

K-State Libraries Usability Team Report
Summer 2013

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Introduction 3

Executive Summary 3

Recommendations..... 3

 Recommendations for LibGuides 3

 Recommendations for the Libraries’ Homepage..... 4

 Recommendations for the Catalog..... 4

 Recommendations for Vendor E-Book Platform..... 4

Methodology 4

Results and Analysis..... 5

 Responses to the Demographic Survey..... 5

 Responses to the Task-Based Questions 8

Lessons Learned..... 16

Appendix A: Usability Test Questions..... 17

 LibGuides Questions..... 17

 Vendor E-book Platform Questions..... 17

Appendix B: Demographic Survey 18

Introduction

K-State Libraries employs a user-centered approach to web design that makes our website easy to navigate, sought out by users, valid in content, and reliable in currency of information. This usability test conducted during the summer of 2013 was a study of K-State Libraries' implementation of Springshare's LibGuides and how easily users can find, access, and use the information there. The study also analyzed the use of a library subscribed database by users and how it impacted usability.

This study was conducted using observational studies of voluntarily recruited participants as they performed assigned tasks using LibGuides and the K-State Libraries' website. Participants also completed an anonymous demographic survey at the conclusion of the study.

Executive Summary

This usability test studied two specific K-State Libraries resources: LibGuides and a vendor's ebook platform. The purpose of the study was to determine whether patrons encounter any problems with usability when accessing or using these tools.

To make this determination, the usability team created a demographic survey to find out more about the users (e.g. status as faculty, staff, or students) in the study and to discover details about their prior use of these resources. The team also created a series of task-based questions for users to perform under the observation of members of the usability team.

This report includes the results of the demographic survey and the task-based questions for the 20 participants in the study. Based on the results of the usability study, the team recommends a number of useful changes for the design and implementation of LibGuides, for clarifying several elements of the Libraries' homepage, for helping users to access electronic resources in the catalog, and for changes to the vendor e-book platform interface to make it more user friendly.

Recommendations

Based on the results of the usability test, we make the following recommendations.

Recommendations for LibGuides

1. Change all instances of the term "LibGuides" within the system to "Guides" or other nomenclature that excludes the brand name.
2. Change the "LibGuides" breadcrumb to "Guides."
3. Link all guides to a class or subject
4. The style of LibGuides should follow the University and Libraries web standards. See <https://www.ksu.edu/webservices/standards.html>.
5. Consider what should be included in Primo. Some users gravitated to the Search It widget in the center of the Libraries homepage to search for Class and Research Guides,

which are not included in Primo. Should Primo include LibGuides? Does language on the Search It box need to be rewritten to make it more obvious what the search box is for?

6. Replace the “Welcome” section of individual guides with an “About” section (or something similar) that provides an overview of the contents of the guide and preferably links to the individual tabs within the guide. For an example, see the “What’s in the Guide” section of a geography guide from University of Washington at <http://guides.lib.washington.edu/geography>.
7. Do not use a kitchen-sink approach for including information in a guide. In other words, choose information and resources specifically tailored for the target audience rather than adding less tailored information for the purposes of filling up a page or a tab.
8. Remove social media icons and related header rows.
9. Improve the usability of the LibGuides homepage by adopting a cleaner interface.

Recommendations for the Libraries’ Homepage

1. On the Search It widget, change the name of the “Research Guide” to “Search It Guide”
2. Make the “Use a class & research guide” link more prominent.
3. Put “E-Journals” on second line of the Search It widget. Currently, different browsers may display it differently.
4. Reorganize the “I want to…” section of the homepage.

Recommendations for the Catalog

1. Suppress the call number for ebooks.
2. Use a Get It button or a “Get Ebook” button to link users to the vendor’s site.
3. Change link color to conform with university and library web standards.
4. Suppress the location guide for electronic resources.

Recommendations for Vendor E-book Platform

1. On the Table of Contents page, list chapter numbers for each chapter to allow for easy identification.
2. On individual chapter pages, make the “Export citations” link more visible to the end-user.
3. Within the text, allow the user to highlight sections.
4. Within the text, allow the user to leave notes or annotations.
5. Allow the user to cut and paste from the text.
6. Allow the user to have multiple pages or chapters open at the same time.

Methodology

The usability team used brainstorming to identify possible problems with usability that patrons may encounter when using K-State Libraries’ LibGuides or Vendor E-book Platform. With these issues in mind, the team decided to use task-based testing (during which subjects are asked to perform tasks using software) to identify instances and causes of reduced usability. We created a list of tasks and scenarios that focused on the identified areas of concern within the

platforms to be tested. We then divided into two groups of three and drafted actual questions to use in testing that reflected the previously created tasks and scenarios.

After the questions for the usability test were finalized, we created a demographic survey that would anonymously collect data, such as grade level, age, area of study, and other related values. We then prepared an Internal Review Board (IRB) application that was submitted to Kansas State University's Research Compliance Office for approval.

After the IRB application was approved, participants were recruited for the study by invitation from team members and by team members approaching patrons within the library. During testing, two team members were present: One recorded the user's actions while the other team member read the questions to the participant. In some tests, the participants were given the choice to be recorded using Silverback, which is usability testing software that captures screen activity on the PC along with the user's voice and face. See Appendix A for a list of the usability test questions.

Although the usability tests were observational in nature, the team also used cognitive interviewing and verbal probing to allow for the expansion of patrons' answers and clarification when needed. After patrons completed the tasks associated with the usability test, team members provided the link to the demographic survey and let the patrons complete it anonymously. See Appendix B for a copy of the demographic survey.

Results and Analysis






Twenty-one people completed the demographic portion of the usability test. However, the actions of twenty participants were documented for the task-based portion of the usability test.

Responses to the Demographic Survey

The first demographic question (table 1) was about the participant's status at Kansas State University. Of the six undergraduate student participants, four were seniors, one was a freshman, and one was a sophomore.

Table 1








I am a/an:

#	Answer		Response	%
1	Undergraduate		6	29%
2	Graduate Student		2	10%
3	Faculty member		4	19%
4	Staff member		4	19%
5	Other		5	24%
	Total		21	100%

Another demographic question (table 2) asked participants to identify their age range.

Table 2

To which age range do you belong?

#	Answer		Response	%
1	Under 18		1	5%
2	18-20		2	10%
3	21-25		5	25%
4	26-30		3	15%
5	31-45		6	30%
6	46-60		2	10%
7	61 and older		1	5%
	Total		20	100%




Several questions were asked to gauge the participants' prior knowledge of LibGuides. Through survey branching, we were able to ask only those people who identified themselves as faculty or staff members if a librarian worked with any of their classes within the last two years and if a guide was created for any of their classes. Of the seven respondents to this question, three do not teach any classes, and three did not have a librarian work with any of their classes. The one that did work with a librarian also had a class or research guide created for the class.

Next we asked just those who identified themselves as either graduate or undergraduate students if a librarian visited any of their classes to talk about library resources. Of the eight responses, 50% indicated a librarian had talked to a class and 50% indicated a librarian had not visited any of their classes. Student participants were also asked if they had ever used a research or class guide before, three of the eight indicated they had while the other five indicated they had not.

The next set of questions from the demographic survey portion of the usability test covered ebooks. The first question (table 3) about ebooks determined if people were aware that K-State Libraries has ebooks available to patrons. Of the people who responded to this question, 79% did know that the Libraries offers ebooks.

Table 3

Before you took this test, did you know that the Library had ebooks? *Ebooks are books that can be read online or on an electronic device

#	Answer		Response	%
1	Yes		15	79%
2	No		2	11%
3	I'm not sure		2	11%
	Total		19	100%

But when asked if they had ever accessed an ebook through the Libraries' website (table 4) before they had taken the task-based portion of the test, only six (32%) had. Next we asked those who had accessed an ebook using the Libraries' website, how they used these ebooks. We wanted to know if they were only interested in a chapter or two, if they wanted specific figures in the ebook, or if they were downloading the entire book. One participant selected "Other" for how he or she used ebooks and entered "peer journals."

Table 4

How have you used ebooks accessed through the library website? *Select all that apply

#	Answer		Response	%
1	I used the entire book		2	33%
2	I used 1 or 2 chapters		2	33%
3	I used specific data or text		2	33%
4	I used a graph, figure, or illustration		0	0%
5	Other		1	17%

We were also interested in what features ebook users felt were the most important (table 5), including being able to highlight, leave notes or annotations, cut and paste, open multiple pages or chapters simultaneously, and bookmark pages. A user who selected "Other" wrote in "Quick access" for the most important feature.

Table 5





What features are important to you when using an ebook? *Select all that apply

#	Answer		Response	%
1	Highlight sections		4	67%
2	Leave notes or annotations		3	50%
3	Cut and paste		3	50%
4	Multiple pages/chapters open at the same time		3	50%
5	Bookmark pages		1	17%
6	Other		1	17%

The last question we asked the participants in the demographic survey was how confident they were that they completed the tasks in the task-based section of the test successfully (table 6). Sixteen of the nineteen who answered this question felt confident to very confident.

Table 6

On a scale of 0-4 (with 0 being not confident and 4 being very confident), how confident are you that you completed the tasks successfully?

#	Answer		Response	%
1	0		0	0%
2	1		1	5%
3	2		2	11%
4	3		10	53%
5	4		6	32%
	Total		19	100%

Responses to the Task-Based Questions

For the task-based portion of the usability test, we asked participants to complete a total of nine tasks related to LibGuides and ebooks in the vendor platform. Based on pre-testing results (see the discussion later in the Lessons Learned section), we added an additional question (see Question 6 in Appendix A) to the vendor ebook platform tasks to determine whether users could successfully access the electronic content. Thus, we asked a total of 10 task-based questions.

On average, the number of tasks participants were able to perform successfully was 7.55 out of 10 (figure 1). LibGuides averaged 3.7 out of 5 (figure 2), and the vendor ebook platform averaged 3.85 out of 5 (figure 3). Only one person was able to perform all of the task-based questions as intended, including answering the added question about how to access the ebook from the catalog record.

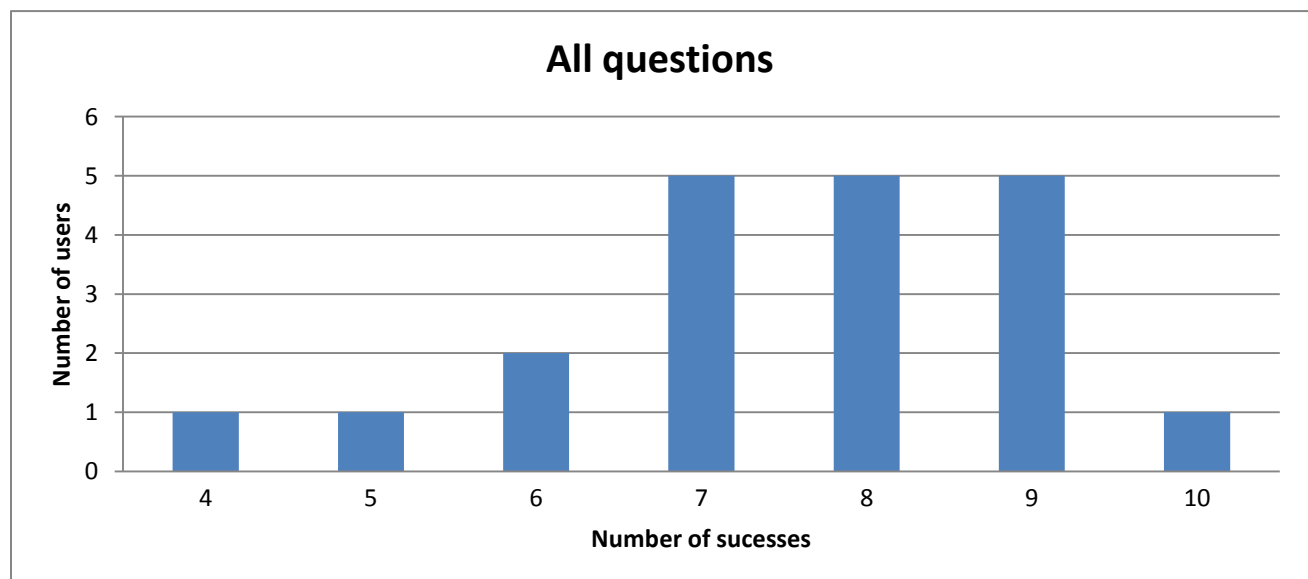
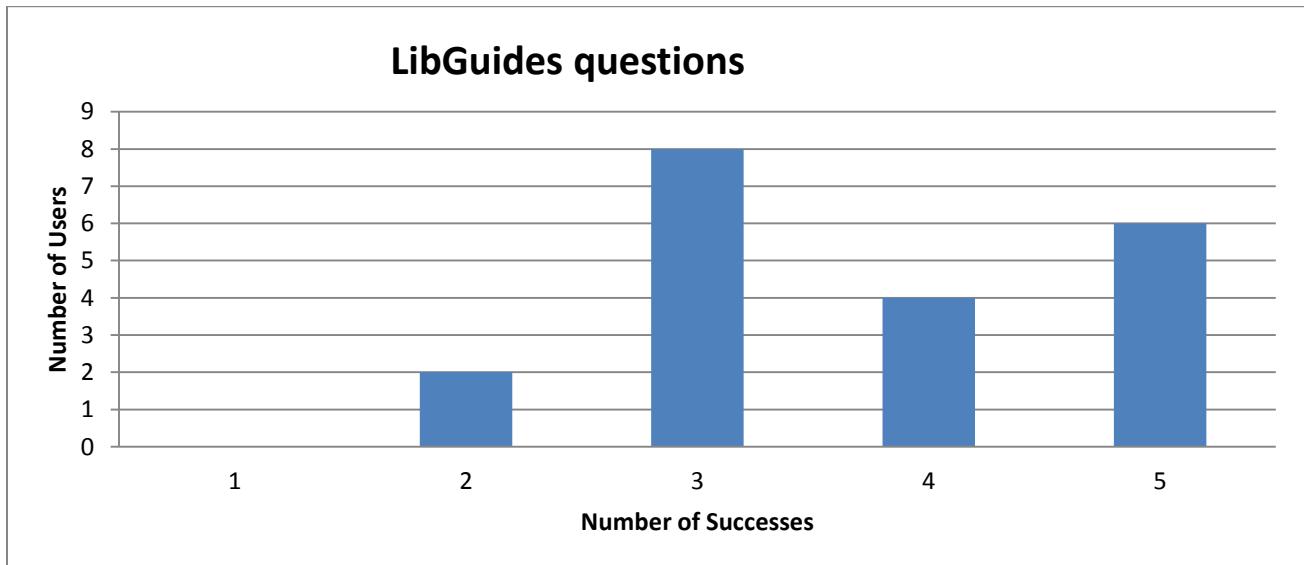
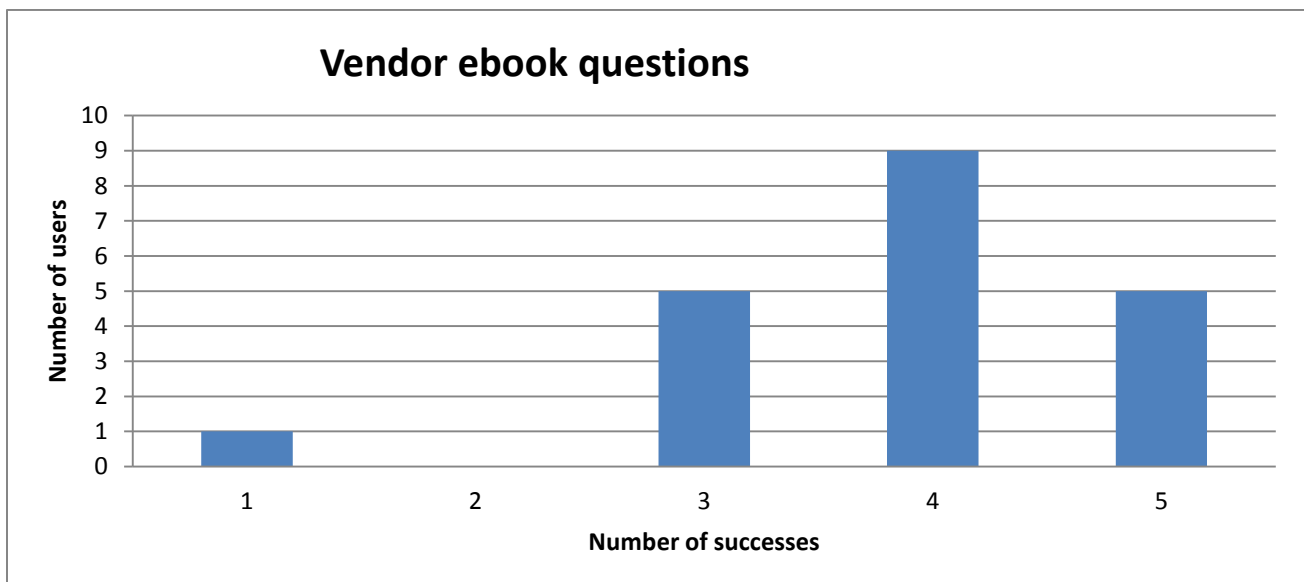
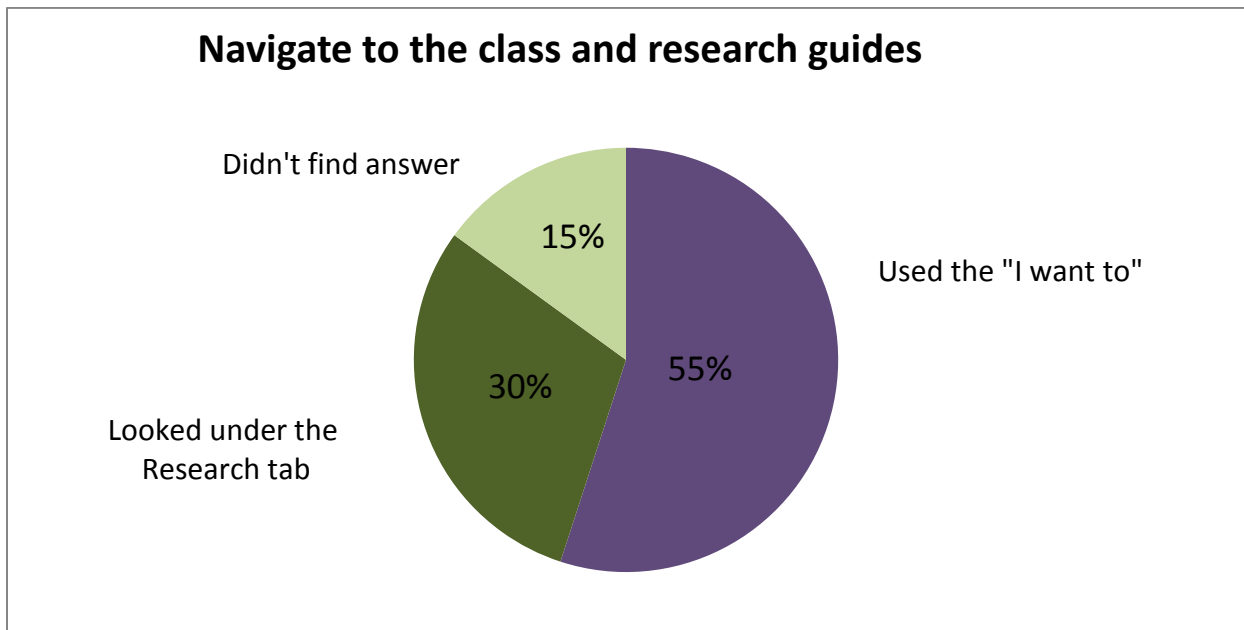
Figure 1

Figure 2**Figure 3**

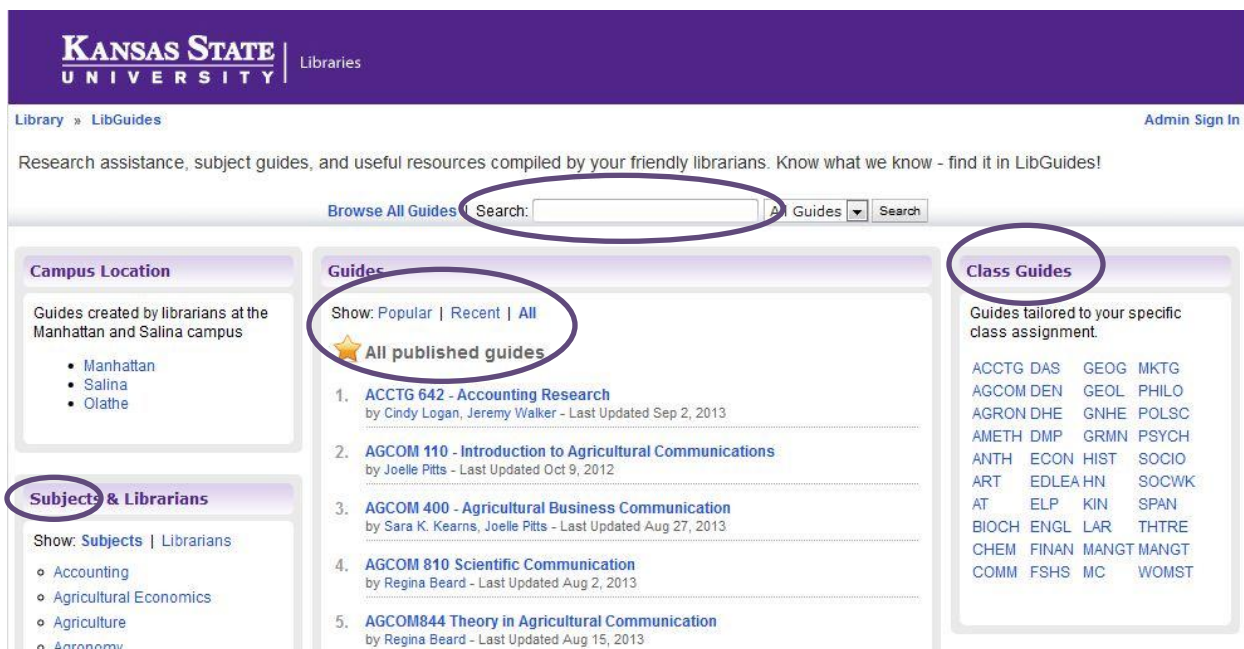
The first question asked patrons to please navigate to the class and research guides from the Libraries' homepage. The results are shown in figure 4. Of the twenty participants, eleven (55%) used the "Use a class or research guide" link under the "I want to..." menu, three (15%) did not find the guides, and six (30%) started their search using links from under the Research tab. We had hoped that people would spot the link to use a class or research guide under the "I want to..." menu and were surprised that so many started their search with the main menu tabs.

Figure 4



For the second question, we asked the participants, starting at the class and research guide homepage, to find the class guide for Women’s Studies (WOMST) 300. All twenty of the test participants were able to find the requested class guide, but they used a variety of means to find it (figure 5). They used the Search box, browsed by subject, scrolled through the list of all guides, and used the class guide abbreviations.

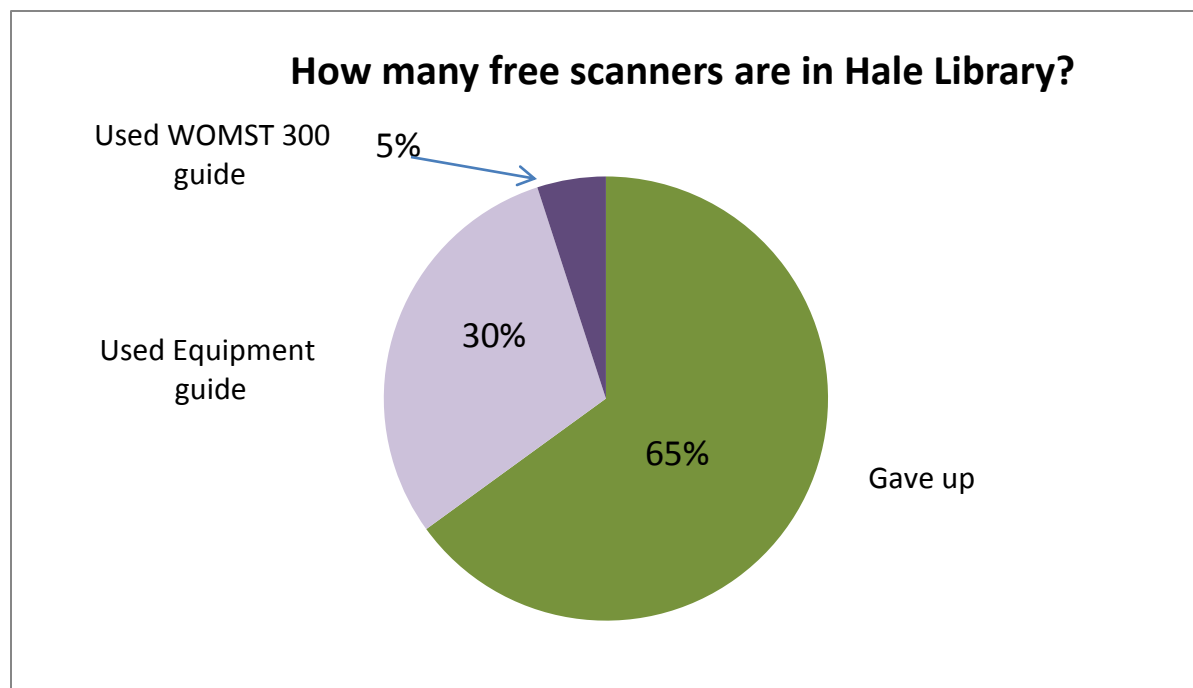
Figure 5



Next, while the test participants were still on the WOMST 300 class guide, we asked them to find the number of free scanners available in Hale Library. We wanted to know if this information was something they would look for on the WOMST 300 LibGuide, in another LibGuide, or if they would look elsewhere on the Libraries' website for that information. Only one of the twenty test takers found the number of scanners on the WOMST 300 LibGuide (figure 6), though two others looked over the class guide for the information before giving up. Seven (30%) used the LibGuide for Equipment that they found using the search box on the Libraries' homepage.

This behavior tells us that users do not treat a class guide as a one-stop shop. They do not seem to expect to find information not directly related to a class, such as available library equipment, in the class guide.

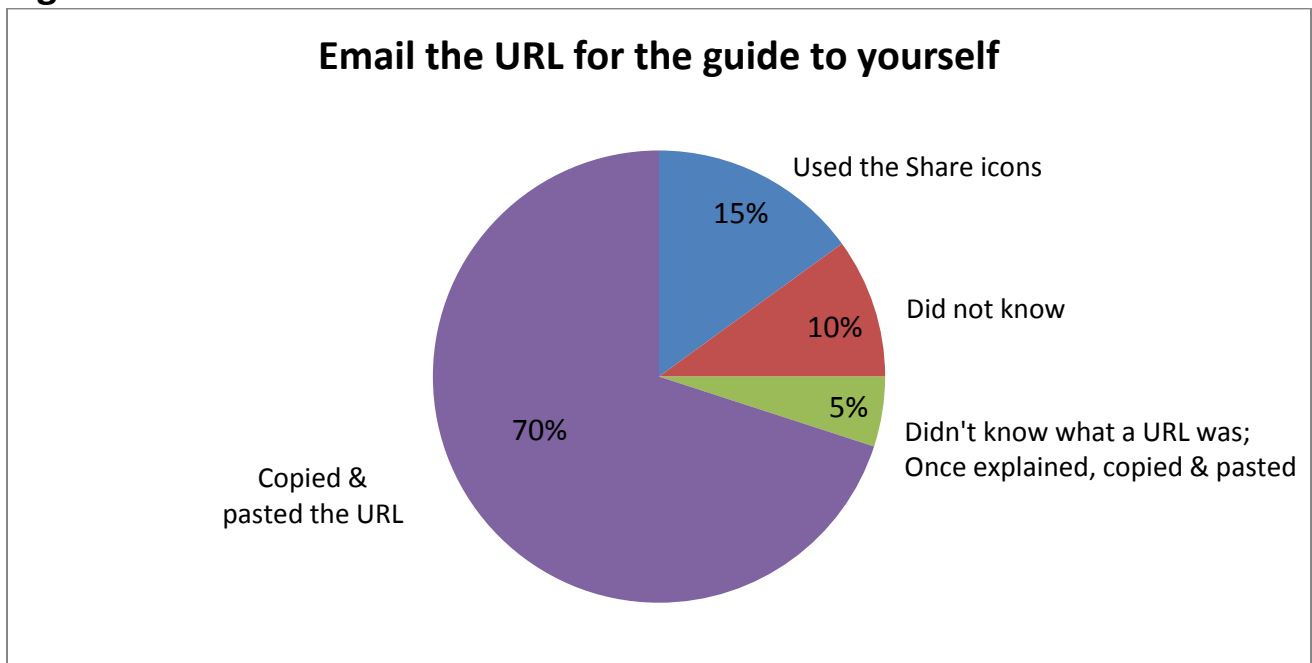
Figure 6



Our fourth question brought participants back to WOMST 300 class guide and asked them to email the URL for the guide to themselves. We were interested in discovering whether users would copy the URL from the browser and paste it into their email or if they would use the Share widgets (embedded in the Libguide page) that connect to Facebook, Twitter, and email. Figure 7 provides an image from the Psychology research guide and shows the location of the Share icons. (The WOMST 300 class guide had been unpublished at the time of the writing of this report, but the location is the same in all guides.)

Figure 7

The majority (70%) of participants copied and pasted the URL into their email while only three (15%) indicated that they would use the Share icons (figure 8). Two of the test participants did not know how to email themselves the URL. Another participant did not know what a URL was. After it was explained, this individual copied and pasted the URL successfully.

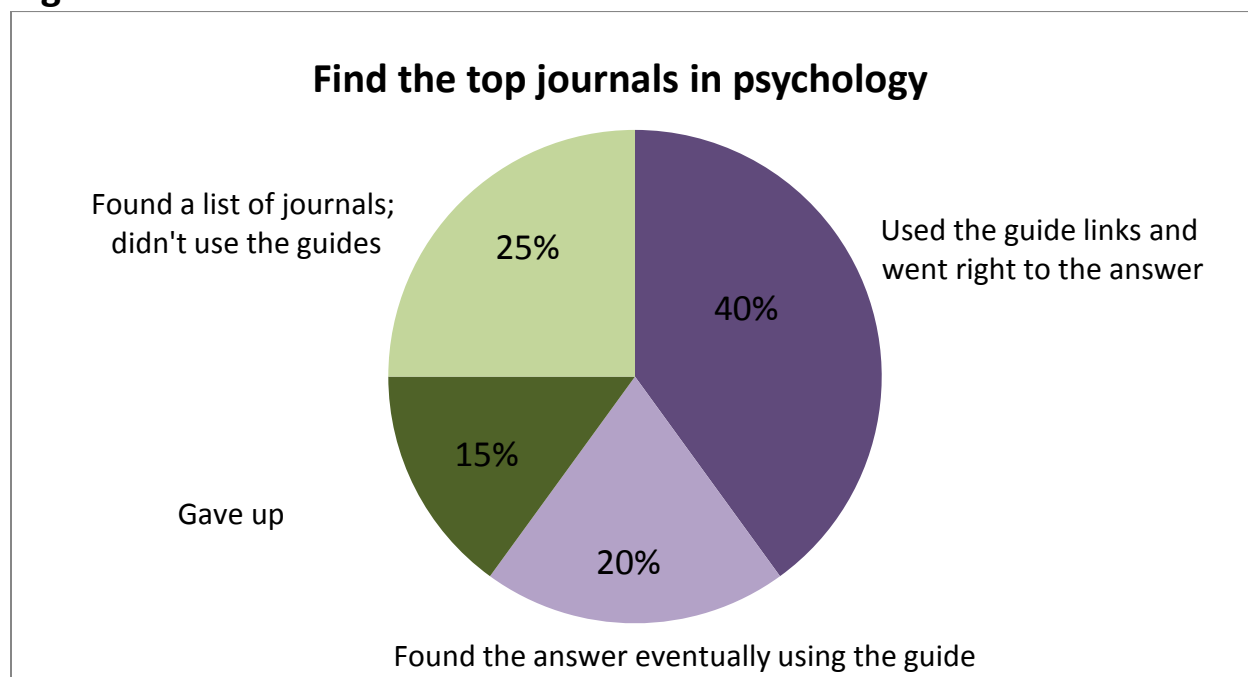
Figure 8

For the final question about LibGuides, the test participants were taken to the Libraries' homepage and told to imagine they were researching a paper in psychology and that they had been told that there is a class or research guide that contains the top journals in psychology. They were then asked to find that information. We expected that the test takers would navigate back to the class and research guides, locate the psychology research guide, select the journals tab, and locate the information.

However, this was the case for only for eight (40%) of the participants, though another four (20%) eventually made it to the psychology subject guide and the journal tab (figure 9) after beginning their search elsewhere on the homepage. Eight participants did not find the information using the LibGuide. Three participants (15%) gave up and five (25%) found a list of

psychology journals using either a list of psychology E-journals or the list of psychology databases in our database directory and ended their search. Although the tasks preceding this question involved accessing and using LibGuides, 40% of our participants did not use them for this question.

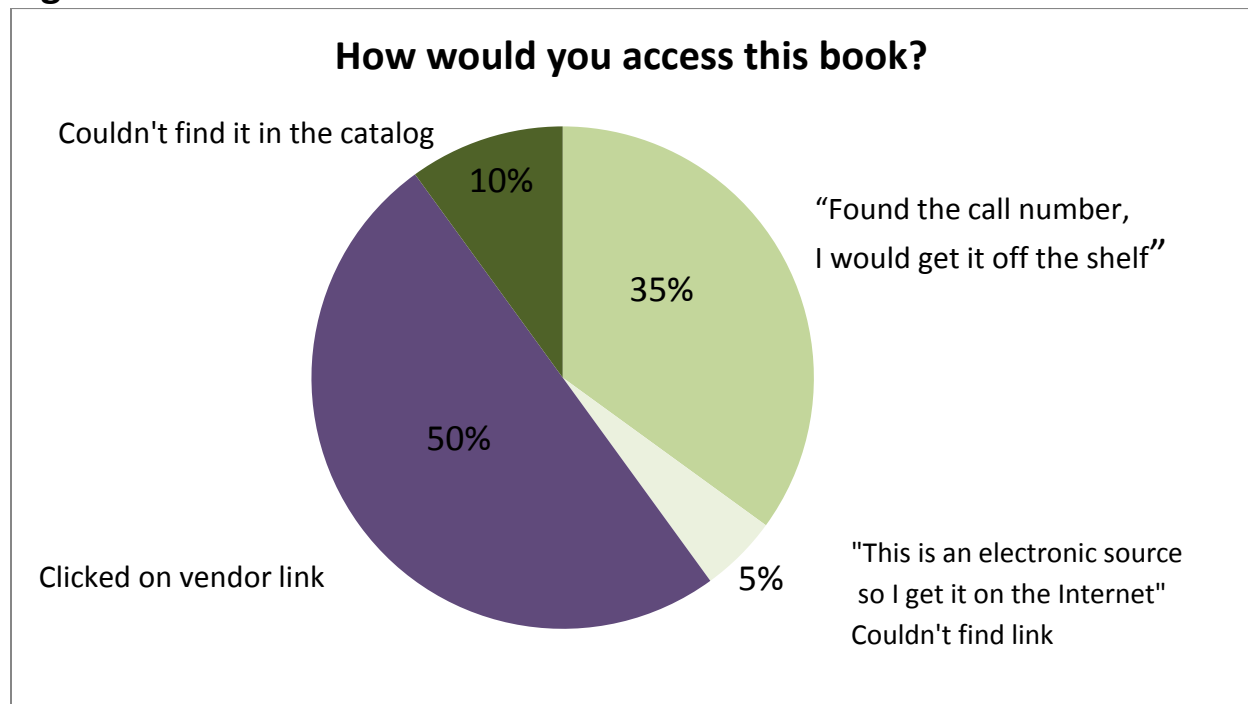
Figure 9



The next series of questions covered the vendor ebook platform. With test participants starting at the Libraries' homepage, we first asked them to find a specific book title on turtles in the library catalog. Every participant found the catalog, but two were unable to find the book in the catalog.

After participants found (or were shown) the catalog record for the book, they were asked how they would access this book. Ten (50%) recognized that the word "[Vendor platform link]" was a hyperlink and clicked on it to access the book (figure 10). Seven (35%) thought they should get the book off the shelf. One participant recognized that this was an electronic resource but could not find the link to access the ebook.

Asked how they would access the book, one participant, after clicking on the link to the Vendor Platform commented, "That was a good guess, huh?" Another participant noted, "I only clicked on the Vendor Platform link because I knew what it was." Another wondered, "Why the call number if it is electronic? I didn't notice that link, and it makes no sense. [Name of vendor platform]?"

Figure 10

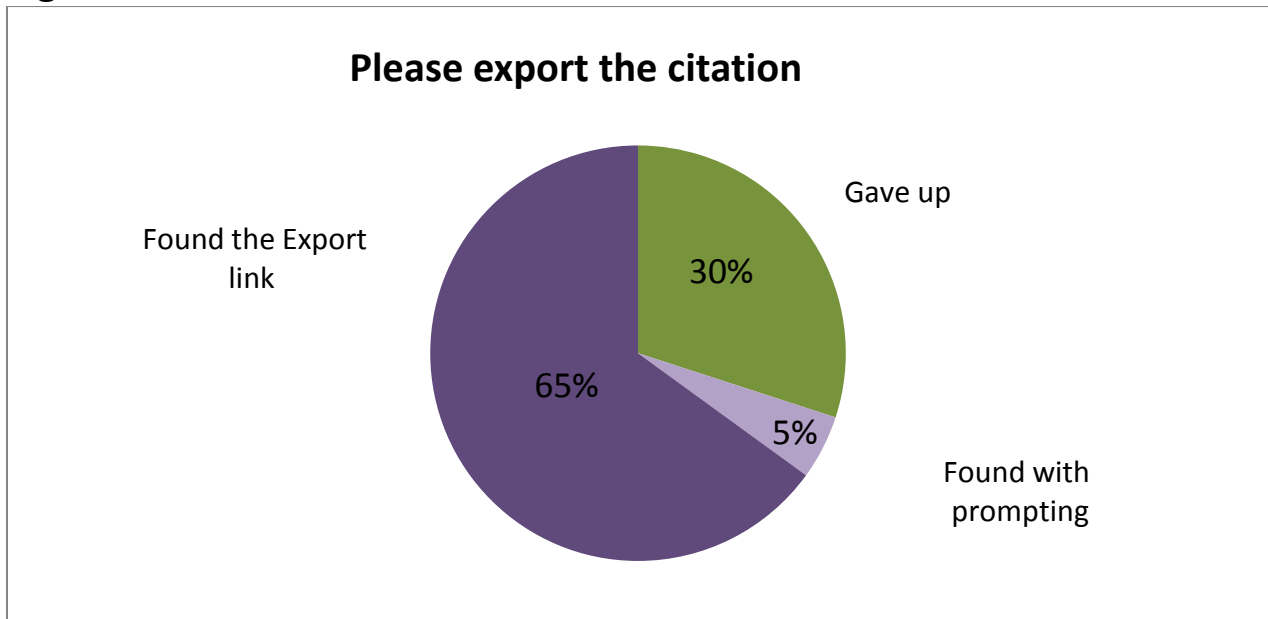
Next we asked participants to locate Chapter 5—“Title selected by the usability team”—and download it. Ninety percent of participants were able to find and download the correct chapter. One downloaded the whole book, and the other downloaded the table of contents.

Participants commented that Chapter 5 was not obvious in the table of contents. As participants were locating and downloading chapter 5, we recorded the following comments:

- “Do I have to count it down 1, 2, 3, 4, 5?”
- “Oh, I see it now! They need to have the chapter number listed or something.”
- “These look like different books. I can’t click on the table of contents.”
- “I thought the Big Titles [titles in larger print] were the chapters.”
- “I guess you just download the whole book. It doesn’t give you the chapter numbers ... or am I just missing it?” Asked if she would download the whole book, the participant responded, “You almost have to. I mean, Front Matters gonna be the front page, but that doesn’t tell you anything.”

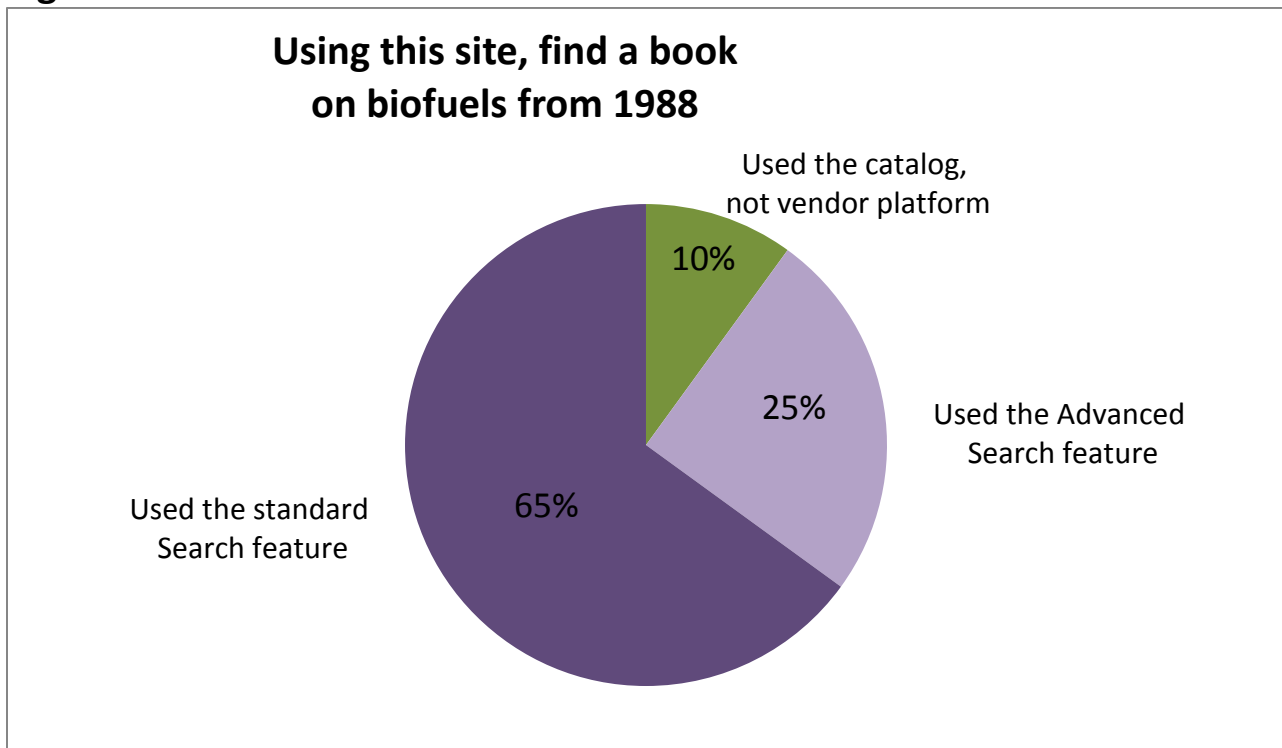
Our next task was for the test participants to find the link to export the citation for Chapter 5. Thirteen (65%) found the link to export the citation (figure 11), and one found it with prompting.

Figure 11



For the final task-based question, we asked the participants to find a book on biofuels from 1988 in the Vendor ebook platform. Two participants (10%) returned to the Libraries’ homepage and entered their search into the catalog (figure 12). Of the eighteen that used the Search feature in Vendor ebook platform, five (25%) used the Advanced Search to locate a biofuels book.

Figure 12



Lessons Learned

Two main lessons were learned throughout the duration of this project. The first lesson was the importance of thorough pre-testing (internal testing), and the second lesson was the importance of anticipating technology related issues and challenges.

After the team finished drafting the initial question set, 10 internal library participants were asked to volunteer to complete the study. Across the board, these pre-tests revealed one major flaw in question design. In the Vendor ebook platform section of the study, question 7 asked participants to find chapter 5 (“Book title”) *and* to proceed to download the chapter in PDF format. From within that PDF file, question 8 then asked participants to “find the link to export this citation.” This instruction was a major source of confusion for the volunteer group because question 8 was impossible to complete without the further instruction to *go back* to the previous screen that displayed chapter 5.

Upon realizing that question 8 needed additional instructions, we updated the question set to reflect the needed changes and continued internal testing without further problems. Therefore, it is safe to say that without thorough pre-testing, the actual usability study would have resulted in participant confusion and, most likely, distorted data.

Another lesson learned was the importance of anticipating technology related issues and being prepared to respond to these issues promptly. If future usability studies intend to integrate and rely upon technology, testers should expect that technology can behave erratically and should have a predetermined back-up plan.

In our case, we were confronted with a number of issues related to the Silverback software that recorded participants as they completed the study. When functional, the software proved to be a great asset and made recording and analyzing test results easier; however, an issue arose at the midpoint of the usability study that resulted in partial loss of files and data. This taught the valuable lesson that, if the software fails, the usability teams needs to have a back-up plan to ensure completeness of data gathering. In our case, this meant going back occasionally to the method of recording participants’ actions with pen and paper.

Respectfully Submitted,

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Appendix A: Usability Test Questions

LibGuides Questions

1. [From the library home page] Please navigate to the class and research guides.
2. [From the LibGuide landing page] Please find the class guide for Women's Studies (WOMST) 300.
3. [From the WOMST 300 guide] Find the answer to the following question: How many free scanners are available in Hale library?
4. [From wherever they are in the WOMST 300 guide] E-mail the URL for the guide to yourself. (Success is either copying URL or using E-mail feature. Note in actions)
5. [From the library homepage] You are researching a paper in psychology. You are told that there is a class or research guide that contains a list of top journals in psychology. Find that information.

Vendor E-book Platform Questions

6. [From the library home page] Please find “[specific title on turtles]” in the library catalog. Once patron has found it or has not found it, ask the patron “How would you access this book?” from the catalog entry.*
7. [From where they are in the vendor platform] Find chapter 5, “specific title on turtles” in this book and download this chapter. (Success is clicking on “Download PDF under chapter heading)
8. [From wherever they are in the vendor platform] Find the link to export this citation.
9. [From wherever they are in vendor platform] Can you find a book on biofuels in this site from 1988?

*The follow-up question “How would you access this book?” is counted as a tenth task-based question in the Results and Analysis section.

Appendix B: Demographic Survey

This survey is part of an ongoing process to evaluate the functionality and usability of the K-State Libraries website. We are not testing your knowledge of library resources, we are evaluating our services. Your help in completing this survey will assist library faculty and staff in the continuing development and improvement of the website. All responses you provide will remain anonymous.

1. I am a/an:

- Undergraduate
- Graduate Student
- Faculty member
- Staff member
- Other

[Displayed if Undergraduate is selected in question 1.]

2. Are you a:

- Freshman
- Sophomore
- Junior
- Senior

[Displayed if any Other is not selected in question 1.]

3. Which College are you most closely affiliated with?

- College of Agriculture
- College of Architecture, Planning & Design
- College of Arts & Sciences
- College of Business Administration
- College of Education
- College of Engineering
- College of Human Ecology
- College of Veterinary Medicine
- K-State Libraries
- Student Life
- Other

4. To which age range do you belong?

- Under 18
- 18-20
- 21-25
- 26-30
- 31-45

- 46-60
- 61 and older

[Displayed if Staff Member or Faculty Member is selected in question 1.]

5. In the last two years, have you had a librarian work with any of your classes?

- Yes
- No
- I'm not sure
- I do not teach any classes

[Displayed if Staff Member or Faculty Member is selected in question 1.]

6. Has a librarian created a class or research guide for any of your classes?

- Yes
- No
- I'm not sure

[Displayed if Undergraduate or Graduate Student is selected in question 1.]

7. Have any of your classes had a librarian talk about library resources?

- Yes
- No
- I'm not sure

[Displayed if Undergraduate or Graduate Student is selected in question 1.]

8. Had you ever used a research or class guide before you took the usability test today?

- Yes
- No
- I'm not sure

9. Before you took this test, did you know that the Library had ebooks?

*Ebooks are books that can be read online or on an electronic device

- Yes
- No
- I'm not sure

10. Had you ever used ebooks accessed through the Libraries' website before today?

- Yes
- No
- I'm not sure

[Displayed if Yes is selected in question 10.]

11. How have you used ebooks accessed through the library website?

*Select all that apply

- I used the entire book

- I used 1 or 2 chapters
- I used specific data or text
- I used a graph, figure, or illustration
- Other

[Displayed if Yes is selected in question 10.]

12. What features are important to you when using an ebook?

*Select all that apply

- Highlight sections
- Leave notes or annotations
- Cut and paste
- Multiple pages/chapters open at the same time
- Bookmark pages
- Other

13. On a scale of 0-4 (with 0 being not confident and 4 being very confident), how confident are you that you completed the tasks successfully?

- 0
- 1
- 2
- 3
- 4

14. Are there any other comments you would like to share?