interviews, or Observations.

Each participant signed a consent form agreeing to be video recorded during the session with the assurance that except for any recorded images, participation in the session would be anonymous. The form also communicated that participation in the study was completely voluntary and that there would be no penalty or consequence for deciding that they no longer wished to participate. The text of the consent form is provided as Appendix A.

At the beginning of the session, the moderator read from a script that explained the purpose of the test and the “Think Aloud” method, which encourages participants to narrate their thoughts as they complete tasks (Lewis, 1982). The text of the moderator script is included as Appendix B.

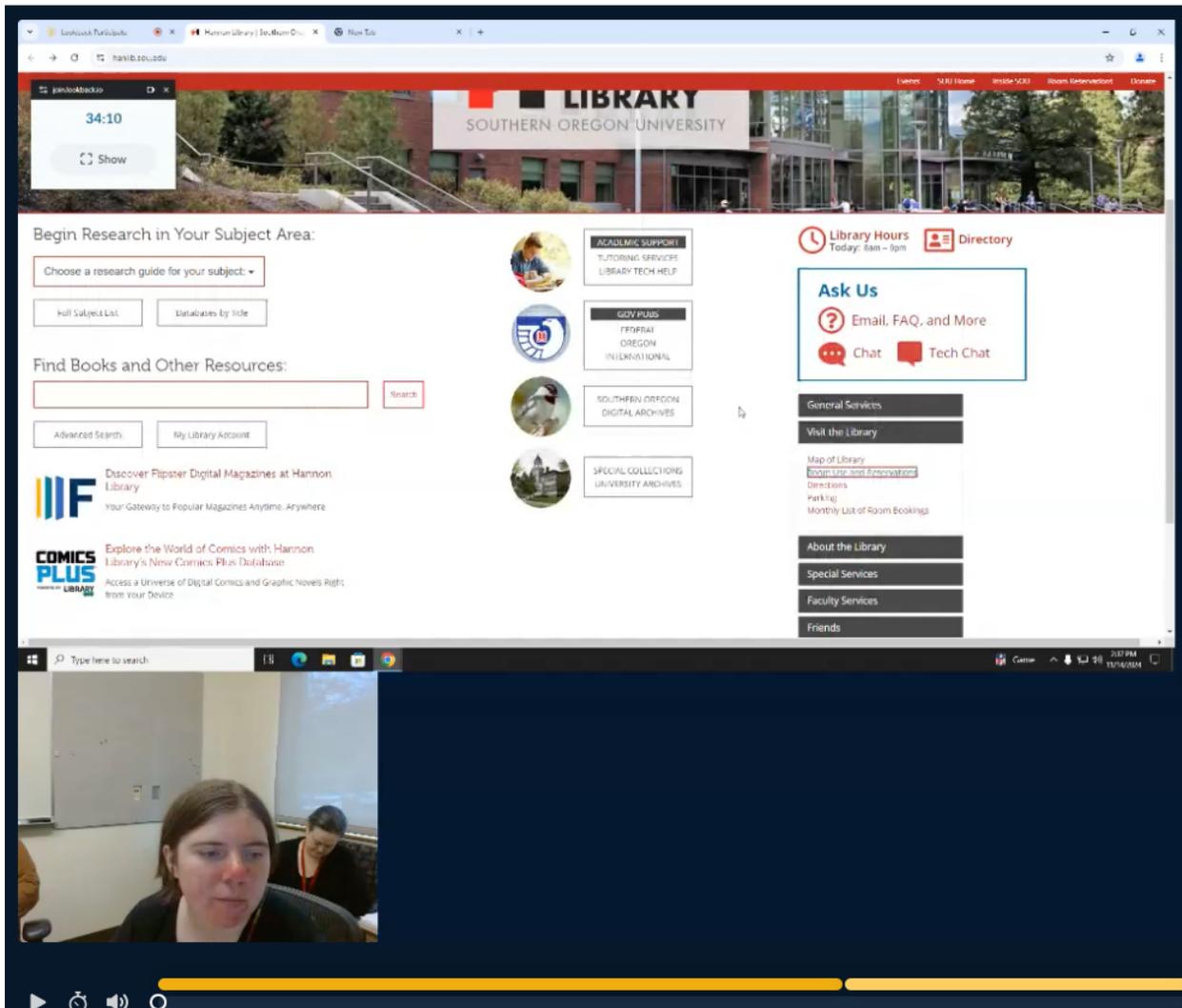
At the conclusion of their session, each participant was provided with compensation in the form of a \$50 Amazon gift card and signed a gratuity receipt.

Space & Equipment

Based on a review of our analytics, we determined that the most common combination of device and operating system utilized by our users was a desktop¹ running the Windows operating system (55.5%). Approximately 65% percent of our users accessed our website using the Chrome browser on a desktop machine. There was a greater variety in screen resolutions, but the most common was 1920X1080px on a desktop device (18%).

For testing, we set up a private office in the Library with a desktop PC running Windows with a monitor set at 1920X1080 resolution. The Chrome browser was used for testing. We used a monitor-mounted video camera to capture the sessions and the Lookback software to combine this output with screen recordings for ease of analysis.

¹ The term “desktop” in GA4 website analytics refers to both desktops and laptops (i.e., not mobile devices).



Task Scenarios

Based on a review of site analytics and consultations with Library faculty, we developed a list of tasks for users to complete during testing. Based on these tasks we created a set of 15 task scenarios to provide as instructions to our participants. As Blakiston explains, a task is “what you want [the user] to do (for internal purposes)” and the scenario is “what you tell them to do (for participant)” (2015, p. 46).

One of our tasks, for example, was: “Find and access an eBook.” The scenario was more narrative:

You’re interested in artificial intelligence and want to find a good book to read about the topic. You’re comfortable at home, though, and you don’t want to go to the Library or the bookstore. You’ve heard that the Library has lots of electronic books

that you can access from home. Find and access an eBook about artificial intelligence.

The task scenario was considered complete if the user successfully located an eBook in the catalog about artificial intelligence and was able to access it via the browser.

The text of all 15 tasks, together with their associated scenarios and criteria for success can be found in Appendix C.

Testing Sessions

In our testing sessions, Thomas Dodson served as the moderator, providing participants with direction and answering questions. Jan Juliani served as note-taker, recording observations of user behavior.

Each participant was first asked to provide their general impressions of the website. They were then provided, one at a time, with the text of each scenario, which they read aloud and then tried to complete. They retained the printed text of the scenario for reference. As they worked on the scenarios, participants were encouraged to think out loud, narrating their thought processes. The sessions consisted of 15 tasks, with the total session taking between 45 and 60 minutes.

Results

The table below provides a quantitative summary of the performance of our web properties, broken down by task.

Task Number	Task	Number of Participants	Number of Attempts	Success Rate by Attempt	Percent Successful by Attempt	Overall Success Rate	Overall Percent Successful	Avg. Time to Success (Mean)
1	Reserve Study Room	5	9	5/9	55.6%	5/5	100.0%	0:02:08
2	Find Business Librarian Contact Info	5	12	4/12	33.3%	4/5	80.0%	0:01:59
3	Find Psychology Research Guide	5	13	2/13	15.4%	2/5	40.0%	0:02:16
4	Reserve Presentation Station	5	7	4/7	57.1%	4/5	80.0%	0:46:00
5	Find Library Hours	5	5	5/5	100.0%	5/5	100.0%	0:30:00
6	Find Out Borrowing Periods	5	5	5/5	100.0%	5/5	100.0%	0:31:00
7	Find Classroom on Map	5	6	5/6	83.3%	5/5	100.0%	0:30:00
8	Find Book on Reserve	5	15	2/15	13.3%	2/5	40.0%	0:02:41
9	Discover We Don't Own a Book & Make an ILL Request	5	9	1/9	11.1%	1/5	20.0%	0:02:11
10	Find Peer-Reviewed Journal Article	5	15	5/15	33.3%	5/5	100.0%	0:02:53
11	Find and Access Specific Issue of Journal	5	17	2/17	11.8%	2/5	40.0%	0:01:56
12	Find a Government Document	5	11	3/11	27.3%	3/5	60.0%	0:02:06
13	Find a Friends' Lecture Event	5	6	0/6	0.0%	0/5	0.0%	NA
14	Use a Specific Database to Find an Article	5	9	5/9	55.6%	5/5	100.0%	0:02:21
15	Find & Access an eBook	5	5	5/5	100.0%	5/5	100.0%	0:01:01

Several tasks were completed by every participant, required relatively few attempts, exhibited high success rates per attempt (>55%), and took less time to complete. We can conclude that these tasks were easier for users to complete and therefore that the parts of our web properties devoted to these tasks are more usable:

- Reserve a Study Room
- Find library hours
- Find out borrowing periods
- Find classroom on map
- Use a specific database to find an article
- Find and access an eBook

Other tasks proved difficult for users, with 0–15% success rates per attempt. Users generally took longer to complete these tasks or failed to complete them at all. These suggest usability problems that could be addressed:

- Find psychology research guide
- Find book on reserve
- ILL request
- Find a Friends' lecture event

Issues & Actions

Issue: Logo Placement

After completing (or giving up on) each task scenario, participants were instructed to return to the Hannon Library home page (<https://hanlib.sou.edu>). On several occasions, participants selected the Southern Oregon University logo on the top left of an interior page with the expectation that it would return them to the homepage. When it took them instead to sou.edu, they expressed surprise and confusion:

“That is not where I wanted to go.”

“Oh shoot, that link did not take me to where I needed to go ... when I clicked on this here [mouses over SOU logo], it did not take me to the Library.”

From Primo VE: “Oh, interestingly when you go to this page though the little Hannon Library is up in the left corner which is where I would look for a back button. Good location for that.”

We concluded from this that users expect our site to follow the web convention that when clicked, a logo at the top-left of a page will return the user to the homepage for the site they are on, not to a different site.

Action: Moved Logo Link

Based on this observation, we changed the location of the Hannon Library logo (linked to the Library home page) from the top-right on interior pages to the top-left. We moved the SOU logo (linked to sou.edu) to the top-right.

Issue: Journal Search in Primo VE

Several participants working on the task “find peer-reviewed journal article” began their search using the advanced search function in Primo VE. These participants chose to limit their search by resource type. They did not, however, select the “Articles” resource type, but instead selected “Journals.”

Students believed that they were searching journal articles, but were in fact searching the records for individual journals. The result was that their searches returned no results because, for example, a keyword search of “Psychology” and “Procrastination” did not correspond to a journal title.

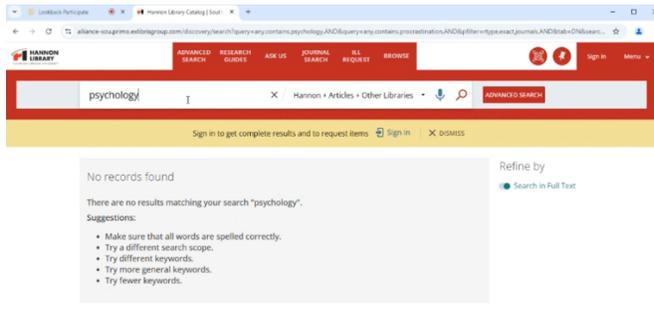
Action: Moved “Journal” in Resource Type Drop-down to Last (Bottom) Position

By moving the “Journal” resource type from the top of the resource type drop-down list to the bottom, we hope to make it less immediately visible to users who actually want to search “Articles,” while still retaining it for more advanced users who truly want to see our holdings for a particular journal.

Issue: No Results Page in Primo VE Not Helpful

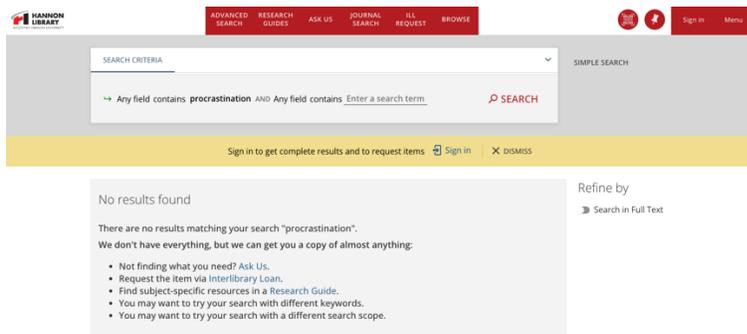
The default no results page in Primo VE is not particularly helpful to users, providing generic suggestions regarding spelling, keywords, and scope.

One participant commented: “It’s kind of insulting. It says: are you sure that your words are spelled correctly?”



Action: Changed Text & Links of No Results Page

We changed the text of the no results page to include links to Ask Us, Research Guides, and information about Interlibrary Loan². We simplified the comments about language and scope to: “You may want to try your search with different keywords,” and “You may want to try your search with a different scope.”



Issue: Instructions for Accessing Course Reserves Too Complicated

Some users arriving at the Course Reserves page and working on the task “Find Book on Reserve” appeared not to read the text describing the process for limiting search scope to “course reserves.” One participant stated: “This is a lot of text. I don’t want to read any of this.”

Another participant clicked immediately on the “Hannon Library Catalog” text-link without reading the directions and then returned to the page after an unsuccessful, incorrectly scoped search. They still, however, did not read the directions and scrolled past them, scanning the page for some other way to complete the task.

A third found the directions confusing and had to return to the page from Primo VE to re-read them.

² The inclusion of a link to Interlibrary Loan may be particularly useful to a user, like Participant #3, who is searching for a book we do not have in our collection in a scope other than “Hannon + Articles + Other Libraries” and lands on the No Results page. When this occurred, the participant stated: “If it doesn’t show up there [the No Results page], I’m unsure where I’d find another place to really put in that information about the book ... ideally it could tell me other ways to get [the book] ... or put an order on it. That would be the ideal thing.”



Circulation Services

[Circulation](#)

[Course Reserves](#)

[Summit & ILL](#)

[ILL for Other Libraries](#)

Course Reserves

Course Reserves, available at the Circulation Desk at Hannon Library, help SOU students access textbooks and other course materials assigned by instructors. Through a combination of instructor copies, Hannon Library copies, and textbooks purchased via request, Hannon Library provides access to physical copies of required class materials. In order to assure equitable availability, course reserves collections have short loan periods.

For Students

Locating and Accessing Course Reserve Material

1. Go to the [Hannon Library catalog](#)
2. Click the magnifying glass icon at the far right of the search box and then select the "Course Reserves" search scope from the drop-down that appears.
3. Search for a course using the course code (BA 349, ES 101, etc.) or search for a specific item with the title or ISBN
4. Check if physical books and DVDs are on loan or if an eBook copy is available

All physical books and DVDs are held behind the Circulation Desk in Access Services. Come up to the desk and a staff member will retrieve the item for you.

DVDs on reserve can be taken out of the library, but they can also be watched on any of the Dell computers in the Learning Commons.

Textbook Purchase On-Demand

Action: Shortened Text and Provided Direct Link Button

To simplify the path to complete this kind of task, we created a new link that leads to Primo VE with the search already pre-scoped to course reserves. We made this link an obvious button (reading "Search Reserves") rather than a text link and reduced the directions from four numbered steps to a single sentence. This new text was provided by the Resource Sharing & Fulfillment Lead.



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For Students

Find Course Materials on Reserve

Search by book title, course number, professor name, or ISBN to find your required textbook.

[Search Reserves](#)

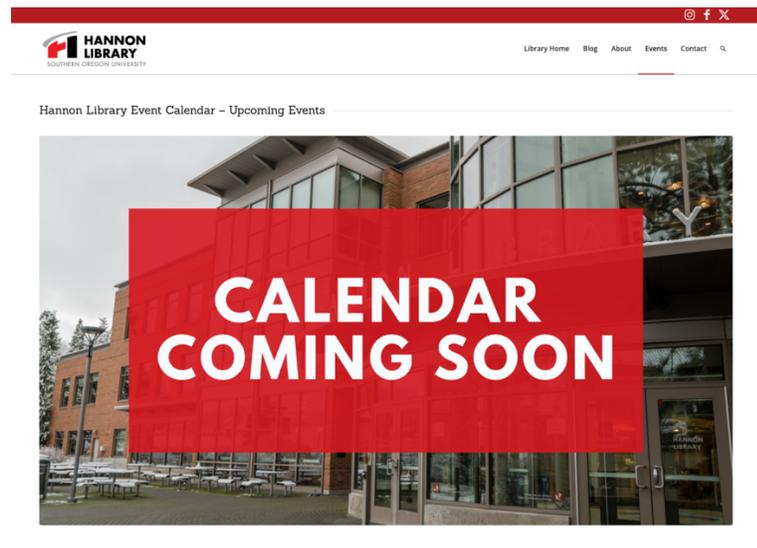
All physical books and DVDs are held behind the Circulation Desk in Access Services. Come up to the desk and a staff member will retrieve the item for you.

DVDs on reserve can be taken out of the library, but they can also be watched on any of the Dell computers in the Learning Commons or in the Presentation Station.

Textbook Purchase On-Demand

Issue: Some Users Looking for Library Events Accessed External Site

No participants successfully completed the “Find a Friends’ Lecture Event” task. In trying to complete it, some navigated to the Hannon Library Blog, hosted by SOU at <https://hannonnews.xwp.sou.edu>, and then clicked on the Events link on that site’s main navigation. This took them to a page consisting of an image of the Library building with the text: “Calendar Coming Soon.”



Action: Consider Using for Friends & Library Events

It may be worth investigating what functionality this University-hosted WordPress instance offers and considering whether to use it as an events calendar for the Library and the Friends.

Issue: Images for Miscellaneous Links on Home Page Distracting

While on the home page, participants appeared to be drawn to the set of miscellaneous links (Tutoring Services, Southern Oregon Digital Archives, etc.) due to the circular images associated with them. In almost every case, these were not actually the links they were looking for. This leads us to conclude that these images, though appealing, are a distraction.

Action: Integrate into Main Menu as Part of Homepage Redesign

As we proceed with a redesign of our menu on the home page and internal pages, we recommend integrating these ancillary links into the primary navigation rather than featuring them so prominently on the home page.

Issue: Misidentification of Book Reviews as Books

Some participants conducting searches in Primo VE using the default “Hannon + Articles” scope overlooked the “Book Review” label in the short results list, believing the item to be a book rather than a review. Three participants made this mistake while completing the task

“Discover We Don’t Own a Book & Make an ILL Request.” They proceeded to the complete record for the review and still believed that the record was for the book itself.

Action: It may be worth making this label more prominent (or perhaps all resource type labels for consistency).

Other Observations

Awareness of Resources & Services. As part of our testing, we also discovered that many of our users are unaware of some important Library resources and services. Three of the five participants failed to complete the “Find Psychology Research Guide” task, and the two that did locate it did so after several failed attempts. Based on our observations, it seems likely that this high failure rate was due to participants lack of familiarity the term “research guide.”

One participant stated “I’m unsure what they mean by ‘research guide’ specifically ... I’m going to assume I’m looking for like a textbook.” Another expressed confusion about the term and then navigated to the Research Services page, stating “It should be here, right? A guide should be a service, right? A research service.” (We have since added a link to Research Guides on the Research Services Page.) When asked to say more about what he thought the term “research guide” might mean, this participant said: “[It] might be a person that can guide you? Is ‘guide’ librarian?”

One participant responded to the “Find a Book on Reserve” scenario by asking: “Is that a thing? Where like specific classes have books put on hold?” Others seemed initially perplexed when presented with the task scenario.

Directory. Despite the filter and sorting features built into the faculty/staff directory page, two of the five participants immediately resorted to the browser’s find feature (ctrl +F or cmd + F); still, this approach was successful.

Sources

Blakiston, R. (2015). *Usability testing: A practical guide for librarians*. (Practical guides for librarians, No. 11). Rowman & Littlefield.

Guay, S., Rudin, L., & Reynolds, S. (2019). Testing, testing: A usability case study at University of Toronto Scarborough Library. *Library Management* 40(1–2), 88–97. <https://doi.org/10.1108/LM-10-2017-0107>.

Lewis, C. H. (1982). Using the "thinking aloud" method in cognitive interface design (Technical Report No. RC 9265). *IBM Thomas J. Watson Research Center*.

Nielsen, J. (2000). Why you only need to test with five users. *Nielsen Norman Group*. <https://www.nngroup.com/articles/why-you-only-need-to-test-with-5-users/>

Nielsen, J. (2012). Usability 101: Introduction to usability. *Nielsen Norman Group*. <https://www.nngroup.com/articles/usability-101-introduction-to-usability/>

Sexton, Manda. (2022). Convenience sampling and student workers: Ethical and methodological considerations for academic libraries. *Journal of Academic Librarianship* 48, Article 102539. <https://doi.org/10.1016/j.acalib.2022.102539>

Appendix A

Usability Testing Consent Form

We are asking you to participate in a study to help us improve Hannon Library web properties. For this participation, you will be given compensation in the form of a \$50 Amazon gift card.

Study Description

In this one-and-a-half-hour session, we will solicit your comments and feedback in an interview. We will also ask you to perform tasks with one or more web properties.

Data Collection, Audio and Video Recording

We may collect data from this session using manual or automated systems. Audio, video, and screen captures of the study session may be recorded.

How We Use Information from This Study

The primary use of these recordings is to assist in our subsequent analysis of the session. We may also use anonymous segments of the recordings to demonstrate user sentiment; for instance, in the form of edited video clips of participant quotes.

We may also submit an account of of this testing and its results for publication as an article in a scholarly or trade journal.

Except for any recorded images of you, participation in this session is anonymous. No personally identifying information will be used in conjunction with session details other than to keep an administrative record and to perform data analysis.

We will not share with third parties any identifying information that would allow those third parties to identify you.

Your participation in this research is completely voluntary. If you choose not to volunteer, there is no penalty or consequence. If you decide to take part in the study you can still decide at any time that you no longer want to participate. You will not lose any benefits or rights you would normally have if you do not participate in the study.

If you have questions or concerns about your participation as a research participant, please contact the principal investigator, Thomas Dodson, at dodsont@sou.edu and phone number 541.552.6836 or reach out to Southern Oregon University Institutional Review Board (IRB) at irboard@sou.edu or the Associate Director of Faculty Scholarship and Research Compliance, Anne Seban, at sebanca@sou.edu or 541-552-6447.

Consent

I agree to participate in this study. I understand that this study session will be recorded, and I consent to the use of the information, images, and audio created during this study as described above.

Accepted and agreed to:

Signature / Date

Print Name / Phone Number

Address / City and State

Appendix B

Moderator Script

There's one thing you can do that will really help me as we go through the session today. I'd like you to think out loud. By that, I mean while you are working with our web properties, I want you to tell me what you're thinking as you go along. For instance, if anything acts differently than you expected, or if you are trying to work out what to do next, say those things out loud.

I'm going to be giving you things to do with the computer, and I'd like you to go as far as you would if you were working on your own. I will be right here, but I might not be able to answer your questions. When you're done, say "I'm done," or "I would stop here." We also ask that you not use the "Ask a Librarian" function on the website to ask a librarian for assistance.

When you're finished with each task, I'd like you to return to the Hannon Library website homepage. You can do this using the back button or, if you're on another page on the site, by clicking the Hannon Library logo at the top left. If you get stuck at the end of a task and can't get back to the homepage, that is something I can help you with.

Okay, let's start. The first thing I'd like you to do is read this out loud and then go ahead and do what it says. [*Hand first task to participant*]

Thanks. Your feedback has been very helpful. Do you have any questions for me about what you just worked with?

Okay, we're finished. As a way of thanking you, I'd like to give you a gratuity. Can you please check that this is the right amount and then sign for it?

Thanks again. If you're ready, I'll walk you out.

Appendix C

Tasks & Scenarios

Task Number	Task	Scenario	Criteria for Successful Completion
1	Reserve Study Room	You need a private place to study during quiet week, and you're tired of being cooped up in your bedroom at home. Reserve a study room in the library for Thursday, December 5, at 3pm.	Navigate to LibCal Study Rooms page and reserve a room for 12/5 at 3pm
2	Find Business Librarian Contact Info	You're having trouble finding sources for a research project in a business class. You've been told that you can get one-on-one help from the business librarian. Find the name and email address for the librarian who can best help you with this project.	Navigate to the directory page and find Melissa Anderson (or alternately, locate her contact information on one of the Business LibGuides).
3	Find Psychology Research Guide	You're working on a paper for your psychology class about depression amongst transgender teens. Find a research guide that can help you locate resources for researching and writing the paper.	Navigate to the Psychology; Gender, Sexuality, and Women's Studies; or other relevant LibGuide
4	Reserve Presentation Station	A professor has assigned you a group project in which members of your team will take turns presenting your research. Find a room where you and your group can practice your presentation; reserve the room for December 4 at 4pm.	Navigate to LibCal Study Rooms and reserve the presentation station for 12/4 at 4pm.
5	Find Library Hours	You're planning to do some work in the library this Sunday. Find out what hours the library is open on Sunday, November 17.	Navigate to the Library hours page and find the hours the Library is open on 11/17.

6	Find Out Borrowing Periods	You need to check out some books from the library. Find out how long you're able to keep a checked-out book before returning or renewing it?	Navigate to the Borrowing page under Circulation Services, consult the SOU patrons chart, and determine loan and renewal times for students.
7	Find Classroom on Map	Your class will be meeting in Hannon Library 206. Find where this classroom is located.	Navigate to Map of Library, 2nd Floor and locate room 206.
8	Find Book on Reserve	You're enrolled in ASL 101: Introduction to American Sign Language I. Your instructor has assigned unit one from the student workbook as homework. They said they placed a physical copy of the workbook on reserve at the library. Find the title of the book and see if it's available.	Search in Primo VE for ASL101 using the Course Reserves search scope; locate and identify <i>Signing Naturally Student Workbook Units 1-6</i> .
9	Discover We Don't Own a Book & Make an ILL Request	Doing research for a comics class, you came across a review of the book <i>Growing Up in the Gutter: Diaspora and Comics</i> by Ricardo Quintant-Vallejo. It looks like it will be good source for your research paper for the course. Check to see if we have the book in our collection and, if not, place a request to get either a physical or digital copy from another library.	Search in Primo VE for a book and discover we do not have it in our collection. Then navigate to ILL Request and begin to place a request for the book.

10	Find Peer-Reviewed Journal Article	You are doing a research paper for your psychology class on the topic of procrastination. Your professor has told you that you must include articles from peer-reviewed journals in your paper. Find and access the full-text of a peer-reviewed journal article in the field of psychology that discusses procrastination.	Use either Primo VE or a database search and locate a peer-reviewed journal article that includes the keyword "procrastination." Access the full-text of the article.
11	Find and Access Specific Issue of Journal	Your professor has told you about a special issue of the journal <i>Critical Inquiry</i> that is entirely devoted to the topic of your research paper. The issue was published in 2017. The professor thinks it was in volume 43 or 44. Do we have access to the full text of this issue?	Using Primo VE, locate the catalog record for <i>Critical Inquiry</i> . Determine from the full record that we have online access to the full text of volumes 43 and 44.
12	Find a Government Document	Your history professor has asked you to include at least 5 references in your research paper. This professor also asks you to include at least one government document in your references. Find and access at least one (electronic) government publication owned by Hannon Library that is focused on World War II.	Using Primo VE or a resource reached via the "Gov Pubs" link on the homepage, find a government document related to WWII.
13	Find a Friends' Lecture Event	You've heard that the library regularly hosts talks with writers and scholars. Are they hosting any talks in February 2025?	Navigate to the Lecture Series — Friends of the Hannon Library page and discover the February 13 event.

14	Use a Specific Database to Find an Article	You're writing a research paper for an English class about the Harlem Renaissance. Your professor has told you that the <i>MLA International Bibliography</i> will be a good database to use to find articles for your paper. Using this database, find and access at least one article about your topic.	Navigate to the <i>MLA International Bibliography</i> database; conduct a search that contains articles about the Harlem Renaissance in the results. Access one of these articles.
15	Find & Access an eBook	You're interested in artificial intelligence and want to find a good book to read about the topic. You're comfortable at home, though, and you don't want to go to the library or the bookstore. You've heard that the library has lots of electronic books that you can access from home. Find and access an eBook about artificial intelligence.	Using Primo VE, search for, locate, and access an eBook about artificial intelligence.

Appendix D

General Impressions Questions

Take a couple of minutes to look at this page. Feel free to scroll around, but please stay on this page for now.

Now, I'd like you to tell me what you notice about this website? What stands out?

What do you think you can do here?

What kind of information do you think you could find here?

What are your overall impressions of this website on first glance?