

Testing the Usability of Two Online Research Guides

Luigina Vileno

Subject Librarian for Applied Human Sciences and Psychology
Concordia University

Keywords

Pathfinders, Research Guides, Subject guides, Usability, Usability Testing

Abstract

This article describes usability testing of two online research guides. One guide was in the area of applied human sciences and the other was geared toward the discipline of psychology. Six undergraduate students were given several tasks to complete by using the guides. The participants also completed two questionnaires. One described the participants' demographics and how much time they spent on the Internet on a daily basis. On the other questionnaire, filled out after the usability test, the participants rated the online research guides. Overall, the online research guides were found to be difficult to use. By observing how the participants interacted with the online research guides, the author has identified several problem areas that need to be addressed.

Introduction

Most academic reference librarians have been involved in the creation and updating of research guides or pathfinders, both online and in print form. Some have wondered if all that work was worth the effort (Morris and Grimes 216; Vileno 435). Are students interested in using such guides (Vileno 443)? And if they are, is the guide easy for them to use? Are they finding what they are looking for in these guides (Vileno 443-444)?

This article is about testing the usability of two online research guides. The test had four main objectives:

- To observe students as they interacted with the online research guides
- To identify patterns in the way students used the guides
- To improve the guides, based on how the students interacted with them
- To see if usability testing is feasible in evaluating web-based tools in a library

Review of the Literature

The origins of research guides or pathfinders have been traced back to the early 1890's (M. M. Smith 512). In the late 1990s, librarians began to write about creating and maintaining online guides. Most of the articles were of a "how-to" nature, although some publications described research findings. Two papers were found that reported usability studies of online pathfinders: Dean's 1998 article and one published in 2004 by

Reeb and Gibbons. Although these two articles presented general observations based on the usability testing of online guides, they did not share their findings in detail. The University of Washington's *Usability Study on the Subject Pages* and MIT's "Big Test" *Usability Test* (Hennig et al.) are available on the World Wide Web but not in journal articles.

In the last few years, some authors have reported various methods of evaluating online subject guides. Charles H. Smith described a "meta-assessment" process of online research guides usage. Jennifer J. Little explained how cognitive load theory could be used to assess subject guides. Grays, Del Bosque and Costello used online focus groups to evaluate pathfinders, and Staley administered a questionnaire to over 1,000 students across three disciplines to assess three research guides. In her review of the literature, Staley had found that the literature on subject guides lacked user-centered data (Staley 120).

Several website evaluation methods exist, including focus groups, surveys, site-log analysis, and usability testing (Popp 278-279). Focus groups help identify user needs and what they expect from a web site. Surveys allow researchers to get input from a large number of users and site-log analysis can identify usage patterns (Comeaux 459). Usability testing allows evaluators to "...observe users performing real tasks to uncover which parts of the interface worked well for them and which were showstoppers—which features caused frustration and which facilitated their search" (Fuller et al. 291).

Although each evaluation method has its own merits, the goal of usability testing, "...is not to provide a thorough evaluation of user behavior, it is to highlight the majority of difficulties that most users would encounter when interacting with a website" (Fuller et al. 291). According to Steve Krug, usability testing is the best way to find out how a site works and how it can be improved (Krug 133). "Testing reminds you that not everyone thinks the way you do, knows what you know, uses the Web the way you do" (Krug 134).

Ward and Hiller neatly describe the basics of usability testing. Usability testing involves observing participants as they complete a series of tasks using a product or service:

Participants are often asked to comment on the process during the test (by thinking aloud) or afterwards and their activity may be captured through a variety of methods: observation, visual and/or audio recording, or through a computer log. The goals of usability testing are to provide data on whether participants can accomplish the task (effectiveness), do it in reasonable time and effort (efficiency), show how it is done (context), and finally their reaction to the product or service (satisfaction). The information acquired from usability testing is then shared with developers and designers and others in direct contact with the user community to better understand user behavior and as part of a user-centered design process (Ward and Hiller 154).

Norlin and Winters have published a manual that "...provides the essentials to get your website usability testing project started" (Norlin and Winters viii). This short book, aimed at librarians, includes a brief introduction to usability testing as well as step-by step instructions.

Preparing for the Usability Study

Research Setting

Concordia University is a large (about 44,000 students), comprehensive institution in Montreal QC, Canada. Each academic department in the university has a "subject librarian". The subject librarian is responsible for creating and maintaining "research guides" online. Although the guides share a similar template, depending on the subject area and its subject librarian, the guides vary in the amount of information made available and in how they are organized.

In 2006, a working group at the Concordia Libraries undertook a usability study of the Libraries' online catalogue, *CLUES*. The subject librarian for Applied Human Sciences (AHSC) and Psychology decided to undertake a similar usability test for her two online research guides. This project closely follows what was done by the *CLUES* Usability Study (Duy et al.).

The Research Team

The Applied Human Sciences and Psychology Librarian and a student librarian from McGill University's School of Information Studies prepared the pre-test and post-test questionnaires as well as the testing tasks in 2008. The questionnaires and testing tasks were tested by a non-library-related individual. Two other student librarians were hired as moderators for the actual testing, which took place in the winter of 2010.

Participant Recruitment

As the study involved human subjects, approval was requested and received from the University Human Research Ethics Committee. Psychology and AHSC professors were asked to forward their students an email from the Subject Librarian, inviting them to participate in the study. Students were informed that the test would last approximately 1 hour, that it would take place in the Library and that they would be compensated with a \$50.00 gift card from the University's Bookstore. In all, fifteen students responded: ten from psychology and five from AHSC.

According to Krug, "...the ideal number of users for each round of testing is three, or at most four" (Krug 138); therefore, the first three that replied from each department were recruited. The rest were thanked for their interest and put on a waiting list in case any of the first three were unavailable. All the participants communicated with the Subject Librarian by email, however, on the day of the test, they met only with the moderator.

Designing the Tasks

According to Norlin and Winters (32), the tasks should reflect the site's goals and objectives. The goals of the AHSC and Psychology online Research Guides are to help students achieve the following:

1. Find their subject librarian's contact information
2. Find appropriate databases for journal articles
3. Get help in finding tests and scales
4. Identify professional associations in their disciplines
5. Find specialized, discipline-specific information

Accordingly, specific tasks were identified with these goals in mind.

Data Collection

The testing took place in an office in the library. Moderators read from a script that described what would occur. All participants signed a consent form and completed the pre-test questionnaire. The moderators then gave the participants the tasks.

Participants were given the option of either speaking the answers into the microphone or of writing the answers on a sheet. The test was video-recorded with the *Camtasia* software. A microphone was connected and participants were encouraged to think out loud. They were asked to fill out a post-test questionnaire. Before leaving, they were given a package with a thank-you note, a \$50.00 gift card and a library book bag.

Data Analysis

The questionnaire answers were tabulated and recorded into worksheets (Tables 1 and 2). The test videos were watched many times. The first two viewings were to get a general idea of how the participants moved around the online research guides. It quickly became apparent that a more structured approach was needed if any useful information was going to be harvested from these videos. Each participant's video was watched again, task by task. For each task the following was recorded in a worksheet: its number, at what minute: second in the video it occurred, whether the guide was successful or not, each mouse movement or click, and some verbal comments made by the participant.

Findings

Table 1. Participant Demographics.

Table 1 summarizes the results of the pre-test questionnaire.

Results from pre-test questionnaire	
1. Please indicate your age:	
17 - 22	4
23 - 28	
29 - 34	
35 - 40	
40 +	2
2. How much time do you spend using the internet each day?	
Less than 1 hour	
1 to 3 hours	3
3 to 5 hours	2
More than 5 hours	1
3. Please indicate your current program of study:	
PSYC	3
AHSC	3
4. What best describes your use of the Concordia University Libraries' website:	
Used frequently	2
Used occasionally	1
Used rarely	3
Used never	
5. Have you ever received instruction on how to use the library?	
Yes	3
No	3

Unsure	
6. Have you ever used one of Concordia University Libraries' online "Research Guides"?	
Yes	
No	3
Unsure	3

Results for AHSC Research Guide

Figure 1 shows the AHSC Research Guide and the expected first step for each task.

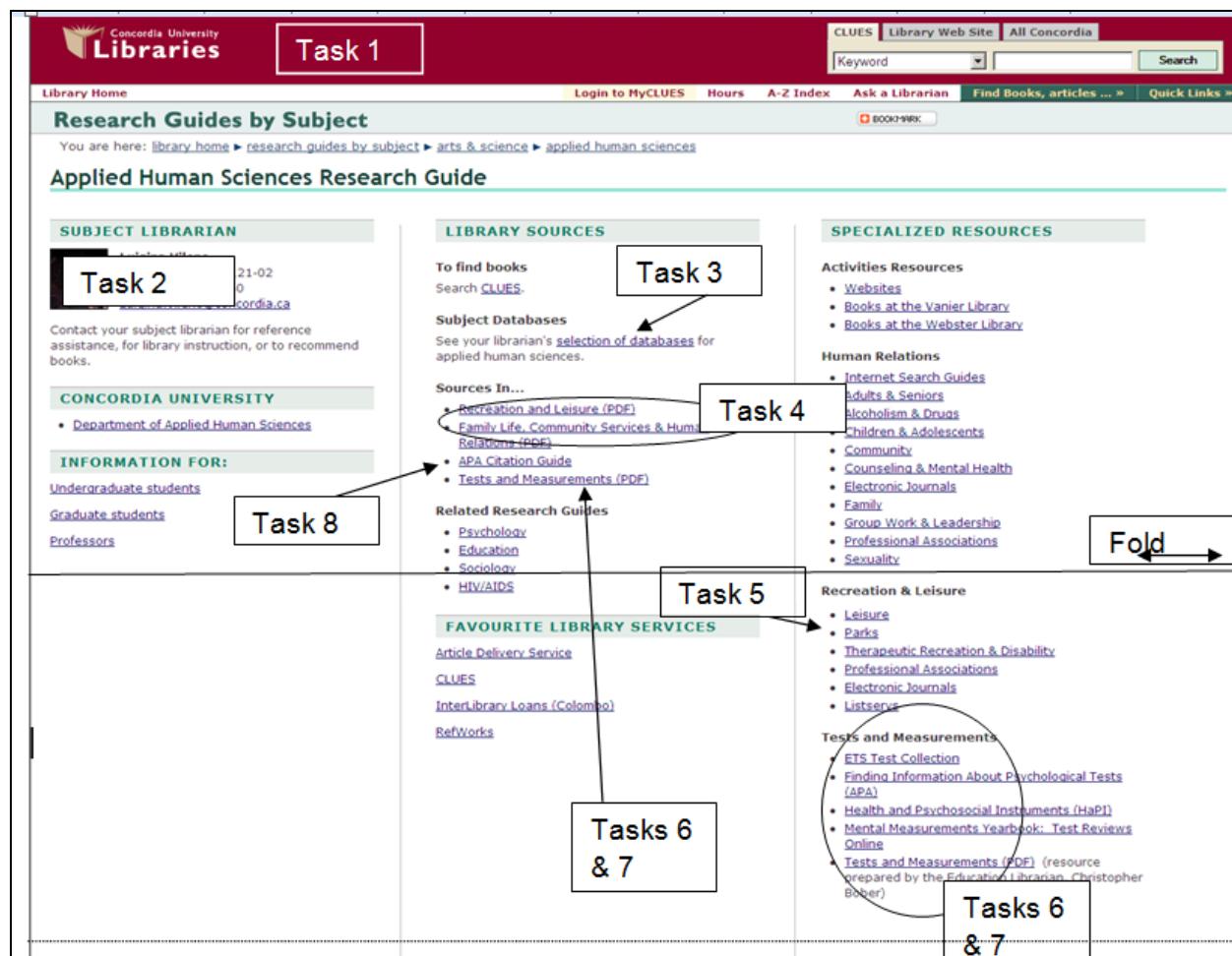


Figure 1 AHSC Research Guide and the expected first step for each task.

Task 1. Locate the Research Guide for Applied Human Sciences.

Expected path: browser opens at the *Libraries' Homepage*, (<http://library.concordia.ca>). Click on the tab on the left-hand side, **Research Guides by Subject**. On the next page, choose **Arts and Science**, then **Applied Human Sciences** from the listing.

Paths taken: all three AHSC participants found the Research Guide for Applied Human Sciences. Two had some difficulty because of the jumpiness of the mouse and the roll-over menu on the *Libraries' Homepage*. After some trial and error, they found their way to the Research Guide. One participant had trouble from the index page of the Research Guide for the Faculty of Arts and Science, due to the department names entered in left-to-right fashion rather than down-to-up. Eventually, she saw the heading for AHSC.

Possible revisions: the roll-over menu on the *Libraries' Homepage* is being removed in a site makeover. In the same makeover, on the departmental listing page, rather than having the department names lined up left-to-right, they will be listed down-then-up.

Task 2. Who is the Subject Librarian for Applied Human Sciences? What is his/her contact information?

Paths taken: all three AHSC participants easily found this information.

Possible revisions: add area code to telephone number.

Task 3. You are writing a paper on "geriatric psychotherapy"; name two subject databases where you would search for articles.

Expected path: from the Research Guide index page, click on the **selection of databases** link, under the **Subject Databases** heading. Scan the annotated listing and select **PsycInfo** and **Ageline**.

Paths taken: two out of three of the AHSC participants did not click on the database listing link on the Research Guide. One participant went to the OPAC's search box on the top right hand corner of the page. This led to books on "geriatric psychotherapy", not journal articles. She did not seem to be aware of this. The participant said that she "...found information".

The second participant clicked on one or two links on the Research Guide but her final answers were not database names, rather two headings from the Research Guide's right-hand column, **Adults and Seniors** and **Counseling and Mental Health**.

One AHSC participant found the link to subject databases on the index page of the Research Guide. She chose **Ageline** and **ECO** as the two databases. Unfortunately, she did not speak at all during the testing, so we cannot say what led her to choose these databases.

Possible revisions: change the heading, **Subject Databases** to **To Find Journal Articles** and link it to the automatically-generated listing of databases for AHSC. It is easier to keep up-to-date and annotations did not appear to help the participant with her choice.

Task 4. What dictionary would you use to look up the definition of the word "hypertension"?

Expected path: from the Research Guide, click on one of the **Sources** in links. Find a dictionary from the listing.

Paths taken: the Research Guide was seriously flawed. Nowhere on the page could a user see that dictionaries are listed in the **Sources In** pages. So, none of the participants followed the expected path. All three tried to search **CLUES**, the online catalogue. Two searched it from the search box in the upper right hand corner and one linked to it from the link in the middle column under the heading **To find books search CLUES**.

Possible revisions: remove **Sources In...Recreation and Leisure (PDF)** and **Family Life, Community Services & Human Relations (PDF)**. Replace with a bulleted list: **Dictionaries, Encyclopedias, and Directories**. Each listing will include first online sources and secondly, print sources.

Task 5. Your instructor has asked you to find a map of Yellowstone National Park in the United States; which source from the Research Guide would you use?

Expected path: from the Research Guide, click on the **Parks** link under the **Recreation and Leisure** heading in the right-hand column. The first site listed there is **OhRanger! The American Park Network**, which according to the annotation, "...provides an overview of America's National Parks including directions to get there, key attractions, and camping information...."

Paths taken: one participant started on the expected path. She clicked on the Parks link on the Research Guide. However, once on that page, she went to the **CLUES** search box and typed *Yellowstone national park*.

The other two participants moved away from the Research Guide to the *Libraries' Homepage*. One searched for *yellowstone national park* in the **CLUES** search box. The other participant hovered over the **Online Reference** section on the homepage and clicked on **Maps**. From there, she followed the links to the **US Census Bureau Maps and Cartographic Resources**.

Possible revisions: perhaps the two that moved away from the Research Guide did so because the **Parks** heading fell below the "fold". This is because the listing of topics is long. Therefore, review the list of topics on the right-hand column and only keep those that lead to information that is otherwise difficult to find on the Internet. This will shorten

the list, thus avoiding the fold and make it easier for participants to find the heading with one glance.

Task 6. You are assigned the task of developing a research proposal that incorporates the "Acute Stress Disorder Scale" test. Identify a good website for finding such a test.

Expected path: from the AHSC Research Guide, go to the **Tests and Measurements** heading in the right-hand column and choose a link from there, preferably **ETS Test Collection or Health and Psychosocial Instruments (HaPI)**. Another possibility would be to go to the **Sources in Tests and Measurements (PDF)** link in the middle column and find possible websites from there.

Paths taken: at this point, two participants stayed away from the Research Guide. One was using the Google search box in the upper right-hand corner of the browser. Another participant went to the *CLUES* search box, in the upper right-hand corner of the *Libraries' Homepage*. The third participant found the **Tests and Measurements** section in the right-hand column. She comments, "...By fluke we'll have to check all of them...."

Possible revisions: remove some of the headings in the right-hand column to shorten it. This will bring the heading of **Tests and Measurements** above the fold. Rename the heading **Tests and Scales**. Add subheadings: **Find Tests; Find Reviews of Tests; Find More Information**.

Task 7. Name a website that could provide you with a review of an educational or developmental test.

Expected path: from the AHSC Research Guide, go to the **Tests and Measurements** heading in the right-hand column and choose **Mental Measurements Yearbook: Test Reviews Online**. Another possibility would be to go to the **Sources in Tests and Measurements (PDF)** link in the middle column and find possible websites from there.

Paths taken: none of the participants were able to complete this task from the Research Guide. One participant was in the "correct" area of the guide, **Tests and Measurements** in the right-hand column. However, instead of clicking the link to **Mental Measurements Yearbook: Test Reviews Online**, she clicked the link to the **ETS Test Collection**. Another participant, from the Libraries' home page, went to the *CLUES* search box and typed in *education test*. Finally, the third participant searched in Google for *review of an educational or developmental test*. She also was unsuccessful.

Possible revisions: again, removing some of the headings in the right-hand column will shorten it and move the heading of **Tests and Measurements** above the fold. Rename the heading **Tests and Scales**. Also, it might help to add subheadings: **Find tests; Find reviews of tests; and Find more information**.

Task 8. Format the following information into a proper reference list citation using the APA style:

Title	Promoting Subjective Well-Being at Work
Author	Russell, Joyce E. A.
Affiliation	University of Maryland
Source	Journal of Career Assessment, vol. 16, no. 1, pp. 117-131, February 2008
ISSN	1069-0727
Journal Pages	117-131
Journal Volume	16
Journal Issue	1
Publisher	SAGE Publications
Publisher Location	Sage CA: Los Angeles, CA
Publication Year	2008

Expected path: from the AHSC Research Guide, click on the **APA Citation Guide** link in the middle column. Follow the instructions on the **Guide**.

Paths taken: one participant immediately found the link to the **APA Citation Guide**. However, once inside the guide, she did not scan the page and did not find the instructions on how to cite a journal article. Another participant, from the *Libraries' Homepage*, clicked on the "Cite it correctly" banner on the right-hand side of the page. A third participant Googled *concordia library apa referencing*. This took her to the libraries' online **APA Citation Guide** where she found the correct information and was able to complete the task.

Possible revisions: rather than keep the **APA Citation Guide** as a bullet under the heading, **Additional resources**, make it into its own heading.

Results for Psychology Research Guide

Figure 2 shows the Psychology Research Guide and the expected first step for each task.

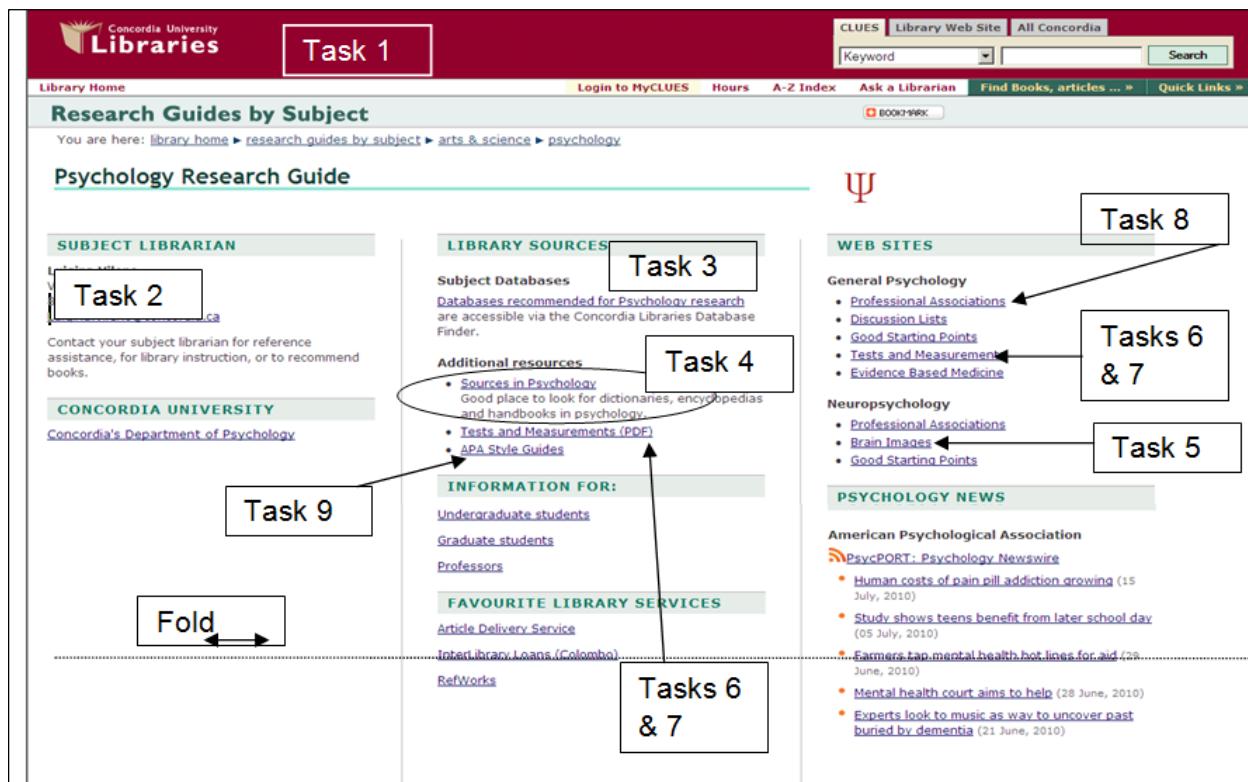


Figure 2. Psychology Research Guide and the expected first step for each task.

Task 1. Locate the Research Guide for Psychology.

Expected path: browser opens at the *Libraries' Homepage*, (<http://library.concordia.ca>). Click on the tab on the left-hand side, **Research Guides by Subject**. On the next page, choose **Arts and Science**, then **Psychology** from the listing.

Paths taken: all three participants easily found the Research Guide for psychology.

Possible revisions: none as the Research Guide seemed to pass this task.

Task 2. Who is the Subject Librarian for Psychology? What is his/her contact information?

Paths taken: all three participants easily found the information on the Research Guide.

Possible revisions: add area code to telephone number and possibly a photograph of the librarian.

Task 3. You are writing a paper on "geriatric psychotherapy"; name two subject databases where you would search for articles.

Expected path: click on the **Databases recommended for Psychology research** link in the middle column. From the **Psychology Databases** page, scan database names and identify **PsycInfo** and **Ageline**.

Paths taken: two out of the three participants followed the expected path. Only one, however, decided on **PsycInfo** and **Ageline**. The other participant stopped at **PsycInfo**. The third participant did not use the Research Guide to answer the question. Instead, he quickly returned to the *Libraries' Homepage* and followed the link to the databases from there.

Possible revisions: although two out of three followed the expected path, it might be clearer if the heading read **Find articles** rather than **Subject Databases**. Also, to save space, remove the note "...are accessible via the Concordia Libraries Database Finder", as this is not important to students.

Task 4. What dictionary would you use to look up the definition of the word "acalculia"?

Expected path: click on the **Sources in Psychology** link since it has the subheading, "Good place to look for dictionaries, encyclopedias and handbooks in psychology." Several online dictionaries are listed on the next page.

Paths taken: as was the case with the AHSC Research Guide, the Psychology Guide failed this task. One participant followed the expected path, although he had some trouble seeing the link. The other two did not follow the path. They went to the *Libraries' Homepage* instead. One searched for the word "dictionaries" in the *CLUES* search box. Eventually, he found the definition in Google. The other participant went to the **Online reference** heading and clicked on the word **Dictionaries**.

Possible revisions: remove **Sources In Psychology (PDF)**. Replace with bullets: **Dictionaries, Encyclopedias and Handbooks**. Each item should link to a listing, first of online sources then print sources.

Task 5. Your instructor has asked you to find images of the lateral surface view of the human brain, which source from the Research Guide would you use?

Expected path: from the Psychology Research Guide, in the right-hand column, under the heading, **Neuropsychology**, go to **Brain Images**. Click on **BrainInfo** or **BrainMaps**.

Paths taken: all three participants eventually followed this path. Two out of the three found it right away. The third participant went to the database listing and searched PubMed. When that did not work, he returned to the Research Guide and followed the expected path.

Possible revisions: none as the Research Guide seemed to pass this task.

Task 6. You are assigned the task of developing a research proposal that incorporates the "Acute Stress Disorder Scale" test. Identify a good website for finding such a test.

Expected path: from the Psychology Research Guide, click on the **Tests and Measurements** link in the right-hand column, under the **General Psychology** heading. Choose either **Health and Psychosocial Instruments (HaPI)** or **ETS Test Collection**. Another possibility would be to go to **Tests and Measurements (PDF)** link in the middle column. This opens a pdf. Participant would then scan the document for possible sites.

Paths taken: one participant followed the path to the **Tests and Measurements (PDF)**. Another participant followed the path to the **Tests and Measurements** link in the right-hand column, under the **General Psychology** heading. The third participant abandoned the Research Guide and went to the *Libraries' Homepage*, to the Psychology database listing, saying, "I would find an article that talked about it first".

Possible revisions: rather than keep two choices, one in pdf format and one in html format, keep just one listing, in html format. Remove the **Tests and Measurements** link from the listing under **General Psychology** and give it its own heading or a more prominent look in the middle column.

Task 7. Name a website that could provide you with a review of an educational or developmental test.

Expected path: from the Psychology Research Guide, click on the **Tests and Measurements** link in the right-hand column, under the "General Psychology" heading. Choose **Mental Measurements Yearbook: Test Reviews Online**. Another possibility would be to go to **Tests and Measurements (PDF)** link in the middle column. This opens a pdf file that the participant may scan for possible sites.

Paths taken: three different paths were followed for this task. One participant seemed to have understood he was to find a review of the *Acute Stress Disorder Scale*. From the Research Guide, he went to the **Tests and Measurements pdf** link in the middle column. From there, he went to the ETS website, as he did in the previous task. He searched for *acute stress disorder scale*. When he did not see a review, he returned to the Research Guide and followed through to PsycInfo because that was what he was familiar with.

A second participant, from PsycInfo, opened a new tab and went to Google Scholar. He searched for *developmental test*. He scanned the first and second pages of his results, when he found one that looked right, he opened it in ScienceDirect.

The third participant returned to the Psychology Research Guide because it "...seems like a good place to start". He clicked on **Tests and Measurements (PDF)** in the

middle column. Scrolling down the document, he noticed the heading, **Using the Internet to Locate Educational and Psychological Tests**, and admitted that this might have helped him in the previous task. Scrolls down to the section entitled, "Test descriptions and reviews". Scanning down the page, looking for a "website", and he noted that it "...would be nice if there were links for all of them" and that "There's a lot of information." He returned to the Psychology Research Guide and to the **Tests and Measurements** section under General Psychology in the right-hand column. This is where he saw the link to **Mental Measurements Yearbook: Test Reviews Online**, particularly the subtitle, **Test Reviews** "...awesome...."

Possible revisions: once again, rather than keep two choices, one in pdf format and one in html format, keep just one listing, in html format. Remove **Tests and Measurements** link from the listing under **General Psychology** and give it its own heading or a more prominent look in the middle column. Include subheadings, such as: **Find a Test, Find Reviews of a Test, And More Information.**

Task 8. What is the full contact information of the head office of the Canadian Psychological Association?

Expected path: from the Psychology Research Guide, go to the right-hand column, under **General Psychology, Professional Associations** and from the listing of Professional Associations, choose the Canadian Psychological Association.

Paths taken: all three participants found the information, but one did so via Google.

Possible revisions: either list headings in alphabetical order or place **Good Starting Points** first on the list.

Task 9. Format the following information into a proper reference list citation using the APA style:

Title	Promoting Subjective Well-Being at Work
Author	Russell, Joyce E. A.
Affiliation	University of Maryland
Source	Journal of Career Assessment, vol. 16, no. 1, pp. 117-131, February 2008
ISSN	1069-0727
Journal Pages	117-131
Journal Volume	16
Journal Issue	1
Publisher	SAGE Publications
Publisher Location	Sage CA: Los Angeles, CA
Publication Year	2008

Expected path: from the Psychology Research Guide, click on the **APA Citation Guide** link in the middle column. Follow the instructions on the **Guide**.

Paths taken: none of the participants followed the expected path. One participant followed the link to **RefWorks** and started to watch an online tutorial. Another participant opened up **MS Word** and started to use its *References* feature. A third participant went into **PsycInfo** to find the citation in APA style. The third participant said that if he did not find a citation in **PsycInfo**, he would consult the **APA Style Guide**. He then proceeded to show us how he would get there and followed the expected path.

Possible revisions: rather than keep the **APA Citation Guide** as a bullet under the heading, **Additional resources**, make it into its own heading.

Table 2. Participants' overall experience in using the research guides

Results from post-test questionnaire	
Please answer the questions below, which will help us understand how you perceived your interaction with the Research Guide.	
1. It was easy to find the information I needed to complete the tasks.	
Strongly agree	
Agree	3
Neutral	1
Disagree	2
Strongly disagree	
2. The wording that is used for labels makes it easy to use the Research Guides.	
Strongly agree	1
Agree	2
Neutral	2
Disagree	1
Strongly disagree	
3. The three-column layout of the page makes it easier to find needed information.	
Strongly agree	1
Agree	2
Neutral	2
Disagree	1

Strongly disagree	
4. The Research Guide required too many steps (clicks) to accomplish a task.	
Strongly agree	1
Agree	2
Neutral	
Disagree	3
Strongly disagree	
5. I liked the colours and aesthetics of the Research Guide.	
Strongly agree	2
Agree	2
Neutral	2
Disagree	
Strongly disagree	
6. Overall, I found the experience of using the Research Guide frustrating.	
Strongly agree	
Agree	4
Neutral	
Disagree	1
Strongly disagree	1
7. It was easy to navigate back to main page of the Research Guide.	
Strongly agree	2
Agree	2
Neutral	1
Disagree	1
Strongly disagree	
8. What could we do to make the Research Guides easier to use?	
Have more professors introduce it to students. I enjoyed it very much, especially the ref-works.	

<p>It is hard to say since it was my first time going through the Research Guide on Concordia's website - it was a little intimidating, but given more time to do this on my own, I would become accustomed to the process. Maybe you can hold a workshop -- if you haven't already done so. It might be helpful.</p>
<p>If we receive an instruction in how to use the Research Guides it would become very useful because I know it's full with very interesting, trusted information.</p>
<p>I'm not sure that my Research challenges are the fault of the "Research Guide" per [say] sic. It is probably more due to <u>my</u> lack of experience than the web sites usability.</p>
<ul style="list-style-type: none">o Make it more of a search engineo If tutorials given include the research guide
<p>The way the info is separated into the columns isn't always clear so you don't always know where to look and you can miss some things on the page that could have been helpful. Some things should have their own heading and not be grouped together. Ex. Dictionary link.</p>
<p>Feel free to add any further comments you may have about the Research Guides.</p>
<p>As I said earlier, we (students) are used to and like to find everything just by typing it in the "search" and to find it right away. Because that's what is offered out there. In the Internet. When have to read a lot, click a lot and cannot find what we are looking for in a matter of 5 minutes we'd go somewhere else.</p>
<p>If not already available, perhaps on-line tutorials for those of us less "web savvy"!</p>
<p>Some things could have been a little clearer. Perhaps there can be a few more subheadings with what is contained in each clearly linked underneath. Also instead of just giving reference numbers or where to find info, links inserted would be better, as found in most search databases (ex: Find here brings you to the article).</p>

Discussion

Three psychology students and three AHSC students were recruited to test the usability of their respective online research guides. The psychology students were male, in the 17-22 age range, and all had completed two library instruction sessions with the

Psychology Librarian. During those two sessions, in preparation for this study, the librarian refrained from referring to the psychology research guide. The three AHSC students were female and none had completed any kind of library instruction. Two of the AHSC students were in their forties. It would be tempting to attribute any differences in the testing experience to the age, gender or level of library instruction of the participants. All six students however, found, the research guides challenging to use.

One difference between the two groups was that the psychology students were familiar with PsyInfo and in their thinking-out-loud referred to it. This could be because they had received some training in database searching, specifically PsyInfo. However, they mentioned it even when it was not necessarily the best place to complete the task. The psychology guide did not help them make better choices. The AHSC students, particularly the older ones, sounded more nervous during the testing but shared some of the same frustrations with the research guide as the younger, more library-experienced psychology students.

In terms of the appearance of the guides, based on the results of the post-test alone, one cannot reach any conclusions. It was interesting to note that those that indicated they liked the format of the research guides or that they did not find the experience frustrating did not necessarily have less trouble using it. Perhaps this sort of questionnaire would yield more conclusive results if administered to a larger number of participants.

Conclusions

Have the objectives of the study been met?

- To observe students as they interacted with two online research guides

Video recording each student's interaction with the online research guides allowed the Subject Librarian to be absent from the testing, yet to repeatedly observe the students by watching the videos on her own.

- To identify patterns in the way students used the guides

It was observed that, for the most part, the online research guides were difficult to use, even for the most sophisticated-sounding participants. According to the post-test questionnaire, four out of six participants found the experience of using the online research guides frustrating.

In terms of patterns of use, five out of six participants were observed to use a search box rather than browse through a page, at least once during the usability test. At first sight, this can lead one to conclude that we simply need a search box in the middle of each page. However, what should we let them search: the contents of the guide, the

library web site, the library's catalogue, or databases? If we include a search box, will it be clear to users what it is they are searching?

- To improve the guides, based on how the students interact with them

These two online research guides must undergo several changes if they are to improve. Some of these changes are to:

- use more specific terms
 - avoid jargon
 - make greater use of headings and subheadings
 - remove links to pdf pages
 - create shorter pages
 - hyperlink significant words
 - invest more time in these changes, rather than writing annotations.
- To see if usability testing is feasible in evaluating web-based tools in a library

Based on this experience, usability testing is feasible and doable in libraries; however, it is time-consuming to do it correctly. Creating the perfect testing environment, hiring outside moderators, preparing tasks and questionnaires, especially for the first time, can be a lengthy process. Still, the time and effort can result in acquiring more awareness of how others see our web pages. It can make us more sensitive to our users' needs and ultimately, can help us improve library services, including online research guides.

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