Adult and Evening Students Website Usability Study
Compiled By: Rachael Winterling, Usability Coordinator

In July 2016, the J. Murrey Atkins Library’s Usability Lab conducted a study of the website with adult and evening students. The goal of the study is to analyze the adult and evening student audiences’ library usage, desires, and needs. In addition, the study analyzed the efficiency, effectiveness, error tolerance, engagement, and ease to learn of the website. Atkins launched a website redesign July 1, 2016. Prior to the redesign hard launch, a quality assurance study of the website redesign was conducted to identify errors; the study included an assessment of the site, an analysis of tasks-based testing, an employee feedback survey, and HTML_CodeSniffer homepage report. Atkins library’s website plays a primary role for its services to its audience, therefore testing the website with specific audiences is critical for success. The Usability Coordinator collaborated with the Reference and Instruction Associate, the Associate Dean of Public Services, and the Office of Adult and Evening Students (OASES) to complete the study.

The study collected qualitative and quantitative data through tasks-based testing, pretest interviews, and posttest interviews. The majority of the participants completed the tasks with little difficulty to no difficulty. This report contains a list of findings and recommendations about the adult and evening student audience, the library website, and library user suggestions.

Study Design
The study utilized tasks-based usability testing, an approach that relies on representative user groups’ attempt to perform relevant task to uncover design and functional issues with the interface. This approach allows the researcher to compare data across common benchmarks based on the participant groups’ ability to complete each task. Participants’ performances as they attempt to complete the tasks expose usability issues and inform recommendations. The tasks-based testing consisted of nine participants that represent the adult and evening student audience. Seven of the nine participants were undergraduate students and the remaining two participants were post-baccalaureate students. Participants in this study attempted 13 predefined tasks on the website (Shown Below). During the test session, participants were encouraged to articulate their thoughts and actions aloud as they worked through the tasks. The think aloud protocol allows researchers to understand the context for user actions and decisions while completing a specific task; making it easier for the researchers to determine the underlying causes of usability issues. In addition to the task list, participants completed a pretest interview (Shown Below). The pretest survey captured demographic information, including year in school, major/field of study, frequency of library use, an explanation of use, and study habits. The posttest interview (Shown Below) captured participants’ thoughts about the website as well as library desires.
Pre-interview

1. What year are you in school?
   a. Freshmen
   b. Sophomore
   c. Junior
   d. Senior
2. What is your field of study?
3. How often do you use the library’s services (physical/digital)?
   a. Never
   b. A few times a semester (2 or more)
   c. A few times a month (2 or more)
   d. A few times a week (2 or more)
   e. Daily
4. What do you use the current library for (physical/digital)?
5. Have you had any issues with library services? If so, what have they included?
6. Tell me about where you have been studying. What kinds of places work for you?
7. Do you study in different places for different kinds of work?
8. What is not working in the places you study now?
9. What days/time of the week are you doing school work?

Task List

1. Locate the library’s hours for August 19, 2016.
2. How would you reserve individual study room on the main floor?
   • You do not know where the study room is located, using the website how would you determine the room’s location.
3. Locate the contact information for the engineering librarian.
4. Locate Special Collections and University Archives rare book collection.
   • How many volumes are in the collection?
5. Locate the Public Health research guide.
   • Who is subject expert?
6. Locate the library’s information about printing, scanning, and copying.
   • How much does it cost to print a page in color?
7. How many laptops are available for checkout?
8. What is occurring in the library August 24?
9. Where would you find information about checking out a laptop?
10. You are interested in using the library’s 3D printer, locate more information about it.
11. You are interested in learning about the services the Research Help Desk provides, where would you locate this information.
12. Locate and view the following eBook, *Observing the user experience: a practitioner's guide to user research*.
   • Locate the APA citation for this item.
Post-test
1. Have you attempted any of the tasks before today?
2. Are there any features you learned about today that you want to explore further or that you will use in your future visits to the library website?
3. Which feature do you find the most useful? Why?
4. Are there any features that are difficult to navigate or find?
5. Are there any features missing from the website?
6. Is there any type of resources the library should consider providing?

The test sessions were conducted on a Dell desktop computer running Morae Recorder. Morae Recorder captures the desktop activities and the participants’ facial expressions via a web camera. Google Chrome was used as the testing browser. The Usability Coordinator acted as the facilitator. The facilitator greeted participants upon arrival, guided participants through the informed consent, presented the participants with the tasks, answered participants’ questions, and prompted the participants for responses. In addition, the Assessment Fellow took notes during the sessions and worked with the Usability Coordinator to analyze the data produced.

Recruitment
Participants were recruited through and email blast that the Office of Adult and Evening Students sent to students that were registered for classes in summer session two. The emails included the purpose of the testing, the testing timeframe, the participation incentives, and contact information. The nine participants read and signed an informed consent form to participate in the test session. The university’s Institutional Review Board approved the consent form. Student participants were incentivized with a $5 Target gift card for his/her participation. Student participants received the incentive regardless of whether they completed the usability session.

Participant Demographics
While the students associated with OASES usually identify as undergraduates, two of the nine participants are post-baccalaureate students taking classes in the biology field. The nine participants represented six different areas of study (Figure 1).

<table>
<thead>
<tr>
<th>Year</th>
<th>Field Of Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sophomore (1)</td>
<td>▪ Psychology (2)</td>
</tr>
<tr>
<td></td>
<td>▪ Religious Studies (1)</td>
</tr>
<tr>
<td>Junior (2)</td>
<td>▪ Biology (3)</td>
</tr>
<tr>
<td>Senior (4)</td>
<td>▪ English (1)</td>
</tr>
<tr>
<td>Post Baccalaureate (2)</td>
<td>▪ Finance (1)</td>
</tr>
<tr>
<td></td>
<td>▪ Operations &amp; Supply Chain Management (1)</td>
</tr>
</tbody>
</table>

*Figure 1*
Findings & Recommendations
The following findings and recommendations were developed based on analysis of the data gathered from the nine testing sessions. The pretest interview responses, the individual task, and the posttest interview responses influenced the findings and recommendations. The findings and recommendations is organized into three sections, adult & evening student findings, website findings & recommendations, and user suggestions.

Adult & Evening Student Findings & Recommendations
The goal of the study was to analyze the adult and evening student audiences’ library usage, desires, and needs to determine how J. Murrey Atkins physical and digital services can reach and serve the audience. The Office of Adult and Evening Students (OASES) serve undergraduate students that meet specified requirements. The pretest interview captured demographic information, frequency of library use, an explanation of use, and study habits (Figure 2). The posttest interview captured participants’ thoughts about the website as well as suggestions for the library.

<table>
<thead>
<tr>
<th>Library Usage</th>
<th>Frequency of Use</th>
<th>School Work: Days of the Week</th>
<th>School Work: Time of the Day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Printing (1)</td>
<td>A few times a week (5)</td>
<td>Weekdays</td>
<td>Morning</td>
</tr>
<tr>
<td>Space (5)</td>
<td>A few times a month (1)</td>
<td>Weekends</td>
<td>Afternoon</td>
</tr>
<tr>
<td>Study Rooms (5)</td>
<td>Daily (3)</td>
<td>Variety</td>
<td>Evening</td>
</tr>
<tr>
<td>Online Catalog (2)</td>
<td></td>
<td></td>
<td>Night</td>
</tr>
<tr>
<td>Desktop Computers (4)</td>
<td></td>
<td></td>
<td>Variety</td>
</tr>
<tr>
<td>My Library Account (1)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In the tasks-based testing, the majority of the participants completed all of the tasks with ease; the tasks that participants had trouble with or failed were due to usability errors on the website. These usability errors are captured in the “Website Findings & Recommendations” section of the report and will be presented to the Technology and Digital Strategies Department and the Web Advisory Group to be resolved. In the posttest question, “Are there any features you learned about today that you want to explore further or that you will use in your future visits to the library website?” the participants provided numerous services that they discovered in the test session. These responses combined with the library services that they currently use attest that the audience is unaware of many of the library services that could benefit their academic endeavors. Even though the participants were unaware of services, they were able to locate them on the library website with little to no difficulty.

Through the analysis of the nine sessions that included pretest interviews, tasks-based testing, and posttest interviews, there was no pattern discovered that would recommend the creation of a specialized webpage for the adult and evening student audience. The
library website includes an undergraduate students “For You” page (Figure 3) that includes services categorized into four sections, “Research Help,” “Requesting & Borrowing,” “Technology in the Library,” and “Studying in the Library.” Having the OASES website link to the “Undergraduate Students” secondary page instead of creating a secondary page or LibGuide for the adult and evening student audience will reduce the workload for the Reference & Instruction Associate. If there is a secondary page or LibGuide, there will need to be a constant comparison with the library website to ensure consistency and accurate information. With the participants, locating information easily on the website there is no need to duplicate the information in a separate location. The awareness of library services should increase after a library link is placed on the OASES website.

![Figure 3](image)

The Assessment team should continuously work with the Public Services department and the Office of Adult and Evening Students to assess the needs and wants of the audience. The findings of this study recommend that an adult and evening student survey be compiled to further investigate the usage of library services and how individuals find out about university and library services (word of mouth, instruction, OASES website, posters, etc.). This survey will help identify how the adult and evening student audience learn about events and services and will recommend outreach methodologies.

**Website Findings & Recommendations**
The following findings and recommendations should be discussed by the Technology & Digital Strategies department and by the Web Advisory Group. The study revealed several modifications that should be addressed to enhance the engagement, effectiveness, efficiency, error tolerance, and ease to learn of the website.
Add the current laptop availability statistics to the “Laptop Lending Details” secondary page to improve the efficiency, effectiveness, and engagement of the website. Task seven asked participants “how many laptops are currently available for checkout?” Five of the nine participants did not complete the task on his/her first attempt and two of the five participants did not complete the task. The five participants clicked “Technology & Equipment” under the “Services” navigational label. The five participants then clicked “Laptop Lending Details” in the secondary page left side navigation and did not find the current availability (Figure 4). All five participants commented that this is where they would expect to find the statistics. Two of the five participants asked the facilitator to move on to the next task because they did not know where else that information would be located. The remaining three participants eventually located the statistics on the homepage (Figure 5). Four of the five participants noted in the posttest, that the current laptop availability was difficult to find and should be added to the “Laptop Lending Details” secondary page.

![Figure 4](image)

---

**Laptop Lending Details**

Circulation Loan Period:
- Laptops circulate to currently enrolled UNC Charlotte students.
- UNC Charlotte ID must be presented for checkout. Temporary UNC Charlotte ID's are not accepted.
- Laptops circulate for a 24 hour loan period with no renewals.
- There is a four hour wait before next check out for the same patron.
- If you return a laptop for someone else, you will still have a four hour wait before being able to check out another laptop.

Circulation Fines:
- Laptop fines are $1.00 per hour or any part of an hour.

Circulation Replacement Costs:
- Patrons are responsible for the replacement cost if the laptop is damaged, lost, or stolen while in your possession.
- Laptop and laptop accessories will be priced separately when calculating replacement costs; i.e. the power adaptor will be priced separately from the laptop.
- Current replacement costs are outlined in the Replacement Costs for Laptops document, which can be found on the desktop of each lendable laptop.

Technical Specifications:
- Laptops are wired and wireless capable.
- Patron work can be saved to the hard drive.
- Laptops are protected with DeepFreeze, software that restores the laptop to its original settings after the computer is restarted.
- Drive T will not be deleted upon reboot; therefore, saved files will not be automatically deleted.

Additional software includes the Microsoft suite:
- Access
- Excel
- FrontPage
- PowerPoint
- Publisher
- Word
The “Checkouts, Returns, Renewals,” “Laptop Lending Details,” and “Laptop Policy” secondary pages’ content is running off the page in Google Chrome. The text on the “Checkouts, Returns, Renewals” secondary page runs off in the “Returns” and “Renewals” sections (Figure 6). The text on the “Laptop Lending Details” and “Laptop Policy” secondary pages runs off in the “Technical Specifications” sections (Figure 7).
Evaluate the “Research Consultations” and “Research Help Desk” labels
Task 11 asked participants, “You are interested in learning about the services the Research Help Desk provides, where would you locate this information?” Six different search techniques were used to attempt the task; none of the participants completed the task on their first attempt. Two of the nine participants did not complete task 11. The pattern that developed in the task was participant confusion in the labeling of “Research Help Desk” and “Research Consultations.” The “Research Consultations” secondary page states:

Get help with your research at Atkins Library.
Email askatkins@uncc.edu with your question and a research librarian will respond as soon as possible. The Research Help Desk is operated by knowledgeable staff who can point you to what you need. Here, you can get help finding books and other resources, checking out and returning items, and getting lots of general information about the library. It is also a supportive environment where librarians provide face-to-face, comprehensive assistance with all stages of the research process. Call our Research Help desk at 704-687-0891, or stop by the Research Help Desk on the main floor between 9am and 7pm Monday through Friday and between 1pm and 8pm on Sunday.
All of the participants at some point in the task came across the label, “Research Consultations” and questioned if the “Research Help Desk” would be included. The information on the “Research Consultations” secondary page is primarily information about the help desk. With this being said, the label should be evaluated and relabeled; the label could be “Research Help Desk” or “Research Help.”

Add “Floor Maps” as a sub-navigation item on the “Library Spaces” secondary page to improve the website’s ease to learn, engagement, effectiveness, and efficiency. Task two asked participants to reserve an individual study room and then locate the room using the website; three of the nine participants clicked “Library Spaces” under the “Services” navigational label. The participants located the “Study Spaces” overview, but did not locate a way to find a specific room. Two of the three participants commented after they located “Floor Maps” that they should be located on the “Library Spaces” secondary page. Task 11 asked participants, “you are interested in learning about the services the Research Help Desk provides, where would you locate this information?” One of the nine participants clicked “Library Spaces” under the “Services” navigational label. The participant located the “Research Help Desk” information in the “First Floor” section. The participant commented it would be nice to see exactly where the desk is located on the first floor. Adding “Floor Maps” as a sub-navigation item on the “Library Spaces” secondary page is logical because both pages are about areas in the library (Figure 8).
The “Search this site” is producing node page results.
Two of the nine participants used the “Search this site” bar throughout the test sessions. After a search, several of the results listed were identified as nodes (Figure 9). The two examples from the test sessions were when a participant searched “3D printer” and “laptops.” The pages identified as nodes include all the content of a page, but do not include the library’s main navigation, the secondary page left side sub-navigation, or the secondary page top left image (Figure 10).

All content on a Drupal website is stored and treated as "nodes". A node is any piece of individual content, such as a page, poll, article, forum topic, or a blog entry. Comments are not stored as nodes but are always connected to one. Treating all content as nodes allows the flexibility to create new types of content. It also allows you to painlessly apply new features or changes to all content of one type (About Nodes).

Therefore, when a participant uses the “Search this site” and clicks a result that is a node, he/she will only be able to view the content of that specific secondary page and will lose the option to discover through the left side sub-navigation, which could contain relevant information to his/her search. In addition, a user will not have access to the website’s main navigation but can return to the homepage by clicking “J. Murrey Atkins Library” in the header.

![Website Search](image-url)
3D Printing

3D printers use digital models to create three-dimensional objects. J. Murrey Atkins Library offers a 3D printing service available to UNC Charlotte students, faculty, and staff. Thanks to our partnership with the College of Computing and Informatics, the Makerspace has acquired additional 3D printers. Our 3D printers are currently managed by the Technology Support Desk located on the second floor. Please review the 3D Printing Policy before submitting a request for 3D prints.

Design 3D objects for classes, experiment with personal projects, or enhance classroom delivery through this innovative printing service!

3D Printers at Atkins

3D printing is available as a service through the library’s Makerspace, located on the 2nd floor. The 3D printers available for print requests are:

- MakerBot Replicator, 5th Generation
  - Build Volume: 9.9 L x 7.8 W x 5.9 H inches
- Ultimaker 2 Extended
  - Build Volume: 8.8 L x 8.8 W x 12.0 H inches

3D printers use colored filament to deposit plastic filament (PLA) one layer at a time in a process called fused deposition modeling. Unfortunately, we are unable to accept filament provided by patrons at this time. The following filament colors are available for 3D printing:

Purple  Black  Green
White   Blue   Warm Gray
Yellow  Silver Cool Gray
Red     Orange Clear
User Suggestions
In the posttest interview question, “Is there any type of resources the library should consider providing?” participants did not provide specific resources but other suggestions:

- **Duel Monitors**: One participant suggested that several of the public desktop computers to have duel monitors.
- **Longer Weekend Hours**: Four of the nine participants commented that longer hours on Saturday would be nice.
- **More trashcans**: One participant commented that they would like more trashcans in or around the group study rooms. Two of the participants mentioned they have a longer commute to campus and the limited hours restrict them from using the library on the weekends.

Conclusion
The goal of the study was to analyze the adult and evening student audiences’ library usage, desires, and needs to determine how J. Murrey Atkins physical and digital services can reach and serve the audience. The Office of Adult and Evening Students (OASES) serve undergraduate students. The findings and recommendations should be addressed to enhance the library’s effectiveness, efficiency, error tolerance, engagement, and ease to learn for the adult and evening students audience. To ensure the success of the library’s services to the adult and evening student audience, further assessment methodologies and usability studies should be conducted to ensure continued functionality, efficiency, and desirability.

Works Cited