

Usability Test: Digital Repositories at Duke Homepage Report

Recommendations

1. Modify the search bar at the top of page for global search and provide drop-down list for choosing different platforms with proper hint text (the grey placeholder text) indicating the searching capability. Consider removing the search bar for now to avoid misleading users, who might think results using the search bar will come from all Duke repositories.
2. Shorten the image banner area, or keep only the page title and make the image as background, or switch the positions of banner and the platform sections. Currently, the banner takes up a lot of screen real estate, which makes it more attractive than the primary contents, misleading users to think it as clickable.
3. Make the labels for each section parallel in language. Consider making them all action-driven phrases like the first two sections (e.g., browse research data, browse publications) to make it clear for all users to navigate. The description text would need to be tweaked to include platform name if adopting this option. Or consider using the name of the platform (e.g., Digital Collections / Digitized Collections, Library Materials / Library Archives), which may be of particular benefit to library staff who use the page to help serve end users.
4. Rephrase the description text under “Browse Materials” to distinguish it from other sections. An example of the wording could be “search a selection of the library’s acquired digital materials”.
5. Consider changing the image for “Browse Materials” to make it less historical feeling to distinguish this section from the Digital / Digitized Collections section.
6. Explore more regarding the location of the “Report a Problem” tab. As currently staff members could successfully find where to report a problem, but students couldn’t.
7. Run a follow-up test on 3 - 5 library staff member, given they will be key users of this page. This test could focus on whether the wording for each section is understandable, and whether they could locate the function of report a problem.

Background

This study was conducted to test the usability of the [HTML Mockup](#) for the newly designed homepage of Digital Repositories at Duke. The study was developed and conducted by Manhua Wang and Robin Knight, with the guidance of Emily Daly and Will Sexton. On October 11th 2019, we began our lobby testing by working with a pilot participant, a student employee from the library's service desk, and then proceeded onto the lobby for usability testing. We were located outside of the Perkins Library where we recruited 7 participants. Robin Knight moderated the first four participants and Manhua Wang moderated the rest three ones. Each participant was given a voucher for a coffee or snack in exchange for their time.

Questions we hoped to answer through this study:

1. *What are users' understanding of the word "repository"?*
2. *What are participants' first impressions about the page? Is there anything helpful or unclear? Is the wording understandable?*
3. *How do users understand the Browse Materials section of the landing page?*
4. *How easily can users navigate from the Duke repositories landing page to find the resources they need?*
5. *What are users' experiences using the search bar at the top of the homepage?*
6. *How easily can users find a way to report the problem if they encounter issues?*

Participants

Roles at Duke:

- 3 undergraduate students
- 2 graduate students
- 2 Duke IT staff members

Had participants used a digital repository at Duke before?

- Yes: 1/7 (an undergrad student)
- No: 6/7

What did the participants do using the digital repository and their experience:

- Task: searching the database for a class assignment for immigration.
- Experience: it was straightforward, and the database was sufficient.

Key findings

1. What are users' understanding of the word "repository"?

3/7 users were not sure what "repository" means when they heard this word. One of them originally thought it's related to recycling. After finishing the tasks, they felt they had a better

understanding of the word “repository”: it’s a place with all of the resources for people to find materials, collect or search data.

3/7 users gave a general understanding about repository: 3 of them defined repository as a place for storage and used broad words to describe objects in it: “stuff”, “files”, and “something”. These patrons’ feelings about “repository” didn’t change after the tasks, thinking their initial interpretations were correct.

The remaining user provided a specific definition, seeing the repository as “a bunch of links on a webpage.” After interacting with the repository system, his understanding changed, and he included pictures and scanned artifacts in his definition.

These results suggest that “repository” is not a familiar word to most users, and its meaning is vague. But after users explored the repository through several tasks, users still only had a general, broad idea about the meaning of “repository”.

2. What are participants’ first impressions about the page? Is there anything helpful or unclear? Is the wording understandable?

Overall impression on the homepage

3/7 users considered this as a general standard library page, and the login, search bar was easy to identify.

1 staff member raised that the texts for clickable buttons and underlying descriptions were hard to read due to their font size. He also mentioned that the banner was attractive but also dominant, which prevented him from focusing on other contents.

4/7 users mentioned the effectiveness of the layout -- separating two main outlets and channels (i.e., “Library Collections”, and “Duke Scholarship”). They also mentioned that the four separate sections were helpful for users to identify different resources for different reasons at first glance.

2/7 users expressed their feelings about the page as historical and more humanities focused.

Wording on the homepage

2/4 users who mentioned the layout also expressed their confusion towards differences between “Library Collections” and “Duke Scholarship”, and between “Browse Materials” and “Browse Digital Collections”. Users expressed their concerns about distinguishing between them without reading the descriptions.

4/7 users mentioned that “DukeSpace” wasn’t a familiar term and said that term was not as straightforward as other button text, especially with salient font size for these buttons compared to the description text. The text is not formulated in the same way as others: like

“browse ... “. But they also mentioned that the text description underlying helped to gain more information about “DukeSpace”.

Helpful elements / sections

3/7 users said “Research Data Repository” section was helpful and all of them are students. One of them also mentioned that “DukeSpace” was helpful if she wanted to search faculty members’ research. She found “Library Collections” helpful since it has archives, and she said she would use it for related course work.

These results showed that users have an overall good impression of the page. But the titles -- the dominant visual elements -- are not all self-explanatory or distinguishable from each other. Users have to spend time in reading the description to get a better understanding in DukeSpace and differentiate Browse Digital Collections and Browse Materials.

3. How do users understand the Browse Materials section of the landing page?

Before entering the section

Users’ expectations for the contents included in “Browse Materials” are various:

2/7 participants expressed their confusion about distinguishing between “Browse Materials” and “Browse Digital Collections” or “Research Data Repository”. One user was wondering why digital collections were not considered digital materials. and another user was confused about why “datasets” are not in “Research Data Repository”.

5/7 participants provided their understanding about the contents located under this section, using words like “work or archive in the library”, “art museum”, “articles”, “lists of categorized links”, “a lot of things”, “digital materials or media used for homework”.

Users’ feedback about this section indicates that both the title and description are not sufficiently identifiable to make it different from others. Users hold various ideas about what is included in the Browse Materials section.

After entering the section

Once entered, this area seemed straightforward as most participants reported that they understood the basic concepts of browsing the materials. Most identified this area as a database specifically for digital materials. After exploring this section, 7/7 felt that it could best be described as a collection of digital materials that the library has to offer.

The findings here reveal that “Browse Materials” is a broad section both from the aspect of homepage description and the repository itself.

4. **How easily can users navigate from the Duke repositories landing page to find the resources they need?**

Find previous theses or dissertations

5/7 participants went straight to “DukeSpace” to complete this task. Note that all these participants are students. One student also mentioned she would also check Research Data Repository for students’ projects.

2/7 participants (both Duke IT staff members) followed a different path to complete this task. One staff went to Research Data Repository and clicked browse data. He stated that he would search the student’s name if known. Another staff was first focusing on two sections under “Library Collections” and then stated she would like to use the search bar first or go to “Browse Materials” if further exploration was needed.

The results from this task show that students are more likely than Duke IT staff to locate the right place for previous theses or dissertations.

Find a photographer’s photo

4/7 participants first navigated to the section of “Browse Digital Collections” and then searched the photographer’s name in the search bar.

The remaining 3/7 participants used the search bar located at the top of the homepage, and 2 of them got results from here by searching the name “Juanita Smith”. Another participant who didn’t get results because she entered more keywords (“photograph with Juanita Smith”); she then clicked into “Browse Digital Collections” and typed the name “Juanita Smith” to locate the photos.

These findings suggest that participants could identify the section including digitized photographs from the information provided on the page. They are also provided another option to search through the top search bar. The experiences of using the search bar will be elaborated under the next question.

Find research data related to a topic

5/7 participants clicked into “Research Data Repository” and then either used the search function or subject section to find the dataset.

2/7 Participants went to “Browse Materials” first, saying this section has the keyword “datasets” in its description on the repository landing page.

These results indicate that most users would use Research Data Repository for research data searching, but there is a chance that users will also go to “Browse Materials” because it mentions “datasets” in the description.

The results from three navigation tasks show that most users are able to locate the correct appropriate repository or platform to obtain the information they are looking for. While the textual description of each section helped, there is still space for improvements to reduce confusion and vagueness among sections.

5. What are users' experiences using the search bar at the top of the homepage?

During the task of finding a photographer's photo and the debriefing session, there was overwhelming confusion on why there exists a search bar on the main page and if that search bar is intended to be utilized first before browsing the other areas.

3/7 participants believed that having two areas to search -- the search bar and other sections -- was confusing, saying they thought it was a global search for all materials listed in all of the repositories featured on the landing page, but later discovered that it's not. Additionally, there was some confusion regarding where to begin a search when given a task. One participant stated, *"Do I click something and search or do the main search?"*

The results indicated that the search bar located on the top of the page is misleading -- users tend to perform a global search with it, and once they aren't able to find related results, they begin to explore the sections on the landing page again, or worse, leave the page entirely.

6. How easily can users find a way to report the problem if they encounter issues?

Users selected various ways to report the problem if they ever found:

5/7 users used the "Ask" button located at the top right of the header. They indicated that they were looking for words like "ask" or "chat" to report a problem. Two of them said that if the "Ask" function didn't work, they would use the information listed under "Contact us" in the footer to either email or call the library.

1/7 participant (1 Duke IT staff member) found the link in the footer saying "Report a problem with the repositories".

2/7 users (1 Duke IT staff and a graduate student) found the button "REPORT A PROBLEM" located vertically at the right side of the page. The staff member mentioned that she noticed it because she's an IT specialist and she always noticed these types of functions.

The results from this task reveal that users tend to use "Ask a Librarian" function to report a problem. The potential reason for this could be that students haven't developed a mindset of using additional "report a problem" links on a library webpage. In addition, the "Report a Problem" button seems not to be obvious for most users, like students.

Appendix A: Digital Repositories at Duke test script

Hi, do you have a few minutes to help us today with a usability testing? We're with the Duke library system and would like your help and opinion on how you interact with our website. If you have a few minutes we'd love for you to look at a webpage and let us know how helpful you find it. We also have a voucher for free coffee or snack.

Awesome! Thank you for volunteering to participate in the study. My name is **[name]** and I will be walking you through our task today. This is **[name]** and she will be taking notes. I will mostly be reading from a script to ensure each testing session is as consistent as possible.

We're planning to launch a new site and would like to hear your feedback.

We only have a few general questions to ask and 5 tasks, it should only take around **[number to be tested in pilot]** minutes. Don't worry about going too fast or too slow. There are no right or wrong actions here because we're testing the website, not you. This is less about finding the correct information and more about the process in which you search. Feel free to provide opinions and feedback; it won't hurt our feelings.

Do you have any questions so far?

We have just three questions to begin with.

[Ask Pre-Test Questions]

We would like to record each of your sessions to allow us and other library staff members who are not here today to debrief later and benefit from your sessions. The recording will only record your screen actions and not your voice or face. If you are willing to let us have the recordings, here is the consent form, please read and sign it.

[Hand Consent Form & comments]

Now, let's begin our test.

[Show participant the DDR homepage and start screen recording]

Please tell us what you're thinking while doing these tasks so that we can get an idea of your thought process.

[Preliminary test] please take a look at this page for 5 seconds and tell us your first impressions.

Task 1

Now, look closely at this page, but please do not click anything at this point.

Can you tell us what you think as you look at this page?

[If the participant express confusion about terms, do not explain to them; keep notes and explain after the test]

Follow-up questions:

What is not as clear or confusing?

What stands out as you look at the page?

What seems helpful?

[Record response]

[If they mention something that they're unsure] What do you think it should be?

[If the participant misunderstood, explain to them and let them click into this if it's a clickable button. And ask] What words would you use to describe this?

[Record Response]

[Test for Browse materials]

[Point to the "Browse materials" section] What do you think of this section? What would you expect to find here?

[Ask the participant to click into the button] What do you see? Are these items here meet your expectations?

[Record answers]

Could you use one sentence to summarize this page?

Task 2

For your second task, imagine that you're preparing your honors thesis / master's thesis / doctoral dissertation, and you want to look at what previous students did for their theses or dissertations. Show us how you would find other students' projects from this page.

[Record action and note comments]

- *Think aloud*
- *What are they looking at?*
- *Why do they decide to click what?*
- *What button do they click?*

- *Special comments*

Task 3

[recover the page to DDR Homepage]

For your third task, imagine you're taking a history class and you have an assignment to locate Juanita Smith's photographs. Walk us through how you would do that from this page.

Don't forget to think aloud during the process.

[Record action & comments]

- *Think aloud*
- *What are they looking at?*
- *Why do they decide to click what?*
- *Which method do they use to find this photographer?*
- *Use Search Box*
- *Go into the Duke Digital collection and search*
- *Special comments*

Task 4

[recover the page to DDR Homepage]

For your fourth task, imagine you are doing research related to statistical physics, and you would like to see if there are datasets you can reference or use when you design your study. Show us how you would find such datasets starting from this page. Tell us where you are going to find the information starting from this page.

[Record action & comments]

- *Think aloud*
- *What are they looking at?*
- *Why do they decide to click what?*
- *What button do they click?*
- *What pages do they explore?*

- *Special comments*

Task 5

For this task, imagine you encounter problems using this page and would like to let the library know about the problems. Show us how you would report the issues you've found.

[Give the participant the DDR Homepage and start screen recording]

Please tell us your thought process during your task

[Record action & comments]

- *Think aloud*
- *What function / special words are they trying to find?*
- *Where are they trying to find the report link?*
- *What report link do they click*
- *Other special comments*

[If participant chose "Report A Problem", ask if they notice another one]

Great! You've finished all the tasks. We have some follow-up questions to ask. **[ask post-test questions]**

Thank you for your time and input today. Your opinion is extremely valuable to us.

Appendix B: Pre-Test Questions

1. Which of the following describes you best?
 - a. Undergraduate student
 - b. Graduate student
 - c. Doctoral candidate
 - d. Faculty
 - e. Staff
 - f. Other: _____

2. Have you ever used digital repositories at Duke before?
 - a. Yes
 - b. No

3. [If Yes] Could you tell us what did you search and your experience?

4. What comes to mind when you hear the word repository?

Appendix C: Post-Test Questions

1. Could you name one aspect of this page that you like best?
2. Could you name one aspect of this page that you don't like?
3. Now that you have experienced this site, have your feelings about the word "repository" changed? Do you want to add something?
4. Is there anything that you would like to say about your experience today that you haven't had a chance to tell us yet? Or any other comments or suggestions?