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# Usability Test: Accessing Online Journals

## Recommendations to Consider

1. Highlight the benefits and limitations of both the DUL website and Google Scholar through an infographic or other informational guide. Display the image or guide in a prominent place on the DUL website and share it during library instruction sessions.
2. Further testing is strongly recommended and should ideally involve a higher concentration of first-year and second-year undergraduate students as well as students from the humanities disciplines.
3. In future remote testing, find a way to allow students to easily copy/paste the citations from the Zoom chat. A couple of students said that this made the search process more challenging than it is under typical circumstances.
4. In future testing, provide students with general search topics (e.g., deforestation, ecotourism) instead of allowing them to choose their own topics to search. All participants searched topics that they had recently performed and were already familiar with, or searched for specific full-text articles they had used in the recent past. Some of the participants remarked that this made it a lot easier for them than it otherwise would have been.
5. In future testing, orient some of the tasks around finding full-text articles using specific databases (e.g., Academic Search Complete or Proquest Central) or the https://library.duke.edu/find/journal-titles in order to observe students' use of research databases and other platforms. All participants either used the "All" search from the DUL homepage or Google Scholar.

## Background

Cam Roberts and Donte' Perry, practicum students in the Assessment & User Experience Department, conducted a usability test on accessing online journals through the Duke University Libraries website. Test sessions included  undergraduate and graduate students. The test consisted of a short set of pre-test questions, four tasks, and six post-test questions. Each test lasted approximately 15-20 minutes. See the Appendix for the accessing online journals test script.

## Participants

Eight participants completed the usability test. Five of the participants were undergraduate students, while the remaining three were graduate students. The undergraduate students consisted of two juniors and three seniors. The participants represented various degree fields: Biology, Psychology, Public Policy,

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Education, Mechanical Engineering, Chemistry, Political Science/Political Philosophy, Classic Civilizations, Dual JD/Master of Environmental Management program, and International Comparative Studies.
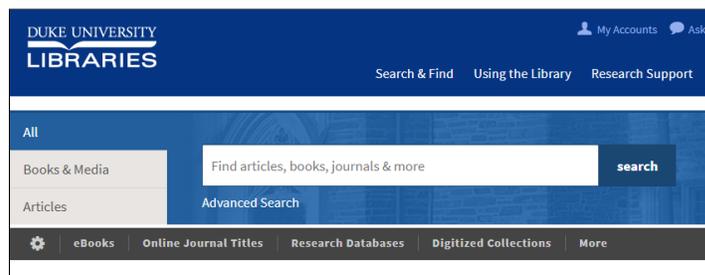
**Questions we hoped to answer through this study:**

1. Where do users start when trying to find online articles?
2. How easily can users find the full text of an article using the platform of their choice?
3. How easily can users find the full text of an article starting from the DUL homepage?
4. How easily can users find a known article (exact citation) that is available through multiple online platforms (journal/publisher website, large database, etc.)?
5. How does finding the known article (exact citation) using the DUL homepage compare to using other methods for finding the article (e.g., Google Scholar)?

## Key findings

### 1. *Where do users start when trying to find online articles?*

In task one (which asked participants to find the full-text of an article online using the platform of their choice), five out of eight (62.5%) students chose to begin their search from the DUL homepage, while three out of eight (37.5%) students chose to begin their search from Google Scholar. However, the three students who began their search at Google Scholar did not renounce using the DUL website in certain cases. In fact, one student ended up finding a relevant article initially through Google Scholar in task one (find full-text article using platform of choice), but decided to copy/paste the article's title into the DUL homepage's "All" search box (see screenshot below), and then clicked on the "view article pdf" link from the Bento results page.

When the undergraduate participants searched for online articles, four out of five (80%) users preferred to begin their search using the DUL website as opposed to other platforms such as Google Scholar. However, one of five (20%) users stated they use Google Scholar to locate the specific article they need; they then would return to the DUL homepage to begin searching the system for the article. Four out of five (80%) users stated that they would want to search the DUL homepage first to find that specific article. If they can not locate the article, then they would try other options, such as searching the PubMed database, Durham Public Library, Google Scholar, or meeting with a law librarian.

All three graduate students indicated that they have used the DUL website for their research needs. However, two out of three indicated that they also use Google Scholar, while one graduate student stated that they also use "Google." After all four tasks were completed, the graduate students were asked what online platform they are most likely to use for their future research needs. Two of the three (66.7%) graduate students expressed that they are likely to use Google Scholar for their research needs, but did not rule out using the DUL website entirely. One graduate student in particular said that he prefers using Google Scholar as opposed to the DUL website because "it was a faster, more efficient process" and that in the future he plans to continue using Google Scholar "when searching for articles and use the DUL website when searching for books."

2. *How easily can users find the full text of an article using the platform of their choice?*

All eight participants were able to successfully find and access full-text articles using the platform of their choice. This occurred in both task one (which asked participants to find the full-text of an article online using the platform of their choice) and task two (which asked participants to find the full-text article from a given citation using the platform of their choice).

For the undergraduate students, all five successfully found full-text for the given article citation on their preferred platform. Three out of five (60%) undergraduate students stated that they primarily use the DUL website to locate articles for their research. One out of five (20%) undergraduates used Google Scholar during the test to find the provided article citation. One of the five (20%) undergraduates stated that they often use *both* the DUL website and Google Scholar. The process one of the students used was searching for the citation on Google Scholar and then copied the information and
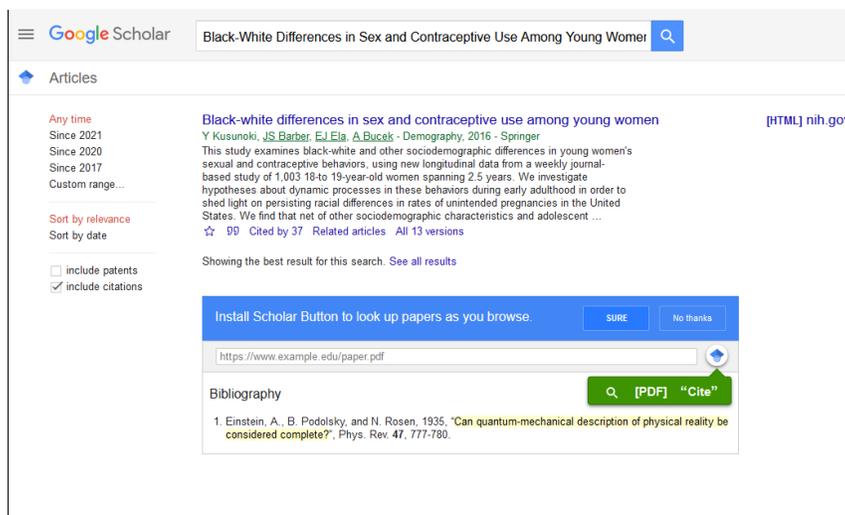
returned to the DUL homepage. Four out of five (80%) students noted that it was easy to search for an article on the topic of their choice using the DUL homepage; however, one out of five (20%) found it moderately difficult to use the DUL website to locate articles for their research.
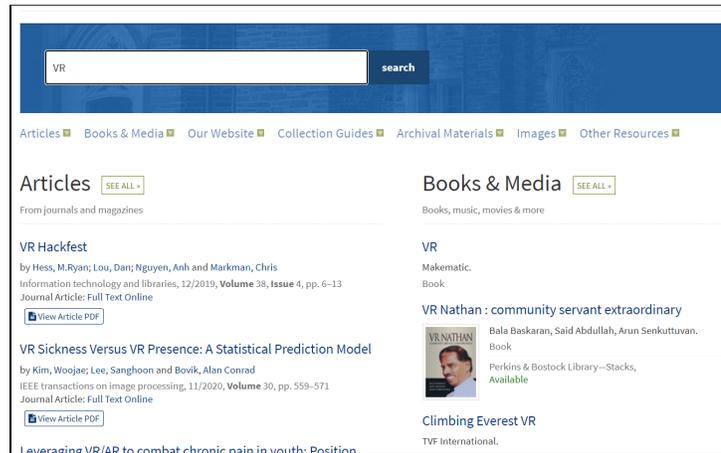
All three graduate students successfully found full-text articles in their searches using the platform of their choice. Two out of three graduate (66.7%) students began their searches using Google Scholar. All three graduate students stated that they felt it was easy to find and access full-text articles. During task one (find full-text article using platform of choice), it seems important to note that all three graduate students searched for topics that were in their area of study and/or recently searched topics, which possibly made for an easier/simpler search experience during the usability test.

3. ***How easily can users find the full text of an article starting from the DUL homepage?***

All eight participants were able to successfully find and access full-text articles starting from the DUL homepage in either task one (which asked participants to find the full-text of an article online using the platform of their choice), task two (which asked participants to find the full-text article from a given citation using the platform of their choice), task three (which asked participants to find the full-text of an article online starting from the DUL homepage), task four (which asked participants to find the full-text article from a given citation starting from the DUL homepage), or some combination thereof. It is important to note that if a participant chose the DUL website as their platform of choice in task one, then we did not ask them to perform task three; if a participant chose the DUL website as their platform of choice in task two, then we did not ask them to perform task four. When given a scale of one to five (with one being very easy and five being very difficult), seven out of eight participants (87.5%) rated using the DUL website to find full-text articles between one and two, while the remaining participant gave a rating of three.
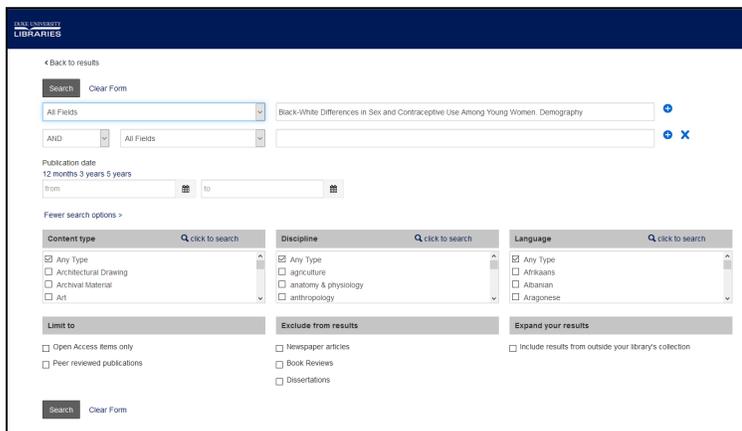
All five undergraduate students successfully found full-text articles using the DUL homepage and ending with the article ready to download in a pdf format. Three out of five (60%) students pointed out issues they have experienced in the past, which they consider challenging, such as not gaining direct access to specific full-text articles due to paywalls or links being broken. Another student mentioned an issue with not being able to access or generate various citations from online articles. Another student indicated an issue with not being able to search by what is in the body of the article text. Lastly, one student was pleased with being able to search by two keywords instead of a specific title and still get relevant results.

When using the DUL homepage for their search in either task one (find full-text article using platform of choice) or task three (find full-text article using DUL homepage), all three graduate students chose to do a simple keyword search that took them to the Bento results page (see screenshot at right). The two graduate students who chose to use Google Scholar initially for their search in task one (find full-text article using platform of choice) were both able to find the full text of an article using the DUL website in task three (find full-text article using DUL homepage). One graduate student searched for the same topic using the exact same keywords that he used with Google Scholar in task one (find full-text article using platform of choice). He also expressed that he was trying to find the exact same full-text article as he did with Google Scholar. However, he was not able to immediately find it as he did with Google Scholar. Once he saw it was not listed on the Bento results page, he clicked on "see all article results" and also did not find it. He had to add one of the authors' last names and the journal abbreviation to his search string and then filter the results by year of publication before he was able to locate the specific article. This particular graduate student did not seem at all annoyed by this experience. When it comes to using the DUL website to find full-text articles for research, all three graduate students expressed that it was easy to use. When asked what they thought the most important feature of the DUL website was when it comes to finding full-text articles, two of the three (66.7%) graduate students remarked positively on the utility and effectiveness of the advanced search feature accessed from the "All" search located on the DUL homepage (see screenshot of the Advanced Search interface above). When asked about what other features they noticed and would like to comment on regarding

the DUL website, one student noticed the "books & media" and "articles" tabs located on the DUL homepage, and said he could see himself, "toggling between textbooks and articles when using the DUL website." This student also noticed that the DUL website, "caters to different audiences from across various disciplines." Another student stated that during a difficult search, she likes to use the filter options to retrieve more precise results.

4. ***How easily can users find a known article (exact citation) that is available through multiple online platforms (journal/publisher website, large database, etc.)?***

All eight participants were able to successfully find/access the full-text article from the citation provided during the usability test in either task two (which asked participants to find the full-text article from a given citation using the platform of their choice) or task four (which asked participants to find the full-text article from a given citation starting from the DUL homepage).

All five undergraduate participants successfully located a known article using a citation that was provided during the test. Some of the undergraduate participants were able to figure out how to copy and paste from the Zoom interview and then place it in the DUL homepage all search box, while others typed in keyword identifiers to locate known articles. All five undergraduate participants could locate the known article in a PDF format and ready for download using the DUL "All" search.

All three graduate students were able to successfully find/access the full-text article of the citation provided during the usability test. It is important to note that during task two (which asked participants to find the full-text article from a given citation using the platform of their choice), none of the graduate students were able to copy/paste any portion of the citation from the Zoom chat window. Thus, they had to type in whatever information they deemed sufficient to find the full text of the article. This probably prolonged how quickly and efficiently they were able to find the full text of the citation. All three graduate students typed in the citation's entire article title into their search boxes, and were able to find the full text of the article without an issue. Two of the three (66.7%) graduate students used Google Scholar to search for the known article in task two (find full-text article from citation using platform of choice), while the other used the DUL "All" search.

5. *How does finding the known article (exact citation) using the DUL homepage compare to using other methods for finding the article (e.g., Google Scholar)?*
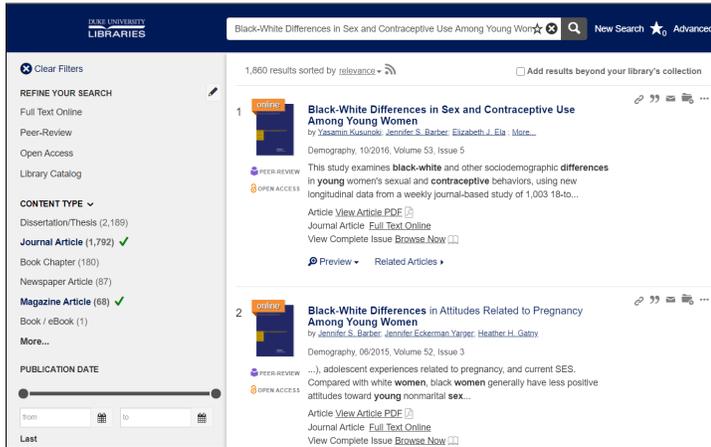


All five of the undergraduate students successfully located a full-text article from the provided citation. Students were asked if there was anything easy about finding the article from the DUL homepage. All five students stated that being able to search by keyword(s) and link to the full-text pdf from the DUL Bento results page, as opposed to having to navigate through multiple pages in order to access the full-text pdf, is beneficial and welcoming. A student pointed out that they like the advanced search linked from the DUL homepage (see screenshot below) which enables them to separate articles, journal, or book searches. The online formatting was straightforward, and the location of the DUL homepage's main search box is in an accessible place. One student pointed out that copying and pasting the title in the search box gives them the article they wanted, along with referencing other articles that are similar in topic. All five undergraduate students indicated that they will continue to use the DUL online article website post-graduation and into their graduate studies. All five undergraduates pointed out the essential features to them were being able to search/filter for peer-reviewed articles and search by keyword(s). The undergraduates also indicated that having everything pop up when searching for articles and books when doing a simple search, then filtering them by
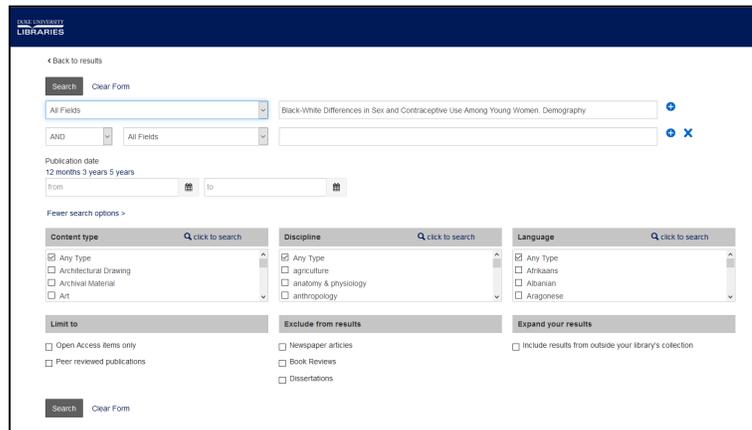


full-text, is beneficial. They also identified that having the ability to search by keyword(s) even if they do not know the full title of an article is excellent. The DUL homepage "All" search gives them the ability to search by the author, which opens up a wide range of access and search functions. Undergraduates also acknowledged that if they cannot find what they are looking for,

they can receive guidance from Duke librarians. When asked what could be improved about using the DUL homepage to search for online articles, one participant pointed out a problem in not having citation styles for different disciplines on publisher platforms. They also noted not having the ability to search the full-text of all articles. One undergraduate pointed out that having a virtual bookshelf or being able to flag articles to save for later would be beneficial.

The two graduate students who initially started their searches on Google Scholar in task two (which asked participants to find the full-text article from a given citation using the platform of their choice) took different approaches in finding the same citation in task four (which asked participants to find the full-text article from a given citation starting from the DUL homepage). One graduate student performed a search from the DUL homepage's "All" search using the same exact search string he used when using Google Scholar, which included the authors' names, the title of the article, and the year of publication. This actually yielded zero results. This student then chose to remove the authors' names from the search string and was subsequently able to find/access the full text of this article. This was noteworthy considering he was able to find the article without incident using Google Scholar. This particular graduate student did not seem at all frustrated by this experience. The other graduate student's search strategy using the DUL



website was notably different from what he did when using Google Scholar. He performed an advanced search (accessed from the "All" search located on the DUL homepage) in which he chose to search using the author, title, and publication title fields. Both graduate students were able to find and access the full text of the article from the citation provided.

## Appendix: Accessing online journals test script

Hello [NAME]. Thank you for volunteering to participate in this study. My name is [NAME] and I will be walking you through our tasks today. This is [NAME] and he will be taking notes. I will mostly be reading from a script to ensure each testing session is as consistent as possible.

We are considering making some changes to our website's online journals and we're trying to better understand how our users interact with it.

Completing all of the tasks today should only take around fifteen minutes, but don't worry about going too fast or too slow. There is no right or wrong action, because I am testing the system, not testing you. I will ask you to think aloud while you complete tasks so that I can get an idea of your thought process. Your input is very valuable to our research so please be as honest as possible when providing feedback. If you have any questions as we go along, don't hesitate to ask.

Do you have any questions for me so far?

Thank you.

First, I have a few general questions.

**PRE-TEST QUESTIONNAIRE**

- How many years have you been enrolled at Duke?
- What is your major or program of study?
- What websites or search tools do you normally use when finding articles for research papers or projects? (Note: if they just name one tool, ask if there are other websites or platforms they use.)
- How often do you search for online articles?
    - 1-2 times per week
    - 1-2 times per month
    - 1-2 times per semester
    - Never

Thanks. If you are ready to begin, I am going to start recording. Could you please share your screen?

Now I'm going to ask you to try doing some specific tasks based on different scenarios. Please remember to think aloud as you complete each task.

**TASK 1**

You're doing research for a class or project and you'd like to find the full-text of an article online. Can you show me how you would find a particular article on your topic?

[RECORD]

- Their path

- What do they click on?

- Features they notice or comment on in particular

[EVALUATE: How easily can they find the full-text of the article?]

**TASK 2**

You're doing research for a class or project and you'd like to find the full-text of this article:

Kusunoki, Y., Barber, J., Ela, E., Bucek, A., Barber, J. S., & Ela, E. J. (2016). Black-White Differences in Sex and Contraceptive Use Among Young Women. *Demography*, five3(five), 1399–1428.

How would you find this article?

*\*\*Note: Send user citation via chat.*

[RECORD]

- Their path

- What do they click on?

- Features they notice or comment on in particular

[EVALUATE: How easily can they find the full-text of the article?]

**TASK 3**

This task is similar to Task 1. You're doing research for a class or project and you'd like to find some articles online. Can you show me how you would find a particular article on your topic, but this time using the Duke University Libraries homepage.

*\*\*Note: Send users the URL for the DUL homepage in the chat, [https://library.duke.edu/](https://library.duke.edu/).*

[RECORD]

- Their path

- What do they click on?

- Features they notice or comment on in particular

[EVALUATE: How easily can they find the full-text of the article?]

**TASK 4**

*\*\*Note: Do NOT perform this task if the user has already used DUL homepage to find the citation in Task 2.*

This task is similar to Task 2. You're doing research for a class or project and you'd like to find the full-text of this article:

Kusunoki, Y., Barber, J., Ela, E., Bucek, A., Barber, J. S., & Ela, E. J. (2016). Black-White Differences in Sex and Contraceptive Use Among Young Women. *Demography*, five3(five), 1399–1428.

How would you find this article using the Duke University Libraries homepage?

*\*\*Note: Send users the URL for the DUL homepage in the chat, [https://library.duke.edu/](https://library.duke.edu/).*

[RECORD]

- Their path

- What do they click on?

- Features they notice or comment on in particular

[EVALUATE: How easily can they find the full-text of the article?]

[RECORD RESPONSE]

[END TASKS]

Great! That concludes our final task. I have some additional questions I'd like to ask you.

**POST-TEST QUESTIONNAIRE**

- What about finding/locating articles today was easy?
- What about finding/locating articles today was challenging?
- In the future, what platform/method are you most likely to use for your research needs?
- On a scale of 1 - 5 (with 1 being very easy and five being very difficult), how would you rate using the library's website to find full-text articles for your research?
- What do you think is the most important feature of the Duke University Libraries' website when it comes to finding full-text articles?
- As you were searching for full-text articles on the Duke University Libraries' website, were there any other features you noticed and would like to comment on? If so, what are they?

**STUDENT INFORMATION COLLECTED**

- Name
- Unique ID
- Student status (undergrad or grad student)
- U.S. Citizen (yes/no is fine).
- And just to confirm, we plan to email your gift card to [email address]. Is this correct?
- Do you have any questions for me?

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Thank you so much for your participation in this study. Your Amazon $five gift card will be emailed within 24 hours. Again, thank you for your participation. Have a great day.