WorldCat Discovery Usability Report
Compiled By: Rachael Winterling, Usability Coordinator

In the spring of 2016, the J. Murrey Atkins Library’s Usability Lab conducted a study of OCLC’s WorldCat Discovery catalog search interface. Atkins Library uses OCLC’s WorldCat catalog as the primary portal to locate electronic, print, and multimedia resources. Students, faculty, staff, and community patrons use the electronic catalog. The current WorldCat Local catalog is accessible on and off campus and prominently linked off the main library homepage. The Local instance is customized with the library’s branding and resources. Local is accessed remotely with the university’s NinerNet login.

Atkins in the near future will implement the Discovery interface due to WorldCat Local being phased out. The Discovery interface is accessible from the library’s homepage and is labeled as “BETA Search.” This study was conducted before implementation to highlight usability issues that should be addressed before the hard launch. The Usability Coordinator collaborated with members of Atkins’ WorldShare Management Services/WorldCat Local (WMS/WCL) committee to complete the study. The charge of the WMS/WCL is “The Committee serves to foster effective communication about ILS concerns by sharing new and ongoing issues, improvements, and changes with WorldShare Management Services, WorldCat Local, and WorldCat Discovery.”

Task-based usability analysis was the methodology used in this study. This form of usability testing allows for accurate and comparable data analysis between multiple systems, in this case the Local and Discovery catalog. In addition, the method is a reliable way of gauging usability at any stage of development. The majority of the participants completed the tasks with little difficulty. This is particularly noteworthy considering that none of the participants had any exposure to the Discovery catalog before testing. This report contains a list of recommendations to address these issues.

Data was collected via task-based testing and focused on three participant groups; faculty, graduate students, and undergraduate students. The objectives of the usability study are as follows:

- Identify the effectiveness of the catalog, is the catalog useful to users and help them achieve their goals accurately.
- Identify the catalog’s efficiency, can users complete a task quickly and accurately.
- Identify how engaging the catalog is to users, is the catalog pleasant and satisfying to use.
- Identify how error tolerant the catalog is, does the catalog prevent errors or help a user recover from errors that occur.
- Identify the catalog’s ease of learning, does the catalog support the ease of completing a task through initial orientation and continued learning to novice and expert users.
- Identify training and tutorial opportunities for Atkins to create related to tasks.
- Identify recommendations for design and functional improvement of the catalog.
Study Design

The task-based analysis helps researchers uncover usability issues as users interact with an interface via predefined tasks. Participants in this study attempted 12 predefined tasks on the Discovery interface (Shown Below). The Usability Coordinator collaborated with Atkins’ WCL/WMS committee to develop a set of functions to be tested. The Usability Coordinator developed and finalized the study’s task list. The final task list highlights typical activities performed by students, staff, and faculty when using the library catalog.

The tasks asked participants to:

1. Locate and view the following eBook, *Observing the user experience: a practitioner's guide to user research*.
   A. Locate the APA citation for this item.
   B. What subjects are assigned to the eBook?

2. Locate the following musical score, *Symphony no. 7, in A major, op. 92* by Ludwig van Beethoven.
   A. What is the score’s duration?

3. Locate a full-text article about astronomy.
   A. Email the article’s record to rwinterl@uncc.edu

4. Find what floor in the library Lawrence Lessig’s book, *Free Culture: how big media uses technology and the law to lock down culture and control creativity* is located.
   A. What is the book’s call number?

5. Locate the following article, *What facebook knows*.
   A. View the article online.

   A. Is this book available for checkout?
   B. If it is not, when is it due back?

7. Find what journal the article, *Do as I say (Not as I do): Inconsistency Between Behavior and Values* is published in.

8. You want to check out the following movie, *The Great Gatsby*, what format of the movie is available at the library?
   A. How would you place a hold on the movie?

10. Use the Advanced Search to locate a Russian version of Fyodor Dostoyevsky’s *Crime and Punishment* that was published in 1965.
   A. How would you request this item?

11. Use the Advanced Search to find a peer-reviewed article published between 2013-2015 about public health.
   A. Sort the results by articles that are “most widely held,” what is the first result listed?

12. Use the Advanced Search to locate the following article’s summary, *A novel sensitive cell-based Love Wave biosensor for marine toxin detection.*

Participants’ performances as they attempt to complete the tasks expose usability issues and inform recommendations. 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 pre-test survey (*See Appendix*). The pre-test survey captured demographic information, including year in school, major/field of study, frequency of catalog use, and an explanation of use. The post-test survey (*See Appendix*) captured participants’ thoughts about the catalog.

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. The test sessions ranged from 17-35 minutes and involved the test facilitator and the participant. 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 Usability Coordinator took notes during the sessions and analyzed the data produced. The usability intern watched the test recordings and assisted in taking notes.

**Recruitment**

Student participants were recruited through posters placed within Atkins. The posters signage advertised: “$5 Starbucks gift card. Participate in a usability study and receive a $5 gift card.” In addition, the posters provided contact information for potential participants.

Faculty participants were recruited through email blasts sent by library liaisons. The email stated, “J. Murrey Atkins Library is currently conducting a usability study on the beta version of a new library catalog and discovery system. We are looking for 1-2 faculty volunteers from
each college to participate in the study between February 15-25. The sessions will take 15-30 minutes. The session can take place in the Usability Lab in Atkins Library or at the volunteer's office. If you would like to participate or have any questions, contact Rachael Winterling at rwinterl@uncc.edu. Your participation in the study will help us understand which features of the beta search work well, and which functions need to be further developed and improved.”

**Participant Demographics**

The participants consisted of eight undergraduate students, five graduate students, and five faculty members. Each participant group represented diversity in their majors, field of study, or the department they work for. The users’ prior experience with the interface varied from using several times a week, several times a month, several times a semester, to never. Please note that none of the participants had used WorldCat Discovery prior to the test session.

<table>
<thead>
<tr>
<th>Participant Group</th>
<th># of Participants</th>
<th>Discipline</th>
<th>Frequency of Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undergraduate</td>
<td>8</td>
<td>Majors:</td>
<td>A few times a week (3)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Health Communication</td>
<td>A few times a semester (5)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Biology (2)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Political Science</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Finance</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Nursing</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Public Health</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Electrical Engineering</td>
<td></td>
</tr>
<tr>
<td>Graduate</td>
<td>5</td>
<td>Field of Study:</td>
<td>A few times a semester (5)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Computer Science (4)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Mechanical Engineering</td>
<td></td>
</tr>
<tr>
<td>Faculty</td>
<td>5</td>
<td>Department:</td>
<td>A few times a month (1)</td>
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<td></td>
<td></td>
<td>• Department of Software and Information Systems</td>
<td>A few times a week (2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Special Education and Child Development</td>
<td>A few times a semester (2)</td>
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<td></td>
<td>• Department of Chemistry</td>
<td></td>
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<td></td>
<td></td>
<td>• Department of Political Science and Public Administration</td>
<td>Daily (1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• School of Social Work</td>
<td></td>
</tr>
</tbody>
</table>

**Recommendations**

The following recommendations were developed based on analysis of the usability test recordings, pre-test survey responses, and the post-test survey responses from the three participant groups. Recommendations were established to Atkins and to OCLC; this is because
Atkins has limited permissions to make changes within the Discovery interface. The study revealed several issues that can be altered to increase the efficiency, effectiveness, and desirability of the product. While no critical usability issues (problems that made the site unusable) were uncovered, the study did reveal issues that should be improved to increase the efficiency, effectiveness, ease to learn, error tolerance, and engagement of Discovery.

**J. Murrey Atkins Library Recommendations**

The recommendations for J. Murrey Atkins are to create training and tutorials the organization can provide for users to improve their experience with the interface. Atkins is limited to the changes they can make to the third party interface, thus training and tutorials provide users beneficial information addressing usability issues found in the study. Training and tutorials will improve the efficiency, effectiveness, ease to learn, and engagement with the interface. Further discovered usability issues and recommendations are outlined in the OCLC recommendation section.

Below, the recommended training/tutorials that should be created to improve users’ experience with the interface are outlined.

**General Discovery Tutorial/Training**

Users will benefit from a “general” training/tutorial of the interface. The training/tutorial should overview the general search, the advanced search, the result filters, the “my list” feature, the “View online” feature, the “Check eResources” feature, and the layout of the interface. A general tutorial/training will benefit users that have previously used WorldCat Local by covering the differences between the two systems, which will ease their transition to the interface. In addition, it will provide users with a refresher if they do not use the interface frequently. The general training/tutorial will benefit new users of the university (new students, employees, and community borrowers) as an introduction to the interface.

One of the major differences between WorldCat Local and Discovery is the layout of the item detail page. In Discovery, the item detail page is separated in two panes, the right pane is the selected result’s item detail, and the left pane shows the page of search results. The study’s participants showed mixed feelings about the layout; some participants liked seeing the other search results in the left pane and other participants found the left pane distracting. It was discovered when participants utilized the general search and clicked the browser back button from the item result page it redirected participants to the general search homepage where the participant’s search and filters were removed (*Figure 1.1*). To avoid losing search results users must clicked “Close Item Detail” in the upper right corner or “View Filters” in the upper left corner (*Figure 1.2*). If a participant clicked the back button in the browser after they searched using the advanced search, the drop-down filters reset to the default, but the manually entered text remains. Training/tutorials to highlight this should be created to inform and reduce frustration among users.
**How to Use the Advanced Search**

Tasks 9-12 asked the participants to use the advanced search to complete the task. The advanced search training/tutorials should include how to use multiple filters, how to add additional filters, how to use the “Limit your search,” and how to use the “Database” section. Numerous participants for tasks 9-12 only used the automated drop-down filters that were “Keyword” and “Title” (*Figure 1.3*). Additionally, the training/tutorial should highlight the “Limit your search” section. Many participants overlooked the section on their first attempt. Several participants commented that they did not even see the “Limit your search” section and that the layout of the page created an unwanted separation. Under the initial section of the advanced search, there is a search button and below is a horizontal line separating that section and the “Limit your search” section (*Figure 1.4*). Participants’ commented that the location of the search button and the horizontal line made it seem like the “Limit your search” did not exist or was a separate search. Expanding users’ knowledge of the capabilities of the advanced search will improve the interface’s effectiveness, efficiency, and engagement indirectly.
Task one asked participants to locate a specific eBook and then locate its APA citation. One of the eighteen participants completed the subtask successfully on their first attempt. To locate an item’s citation, the participant must click the “Sharing and permalinks options” widget (Figure 1.5) and then clicked “Cite record.” The widget is located on the results page or within the item detail. The remaining participants clicked the widget as a last resort to complete the task. Participants commented that the widget’s icon and mouse-over text mislead them. The mouse-over text states, “Sharing and permalinks options,” which four participants commented that the text did not indicate the citing tool and recommended that it include “citing.” Creating training/tutorials around this tool will reduce confusion among users.
Emphasize the Meanings of “Place Hold” and “Request Item” in Training

In Task 8 and 10, the participants were asked to place a hold on an item or to request an item. All eighteen participants completed both tasks successfully, but it is important to emphasize to the users what these functions do. The “Request Item” and “Place hold” widgets have a question mark icon that can be clicked to explain the functionality (Figure 1.6). “Place hold” is defined as “Request Item” and “Request Item” is defined as “Request Item through Interlibrary Loan.” One participant clicked on both of the question mark widgets and expressed confusion in the difference of the functions because the “Place hold” explanation is “Request Item” which is the name of the other option. Additionally, training on these functions will expand user knowledge of the system and the services Atkins offers its users. “Request Item” represents Interlibrary Loan and “Place hold” represents Atkins holdings; both functions allow users to receive a specific item without locating it in the physical space themselves.

OCLC Recommendations

The recommendations for OCLC address usability issues identified in the analysis of the test session recordings and post-survey responses. The recommendations are made to improve the effectiveness, efficiency, ease to learn, engagement, and error tolerance of WorldCat Discovery.

Improve the Effectiveness, Efficiency, Error Tolerance, and Engagement of the Advanced Search

Tasks 9-12 asked the participants to use the advanced search to complete the task. In analysis of these tasks, usability issues related to the advanced search were apparent. The following recommendations are made to increase the efficiency, functionality, and desirability of the advanced search.

- Ensure Advanced Search Features Filter Results Correctly
  Task 10 asked participants to use the advanced search to locate a Russian version of Fyodor Dostoyevsky’s Crime and Punishment that was published in 1965. Fourteen of the eighteen participants utilized the “Language” dropdown filter to search “Russian” in conjunction with a title and/or author filter. When these participants utilized the language filter, no results were found. When the language filter was removed, many results were
populated and then participants could select “Russian” in the left side filter on the result’s page to filter by language. The Usability Coordinator explored the filters within the advanced search and discovered that some of the dropdown filters in the advanced search are not functioning correctly. For example, the language filter filters as a keyword search and not by the item’s language.

- **Improve the Layout of the Advanced Search**
  Task 9-11 provided participants with a publication date or date range. Participants on their first attempt used the publication date drop-down, the left side filter on the results page to search using the date, or did not search using the date. Participants on their second or third attempt for task nine or when attempting task 10 and 11 located the “Limit your search” section of the advanced search. Several participants commented that they did not see the “Limit your search” section and that the layout of the page created an unwanted separation. Under the initial section of the advanced search, there is the “Search” button and there is a horizontal line separating that section and the “Limit your search” section (*Figure 1.7*). Participants commented that the location of the search button, the horizontal line, and white space made it seem like the “Limit your search” did not exist or was separate from the drop-down search. To improve the efficiency, effectiveness, and the engagement of the advanced search, the “Limit your search” section should be moved closer to the initial search and the separation line should be removed. Additionally, the “Search” widget should be placed below the “Limit your search” to reduce confusion.

*Figure 1.7*
- **Ensure that Advanced Search filters populate on the result’s page left side filters to improve the effectiveness, engagement, and efficiency of the interface.**
  When participants searched using the advanced search filters, the filters they selected and used do not populate in the results page left side filters. This led participants to contradict if the search applied the selected filters. For example, if a participant used the “Limit your search” to select “Book” as the format and then entered a year range, the results page left side filter’s format will indicate “All Formats” are selected and not just the “Book” format and the year or year range will not display in the “Year” section. Ensuring that the advanced search filters selected by users populate on the result’s page left side filters will help to reduce confusion among users and improve the effectiveness, engagement, and efficiency.

- **Allow the Advanced Search dropdown filters value to persist**
  If a participant clicked the back button in the browser after they searched using the advanced search, the dropdown filters reset to the default, but the manually entered text is still visible; additionally any search rows added by the user are removed (Figure 1.8). When participants returned to the advanced search in tasks 9-12, some participants did not notice that the filters returned to the default, which led to an inaccurate second search attempt or the participants noticed the change and questioned their initial search. To improve the efficiency, effectiveness, and error tolerance of the advanced search, the entire search should still be visible and not reset to the defaults when participants clicked the browser back button. Participants clicked the back button to alter a search, if the participant desires a new search they will clicked “Advanced Search” or reset the previous search.

![Figure 1.8](image-url)
Add, “Citing” to the “Sharing and permalink options” Widget’s Mouse Over

Task one asked participants to locate a specific eBook and then locate its APA citation. One of the eighteen participants completed the subtask successfully on their first attempt. To locate an item’s citation, the participant must click the “Sharing and permalinks options” widget (Figure 1.9) and then clicked “Cite record.” The widget is located on the results page or within the item detail. The remaining participants clicked the widget as a last resort to complete the task. Participants commented that the widget’s icon and mouse over text mislead them. The mouse over text states, “sharing and permalinks options,” four participants commented that the widget’s mouse over text should include “Citing.” Adding “Citing” to the “Sharing and permalink options” to the widget’s mouse over to state “Sharing, Citing, and Permalink Options” will improve the engagement, efficiency, and effectiveness with the interface.

Add “Journal:” and “Call Number:” Identifiers for Quick Reference

Task 7 asked participants to find what journal the article, Do as I say (Not as I do): Inconsistency Between Behavior and Values is published in. Fifteen participants had difficulty locating the journal name on their first attempt and had to assume the text was correct. The journal name is located on the results page and the item detail but there is not an identifier (Figure 2.1). Participants can also locate the journal name if they view an electronic version. Several participants commented that it would be nice if “Journal” were included in front of the title like “Database:” and “Held by:” Adding the “Journal” identifier will improve the effectiveness and efficiency of the interface. Additionally, adding the identifier will improve the consistency of the result overview.

1. Do as I Say (Not as I Do): Inconsistency Between Behavior and Values.
   by Kate Sweeney, James A. Shepperd, Jennifer L. Howell
   Article 2012 | Peer-reviewed
   Database: Academic Search Complete
   Held by: UNC Charlotte Libraries

   Figure 2.1

An item’s call number indicates the item’s location in the library. An item’s call number is listed on the results page (Figure 2.2) and on the “Availability/Holding” section of the item detail (Figure 2.3). In the “Availability/Holdings” section, there is an identifier; the results page should mimic the availability to be consistent. Even though users can use the “Place hold” function for
library employees to retrieve an item for them, some participants like to locate the item themselves. If a user is unaware of what a call number looks like, adding “Call Number:” before it will improve the user’s efficiency with completing a task in the interface.

Figure 2.2

![Figure 2.2](image1)

Figure 2.3

**Reevaluate the “Place hold” and the “Request Item” Functions and Definitions**

In Task 8 and 10, the participants were asked to place a hold on an item or to request an item. All eighteen participants completed both tasks successfully, but it is important to emphasize to the users what these functions do. The “Request Item” and “Place Hold” widgets have a question mark icon that can be clicked to explain the functionality (Figure 2.4). “Place hold” is defined as “Request Item” and “Place Hold” is defined as “Request Item through Interlibrary Loan.” One participant clicked on both the question mark widgets and expressed confusion in the difference because the “Place hold” explanation is “Request Item” which is the name of the other option. “Request Item” represents Interlibrary Loan

![Figure 2.4](image2)
and “Place hold” represents Atkins holdings; both functions allow users to receive a specific item without locating it in the physical space themselves. To reduce confusion of users it is recommended to change the “Place hold” explanation to “Request Item through J. Murrey Atkins Library.”

**Define Discovery’s Page History**

When users clicked the browser back button from an item detail after searching from the general homepage, the user was redirected to the general search screen and their search had been removed (Figure 2.5). To avoid losing search results users must clicked “Close Item Detail” in the upper right corner or “View Filters” in the upper left corner (Figure 2.6). Defining the page history to direct users back to the results page when clicking the browser back button from an item detail will reduce frustration among users and improve the efficiency, ease to learn, error tolerance, effectiveness, and engagement of the interface. Then when a user clicked the back button again (from the search result page), they will be directed to the general search homepage.
Evaluate the “Check eResources” and “View online” Functions

Task 5 asked participants to locate the following article, What facebook knows and view the article online. The “View online” widget directed the participants to a third-party database and the page stated, “No Results matching your search term(s) were found. Please check your spelling, try other search term(s) or remove existing limiter(s). If your query contains wildcards (?, !, *) then try enclosing your search in quotes.” The participants then were asked what they would do next to locate this article. The majority of the participants clicked “View full text” under the “Access Full Text Online” subsection within the “Availability/Holdings” section of the item detail and was able to view the article through a different third party. Three of the participants clicked the “Check eResources” widget located next to the “View online” widget (Figure 2.7). This redirected the participants to a different third-party page from the “View online” option. The terminology “Check eResources” indicates that the function is checking multiple resources, but when the tool is used, it redirects users to one option. This option directs to a different resource than the “View online” tool but both tools functionalities are the same, allowing a user to view the item online. If granted access to customize, J. Murrey Atkins Library can alter the widget label to represent the functionality. Additionally, removing the “View online” widget and only having the “Get it!/Check eResources” widget will reduce confusion among users and improve the efficiency, ease to learn, and functionality of the interface.

Findings

Findings are broken into three major sections to represent the pre-test survey responses, the individual task, and the post-test survey responses. The tested participant groups, faculty, undergraduate students, and graduate students organize each section’s findings. The tasks’ findings are grouped by the individual task along with a description of the success rate, ease of completion, errors, and participants’ comments. The participants consisted of eight undergraduate students, five graduate students, and five faculty members. Please note that none of the participants had used WorldCat Discovery prior to the test session.

Pre-Test Survey

The 18 participants all provided responses for the pre-test survey. The questions gathered demographic data as well as their usage of WorldCat Local. There were two different pre-survey surveys, one for students (undergraduate & graduate) and one for faculty members (Figure 2.8). The pre-test survey responses are organized by the question and the participant group, undergraduate students (Figure 2.9), graduate students (Figure 3.1), and faculty members (Figure 3.2).

Figure 2.7
## Undergraduate & Graduate Students

<table>
<thead>
<tr>
<th># of Participants</th>
<th>Discipline</th>
<th>Frequency of Use</th>
<th>Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Eight</strong></td>
<td><strong>Majors:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Health</td>
<td>A few times a week (3)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Communication</td>
<td>A few times a semester (5)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Biology (2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Political Science</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Finance</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nursing</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Public Health</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Electrical Engineering</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Faculty Members

<table>
<thead>
<tr>
<th>What year are you in school?</th>
<th>What is your current position?</th>
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</thead>
<tbody>
<tr>
<td>What is your field of study?</td>
<td>What department are you in?</td>
</tr>
<tr>
<td>How often do you use the library’s catalog?</td>
<td>How often do you use the library’s catalog?</td>
</tr>
<tr>
<td>o Never</td>
<td>o Never</td>
</tr>
<tr>
<td>o A few times a semester</td>
<td>o A few times a semester</td>
</tr>
<tr>
<td>o A few times a month</td>
<td>o A few times a month</td>
</tr>
<tr>
<td>o A few times a week</td>
<td>o A few times a week</td>
</tr>
<tr>
<td>o Daily</td>
<td>o Daily</td>
</tr>
</tbody>
</table>

## Undergraduate Students

### Majors:
- Health
- Communication
- Biology (2)
- Political Science
- Finance
- Nursing
- Public Health
- Electrical Engineering

<table>
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<tr>
<th>Frequency of Use</th>
<th>Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A few times a week</td>
<td>Articles (view online &amp; full-text)</td>
</tr>
<tr>
<td>A few times a semester</td>
<td>Books</td>
</tr>
<tr>
<td></td>
<td>Databases</td>
</tr>
<tr>
<td></td>
<td>Interlibrary Loan</td>
</tr>
</tbody>
</table>

## Graduate Students

### Field of Study:
- Computer Science (4)
- Mechanical Engineering

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<th>Frequency of Use</th>
<th>Usage</th>
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</thead>
<tbody>
<tr>
<td>A few times a semester</td>
<td>Articles (view online &amp; full-text)</td>
</tr>
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</table>

Figure 2.8

Figure 2.9

Figure 3.1
Faculty

<table>
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<th># of Participants</th>
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<th>Frequency of Use</th>
<th>Usage</th>
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</tr>
</thead>
<tbody>
<tr>
<td>- Department of Software and Information Systems</td>
<td></td>
<td>A few times a month (1)</td>
<td>Articles (view online &amp; full-text)</td>
</tr>
<tr>
<td>- Department of Special Education and Child Development</td>
<td></td>
<td>A few times a week (2)</td>
<td>Books</td>
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<td>- Department of Chemistry</td>
<td></td>
<td>A few times a semester (2)</td>
<td>Interlibrary Loan</td>
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<tr>
<td>- Department of Political Science and Public Administration</td>
<td></td>
<td>Daily (1)</td>
<td>Databases</td>
</tr>
<tr>
<td>- School of Social Work</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 3.2

Tasks

Findings are grouped by the individual task along with a description of the success rate, ease of completion, errors, and participants’ comments.

Task 1: Locate and view the following eBook, *Observing the user experience: a practitioner’s guide to user research*.

- Locate the APA citation for this item.
- What subjects are assigned to the eBook?

The task was designed to determine if participants could locate a specific eBook when given the title and format. After locating the specific eBook, participants were asked to use the interface to create the APA citation for the eBook and to locate the eBook subjects. To complete the task, participants must demonstrate a successful search technique that results in locating the eBook, its citation, and its assigned subjects. This task requires the participants to complete multiple steps, first locating the eBook, then locating the eBook’s APA citation and assigned subjects.

Undergraduate Students: The eight undergraduate students completed task one; six of the participants had difficulty locating the APA functionality within the interface. Several different approaches were taken to begin the task. Seven of the eight participants utilized the general search (Figure 3.3) to begin the task, six of the participants searched by partial title, “Observing user experience” and the remaining participant searched the full title, “Observing the user experience: a practitioner’s guide to user research.” The seven participants clicked the first result, “Observing the user experience a practitioner’s guide to user research” (Figure 3.4). The remaining participant utilized the advanced search to search by the full title, “Observing the user experience: a practitioner’s guide to user research” and selected “eBook” from the format option under the “Limit your search” section (Figure 3.5). The participant then clicked the “Search” widget and clicked the first result, “Observing the user experience a practitioner’s guide to user research” (Figure 3.4).
After locating the eBook, the participants were asked to locate the APA citation. The eight participants scrolled through the item detail. Two of the eight participants clicked the “Sharing and permalinks options” widget (Figure 3.6) and then clicked “Cite record” after a quick glance of the item detail. The two participants then clicked “APA (6th ed.)” from the pop-up window (Figure 3.7) to generate the citation. The remaining six participants did not complete the subtask on their first attempt; they clicked the different expandable sections in the item detail. Three of
the six participants hovered their mouse over the “Sharing and permalinks options” but did not click it. One of the participants indicated after she completed the subtask that she knew the widget would provide different tools but did not think one would be citing due to the mouse-over text. The six participants eventually clicked “Sharing and permalinks options” widget (Figure 3.6) and then clicked “Cite record.” The participants then clicked “APA (6th ed.)” from the pop-up window (Figure 3.7) to generate the citation.

After generating the citation, the participants were asked to locate the subjects associated with the eBook; all eight participants completed the subtask. Seven of the eight participants quickly completed the subtask by clicking the “Description” dropdown section in the item detail (Figure 3.8) and locating the “Subjects:” section (Figure 3.9). The remaining participant began the subtask by clicking the “View Online” widget and was redirected to a third party webpage. The participant then returned to the item detail page and expresses confusion about the left pane. The participant then clicked the “Description” dropdown section in the item detail located in the right pane and reads off the subjects.
Graduate Students: The five students completed task one; four of the participants had difficulty locating the APA functionality within the interface. Several different approaches were taken to begin the task. All of the participants utilized the general search (Figure 4.1) to search by partial title to begin the task, four of the participants searched “observing user experience” and the remaining two participants searched “a practitioner’s guide to user research.” The five participants clicked the first result, “Observing the user experience a practitioner’s guide to user research” (Figure 4.2).
After locating the eBook, the participants were asked to locate the APA citation. All five participants needed an explanation of what a citation was before attempting to complete the subtask. The five participants scrolled through the item detail. One of the five participants clicked the “Sharing and permalinks options” widget immediately (Figure 4.3) and then clicked “Cite record” after a quick glance of the item detail. The participant then clicked “APA (6th ed.)” from the pop-up window (Figure 4.4) to generate the citation. The remaining four participants did not complete the subtask on their first attempt; they clicked the different expandable sections in the item detail. Three of the six participants hovered their mouse over the “Sharing and permalinks options” but did not click it. The four participants eventually clicked “Sharing and permalinks options” widget and then clicked “Cite record.” The participants then clicked “APA (6th ed.)” from the pop-up window to generate the citation.

![Figure 4.3](image_url)

After generating the citation, the participants were asked to locate the subjects associated with the eBook; all participants completed the subtask. The five participants quickly completed the subtask by clicking the “Description” collapsible section in the item detail (Figure 4.5) and locating the “Subjects:” section (Figure 4.6). The participants located in the right pane and read off the subjects.

![Figure 4.4](image_url)
Faculty: The five participants completed task one; all of the participants had difficulty locating the APA functionality within the interface. Several different approaches were taken to begin the task. Four of the five participants utilized the general search (Figure 4.7) to begin the task, the four of the participants searched by partial title, three of the participants searched “Observing user experience” and the remaining participant searched, “Observing the user experience: a practitioner’s guide to user research.” The participants clicked the first result, “Observing the user experience a practitioner’s guide” (Figure 4.8). Note: three of the four participants expressed confusion at the split screen on the item detail page. The remaining participant utilized the advanced search to search by the full title, “Observing the user experience: a practitioner’s guide to user research” and selected “eBook” from the format option under the “Limit your search” section (Figure 4.9). The participant then clicked the “Search” widget and clicked the first result, “Observing the user experience a practitioner’s guide to user research.”
After locating the eBook, the participants were asked to locate the APA citation; one participant did not complete the subtask. The five participants did not complete the subtask on their first attempt; they clicked the different expandable sections in the item detail. One of the five participants asked the facilitator to move to the next subtask after they could not located the citing tool. The four participants eventually clicked “Sharing and permalinks options” widget and then clicked “Cite record.” The participants then clicked “APA (6th ed.)” from the pop-up window to generate the citation.

After generating the citation, the participants were asked to locate the subjects associated with the eBook; all participants completed the subtask. The five participants quickly completed the subtask by clicking the “Description” collapsible section in the item detail (Figure 5.1) and locating the “Subjects:” section (Figure 5.2).
Task 2: Locate the following musical score, *Symphony no. 7, in A major, op. 92* by Ludwig van Beethoven.

- **What is the score’s duration?**

The task was designed to determine if participants could locate a specific musical score when given the author and title; the participants then were asked to locate the scores’ duration (minutes). To complete the task, participants must demonstrate a successful search technique to locate the musical score and the item’s details such as duration. This task requires the participants to complete multiple steps, first locating the musical score and then locating its duration.

**Undergraduate Students:** The eight participants completed task two with ease. The participants used the same search technique to complete the task. Six of the eight participants utilized the general search to search, “symphony no.7 in A major, op.92” and the remaining two participants
utilized the general search to search “Symphony no.7 in A major;” the eight participants then clicked the first result (Figure 5.3) and then clicked the “Description” collapsible section and found the duration in the “Notes” section (Figure 5.4).

Figure 5.3

Graduate Students: The five participants completed task two with ease. The participants used the same search technique to complete the task. Three of the five participants utilized the general search-to-search, “symphony no.7 in A major, op.92” and the remaining two participants utilized the general search to search “Symphony no.7 in A major Beethoven.” The five participants then clicked the first result (Figure 5.5) and then clicked the “Description” collapsible and found the duration in the “Notes” section (Figure 5.6).

Figure 5.4

Figure 5.5
Faculty: The five participants completed task two with ease. Four of the five participants utilized the general search. Three of the four participants searched, “symphony no.7 in A major, op.92” and the remaining participant searched “Beethoven symphony no.7;” the four participants then clicked the first result (Figure 5.7) and then clicked the “Description” collapsible section and found the duration in the “Notes” section (Figure 5.8).
The remaining participant utilized the advanced search to select the “Title” and “Author” dropdowns. The participants searched the full title, “symphony no.7 in A major, op.92” and by the author’s last name “Beethoven.” The search produced zero results, so the participant returned to the advanced search to search by the full title and selected “Musical Score” from the “Format” subsection of the “Limit your search” (Figure 5.9). Note: the participant clicked the browser back button and did not realize the dropdown filter label did not persist and went back to the default of “Keyword.” The participant clicked the first result and located the score’s duration in the “Description” collapsible.

Task 3: Locate a full-text article about astronomy.
- Email the article’s record to rwinterl@uncc.edu

The task was designed to determine if participants could locate a full-text article on a specific subject (astronomy) and then email the item’s record. To complete this task, participants must demonstrate a successful search technique that located a full-text article on astronomy. This task requires the participants to complete multiple steps, first locating the full-text article and then locating the email functionality to share the item’s record.

Undergraduate Students: The eight participants successfully completed task three. Five of eight participants started their search technique by searching “astronomy” in the general search. Two of the eight participants searched “astronomy article” in the general search and the remaining participant searched “astronomy journal” in the general search. The eight participants then used the left side filter to selected “Full Text” in the “Content” section and “Article” from the “Format” section (Figure 6.1). The participants then looked through the results, clicked a result, and were directed to the item detail. Seven of the eight participants clicked the
“Sharing and permalink options” widget and selected “Email record” (Figure 6.2). The participants then typed the given email address and clicked the “Send email” widget to complete the task (Figure 6.3). One participant questioned if the email tool sends the full-text article or the item detail and that they hoped it would be the article to reduce clicked. The remaining participant stated that they would copy the item record’s link and use Gmail to send the link.

Figure 6.2

Graduate Students: All five participants completed the task successfully. Three participants utilized the general search and the remaining two participants utilized the advanced search to begin their search technique. Two of the four participants that utilized the general search typed “astronomy” into search box. The two participants used the left side filters to selected “Articles” under “Format” and “Full Text” under the “Content” section (Figure 6.4). The participants then clicked the first result to go to the item detail. One of the four participants searched “astronomy journal” in the general search. The participant clicked on the first result to go to the item detail. One of the four participants searched “astronomy article” and clicked on the first result to go to the item detail. The remaining participant utilized the advanced search to begin their search technique. The participant typed “astronomy full text” in the default keyword dropdown. The participant clicked on the first result to go to the item detail.

Figure 6.4

Figure 6.3

Figure 6.5

Send an email

You have requested to email:
Astronomy Encyclopedia (Book).

Enter one email address

sample@email.com

Send email

Cancel

Figure 6.5
item detail. To complete the subtask, the five participants clicked the “Sharing and permalink options” widget and selected “Email record” (Figure 6.5). The participants then typed the given email address and clicked the “Send email” widget to complete the task (Figure 6.6).

![Send an email](image)

**Figure 6.6**

**Faculty:** The five participants successfully completed task three. Four of the five participants started their search technique by searching “astronomy” in the general search. The four participants then used the left side filter to select “Full Text” in the “Content” section and “Article” from the “Format” section (Figure 6.7). The four participants then looked through the results, clicked a result, and were directed to the item detail. The remaining participant utilized the advanced search to begin the search. The participant typed “astronomy” in the default “Keyword” search and selected “Article” from the “Format” dropdown in the “Limit your search” section (Figure 6.8). The participant then used the left side filter to select “Full Text” in the “Content” section. The participant clicked the first result and was directed to the item detail.

The five participants clicked the “Sharing and permalink options” widget and selected “Email record” (Figure 6.9). The participants then typed the given email address and clicked the “Send email” widget to complete the task (Figure 7.1).

![Set search preferences](image)

**Figure 6.7**
Task 4: Find what floor in the library Lawrence Lessig’s book, *Free Culture: how big media uses technology and the law to lock down culture and control creativity* is located.

- **What is the book’s call number?**

This task was designed to determine if participants could find a specific book when given the author and title, and then determine the book’s location (floor number) in J. Murrey Atkins Library and the call number. To complete this task, participants must demonstrate a successful search technique to locate the book in the interface and determine the book’s call number and physical location in the library. This task requires participants to complete multiple steps, first locating the book then the book’s location and call number.
Undergraduate Students: All eight participants completed the task successfully and with ease. The eight participants utilized the general search to begin their search technique. Six of the eight participants searched a partial title such as “Free Culture: how big media,” “how big media uses technology and the law to lock down culture,” and “free culture: how big media uses technology and the law.” One participant commented that they liked the dropdown search auto complete, that it makes the search more efficient. The remaining two participants searched the full title, “Free Culture: how big media uses technology and the law to lock down culture and control creativity.” All eight participants clicked the first result (Figure 7.2) and were directed to the item detail. The participants found the book’s location in J. Murrey Atkins Library and call number in the default collapsible section, “Availability/Holdings” (Figure 7.3).

Graduate Students: All five participants completed the task successfully. Three participants utilized the general search and the remaining two participants utilized the advanced search to begin their search technique. Six of the eight participants searched a partial title such as “Free Culture: how big media,” “how big media uses technology and the law to lock down culture,” and “free culture: how big media uses technology and the law.” One participant commented that they liked the dropdown search auto complete, that is makes the search more efficient. The remaining two participants searched the full title, “Free Culture: how big media uses technology and the law to lock down culture and control creativity.” All eight participants clicked the first result (Figure 7.4) and were directed to the item detail. The participants found the book’s
location in J. Murrey Atkins Library and call number in the default dropdown section, “Availability/Holdings” (Figure 7.5).

![Figure 7.4]

Faculty: All five participants completed the task and with ease. Four of the five participants utilized the general search to begin their search technique. Three of the four participants searched a partial title such as “Free Culture Lawrence Lessig,” “how big media uses technology and the law to lock down culture,” and “free culture: how big media uses technology and the law.” The remaining participant searched the full title, “Free Culture: how big media uses technology and the law to lock down culture and control creativity.” Three of the four participants clicked the first result (Figure 7.6) and were directed to the item detail. The three participants found the book’s location in J. Murrey Atkins Library and call number in the default collapsible section, “Availability/Holdings” (Figure 7.7). One of the participants located the location and call number in the item summary on the results page (Figure 7.8). The participant commented that it is nice that you can locate this information without clicking the item.

![Figure 7.5]

![Figure 7.6]
The remaining participant utilized the advanced search to begin their search. The participant typed the full title in the default “Title” dropdown and selected book from the “Format” dropdown in the “Limit your search” section (Figure 7.9). The participant clicked on the first result and was directed to the item detail. The participant glanced in the “Availability/Holdings” collapsible section and found the call number quickly. The participant struggled locating the location of the book. After the participant located it in the “Availability/Holdings” collapsible section, they commented that the location should be more pronounced.
Task 5: Locate the following article, What facebook knows.

- View the article online.

The task was designed to determine if users could view an item when given the title and format. To complete this task, participants must demonstrate a successful search technique that located the specific article and then view the full-text of the article. This task requires participants to complete multiple steps, first locate the item, and then view the article online.

Undergraduate Students: All eight participants completed task five successfully. The eight participants utilized the general search to search, “what facebook knows.” The first page of results does not include the article, so the participants selected “Article” from the “Format” section in the left side filter. The participants then clicked the first result and were directed to the item detail. The participants then clicked the “View online” widget (Figure 8.1). The participants are redirected to a third party page, which stated, “No Results matching your search term(s) were found. Please check your spelling, try other search term(s) or remove existing limiter(s). If your query contains wildcards (?, !, *) then try enclosing your search in quotes.” The facilitator then asked the participants what they would do next to view the article. Four of the eight participants stated they would search for the article using a Google or Google Scholar. Three of the eight participants returned to the item detail and clicked the first option under “Access Full Text Online” subsection in the “Availability/Holdings” collapsible section (Figure 8.2), which redirects them to the same third party page that the “View online” widget took them. The three participants then clicked the section option that successfully redirects them to the article. The remaining participant returned to the item detail, clicked the “Check eResources” widget (Figure 8.3), and is redirected to a different third party page that has the article’s content available.

Figure 8.1
Graduate Students: The five participants completed task five successfully. The five participants utilized the general search. Four of the five participants searched, “what facebook knows.” The first page of results does not include the article, so the participants selected “Article” from the “Format” section in the left side filter. The participants then clicked the first result and were directed to the item detail. The remaining participant began the task by searching “facebook” and does not see any relevant results. The participant then searched “facebook knows” and still does not find any relevant results. On the participant’s third attempt, they searched by the full title, “what facebook knows.” The first page of results still does not include the article, so the participant selected “Article” from the “Format” section in the left side filter. The participants then clicked the first result and were directed to the item detail.

The five participants then clicked the “View online” widget (Figure 8.4). The participants are redirected to a third party page, which stated, “No Results matching your search term(s) were found. Please check your spelling, try other search term(s) or remove existing limiter(s). If your
query contains wildcards (?, !, *) then try enclosing your search in quotes” (Figure 8.5). The facilitator then asked the participants what they would do next to view the article. Two of the five participants stated they would search for the article using a Google or Google Scholar. Three of the five participants returned to the item detail, clicked the “Check eResources” widget (Figure 8.6), and was redirected to a different third party page that has the article’s content available to complete the subtask.
Faculty: All five participants completed task five successfully. The five participants utilized the general search to search, “what facebook knows.” The first page of results does not include the article, so the participants selected “Article” from the “Format” section in the left side filter. The participants then clicked the first result and were directed to the item detail. The participants then clicked the “View online” widget (Figure 8.7). The participants are redirected to a third party page, which stated, “No Results matching your search term(s) were found. Please check your spelling, try other search term(s) or remove existing limiter(s). If your query contains wildcards (?, !, *) then try enclosing your search in quotes.” The facilitator then asked the participants what they would do next to view the article. Two of the five participants stated they would search for the article using Google Scholar. Two of the five participants returned to the item detail and clicked the first option under “Access Full Text Online” subsection in the “Availability/Holdings” collapsible section (Figure 8.8), which redirects them to the same third party page that the “View online” widget took them. The two participants then clicked the section option that successfully redirects them to the article. The remaining participant used the third party site they directed to, to search the article’s title. The participant clicked the second option in the “Magazine” section (Figure 8.9) and is directed to the correct article.
**Figure 8.8**

- **Facebook's solution to tech's diversity problem**
  - **Save**
  - Byline: Hayley Tsukayama
  - There’s little doubt that there’s a race and gender gap in the tech industry. Look at any of the major tech firms' diversity reports and you'll see that there are proportionally fewer women.

- **What You Didn’t Post, Facebook Might Still Know**
  - **Save**
  - SAN FRANCISCO — Debra Ahlu Williamson, an advertising industry analyst and devoted coffee drinker, was intrigued by a promotion that popped up on her Facebook page recently. Sign up for a Starbucks loyalty card, it said.

- **Should Personal Data Be Personal?**
  - **Save**
  - MAX SCHREMS, a 24-year-old law student from Salzburg, Austria, wanted to know what Facebook knew. He requested his own Facebook file. What he got turned out to be a virtual bildungsroman, 1,222 pages long. It contained...

**Figure 8.9**

- **The Kremlin Knows What You Like... on Facebook; Putin’s Internet crackdown is putting Russians in jail and could sink the economy**
  - **Save**
  - **Newsweek**, November 13, 2015
  - Byline: Evgeniya Vologzhinova
  - A shop assistant from central Russia, shared around half a dozen links about the war in eastern Ukraine with her online friends. She was expecting nothing more than a...

- **What Facebook knows**
  - **Save**
  - **Technology Review (Cambridge, Mass.),** July-August 2012
  - [ILLUSTRATION OMITTED] IF FACEBOOK WERE A COUNTRY, a concit that founder Mark Zuckerberg has entertained in public, its 500 million members would make it the third largest in the world. It would far outstrip any regime...

- Is this book available for checkout?
- If it is not, when is it due back?

The task was designed to determine if users could locate a book when given the title, author, and ownership. After participants located the book, they were asked to determine if it was available for check out and if not when was it due back. To complete the task, participants must demonstrate a successful search technique that results in locating the specific book and its availability. This task requires the participants to complete multiple steps, first locating the book and then locating the book’s availability.

**Undergraduate Students:** The eight participants completed task six successfully and with ease. All of the participants utilized the general search to begin their search technique. Six of the eight participants searched using the title and author, four of the six participants searched “steve jobs by Walter Issacson” and the remaining two participants searched “steve jobs Issacson. The remaining two participants searched by title. Six of the eight participants clicked the first result and found the availability information under the opened collapsible, “Availability/Holdings” section of the item detail (*Figure 9.1*). The remaining two participants located the book’s availability on the search result’s page (*Figure 9.2*).

*Figure 9.1*

*Figure 9.2*
Graduate Students: The five participants completed task six successfully. All of the participants utilized the general search to begin their search technique. Two of the participants searched using the title and author, “steve jobs by walter issacson.” The remaining three participants searched by title. Three of the five participants clicked the first result and found the availability information under the opened collapsible, “Availability/Holdings” section of the item detail (Figure 9.3). The remaining two participants located the book’s availability on the search result’s page (Figure 9.4).

Faculty: The eight participants completed task six with ease. Four of the five participants utilized the general search to begin their search technique. Three of the participants searched by title, “Steve Jobs” and one participant searched using the title and author “steve jobs Walter Issacson.” The four participants clicked the first result and found the availability information under the opened collapsible, “Availability/Holdings” section of the item detail (Figure 9.5).

The remaining participant utilized the advanced search to begin the task. The participant used the default “Title” dropdown to search “Steve Jobs” and selected “Book” from “Format” dropdown in the “Limit your search” section (Figure 9.6). The participant clicked the first result and found the availability information under the opened collapsible, “Availability/Holdings” section of the item detail.
Task 7: Find what journal the article, *Do as I say (Not as I do): Inconsistency Between Behavior and Values* is published in.

The task was designed to determine if users could locate which journal an item is published in when given the item’s format and title. To complete this task, participants must demonstrate a successful search technique that located the article and the journal it is published in. This task requires the participants to complete multiple steps, first locating the article and then locating the journal it is published in.

**Undergraduate Students:** The eight participants completed the task successfully, but it is noted that participants had a difficult time locating the journal name. All the participants utilized the general search to begin their search technique. Seven of the eight participants’ searched were unsuccessful when searching with a partial title such as “do as I say (not as I do)” and “do as I
say “not as I do.”” It is noted that the quotation option was selected from the auto complete dropdown options. The six participants then added the rest of the title to their search to locate the item in the results. The remaining two participants searched the full title, “Do as I say (Not as I do): Inconsistency Between Behavior and Values.” All the participants clicked the first result and were directed to the item detail. When locating the journal title, all the participants scanned the item detail multiple times before completing the task. Seven of the eight participants located the journal title, “Basic & Applied Social Psychology” in the item summary at the top of item detail (Figure 9.8). Four of the seven participants questioned if that was the journal title before deciding it had to be. Two of the participants commented it would be more identifiable if “Journal:” was used as an identifier before the title, resembling “Database” and “Held by.” The remaining participant clicked the first “View full text” link under “Access Full Text Online” subsection in the “Availability/Holdings” collapsible section (Figure 9.9) and then identified the journal title from the third party page (Figure 10.1).

Figure 9.8

Figure 9.9

Figure 10.1
Graduate Students: Three of the five participants completed the task successfully, but it is noted that the three successful participants had a difficult time locating the journal name. All the participants utilized the general search to begin their search technique by searching by partial title. The initial partial title searched was unsuccessful and led the participants to add to the partial title. Two of the five participants searched “do as I say “not as I do,” and used the left side filter to selected “Article” from the “Format” section. It is noted that the quotation option was selected from the auto complete dropdown options. The two participants did not see any relevant results and then added “inconsistency between behavior” to their original search. The two participants clicked on the first result and located the journal title quickly in the item summary (Figure 10.2) to complete the task. One of the five participants searched “do as I say (not as I do)” and did not see any relevant results so then the participants searched by the full title and clicked the first result. The participant looks through the item’s detail and the collapsible sections (availability/holdings and description) and does not know where to locate the journal information. The participant speculates that “Basic and Applied Social Psychology” located in the item detail is the journal because they have no other ideas.

One of the five participants began their search with, “do as I say” and did not find relevant results and then altered the search to “not as I do” and had the same results. The participant then searched “inconsistency between behavior and values” and did not see any relevant results. The participant then asked to move onto the next task. The remaining participant utilized the advanced search. The participant began the search by searching “do as I say” in the keyword search and filtering the format to “Article” from the “Limit your search” section. The participant did not see any relevant results, returned to the advanced search, changes the format to “Journal/Magazine,” and again does not find any relevant results. The participant then uses the general search to search “Do as I say “not as I do”” and uses the keyboard shortcut “CTRL+F” to search for “inconsistency.” The participant does not locate the result and asks to move to the next task,

Faculty: The five participants completed the task successfully. Three of the five participants utilized the general search to begin their search technique. Two of the three participants’ initial searched were unsuccessful when searching with a partial title such as “do as I say (not as I do).” The two participants then added the rest of the title to their search to locate the item in the results. The remaining participant searched the full title, “Do as I say (Not as I do): Inconsistency Between Behavior and Values.” The three participants clicked the first result and were directed to the item detail. The three participants quickly located the journal title, “Basic & Applied Social Psychology” in the item summary at the top of item detail (Figure 10.3).
Two of the five participants utilized the advanced search to begin the task. Both participants typed the full title in the “Title” default dropdown and selected “Article” from the “Format” dropdown in the “Limit your search” section. One of the two participants located the journal in the item summary on the results page and the remaining participant clicked the first item and located the journal title, “Basic & Applied Social Psychology” in the item summary at the top of item detail.

**Task 8: You want to check out the following movie, The Great Gatsby, what format of the movie is available at the library?**

- How would you place a hold on the movie?

The task was designed to determine if participants could locate a movie by title and location, participants then were asked what format of the movie J. Murrey Atkins had and how they could place a hold on the item. To complete the task, participants must demonstrate a successful search technique that results in locating the movie, the movie format, and how to place a hold on the item. This task requires participants to complete multiple steps, first locating the J. Murrey Atkins owned movie and determining the movie’s format.

**Undergraduate Students:** The eight participants completed task eight successfully. All the participants utilized the general search to search “the great gatsby.” Three of the eight participants looked through the result’s page, clicked the third option (Figure 10.4), and found in the item summary that the movie is VHS format (Figure 10.5). The remaining five participants utilized the left side filters to narrow the results. Four of the five participants clicked “See All” under formats then selected the “Video” filter (Figure 10.6). The remaining participant selected the “Motion Pictures” filter from the “Topic” section (Figure 10.7). The participants clicked the first result and found in the item summary that the movie is VHS format. To place a hold on the item, the participants clicked the “Place Hold” widget in the “Availability/Holdings” collapsible section of the item detail, which is expanded by default.
Graduate Students: The five participants completed task eight successfully. All the participants utilized the general search-to-search “the great gatsby.” Three of the five participants utilized the left side filter immediately after the initial search. Two of the three participants selected “Video” from the “Format” section (Figure 10.8) and one participant selected “Motion Picture” filter from the “Topic” section (Figure 10.9). The three participants selected the first result (Figure 11.1) and located the format in the item summary (Figure 11.2). One of the five participants looked through the initial results before utilizing the left side filter to selected Video” from the “Format” section. The participant selected the first result and located that format in the item summary. The remaining participant looked through the result’s page, clicked the third option (Figure 11.3), and found that the movie is VHS format in item summary. To place a hold on the item, the five participants clicked the “Place Hold” widget in the “Availability/Holdings” collapsible section of the item detail, which is expanded by default. One participant noted that they did not know you were able to checkout videos from the library.
Faculty: The five participants completed task eight successfully. Three of the five participants utilized the general search to search “the great gatsby.” The three participants utilized the left side filters to narrow the results. The three participants clicked “See All” under formats then selected the “Video” filter (Figure 11.4) in the “Format” section. The participants clicked the first result and find that the movie is VHS format in the item

Figure 10.8

Figure 10.9

Figure 11.1

Figure 11.2

Figure 11.4
summary (Figure 11.5). To place a hold on the item, the participants clicked the “Place Hold” widget in the “Availability/Holdings” collapsible section of the item detail, which is expanded by default to complete the task. One participant commented that there should be further clarification of the “Place Hold” and “Request Item” tools.

Two of the three participants utilized the advanced search to begin the task. The two participants typed “the great Gatsby” in the “Title” default section and then search. The two participants then utilized the left side filters to narrow the results. The two participants clicked “See All” under formats then selected the “Video” filter in the “Format” section. The participants clicked the first result and find that the movie is VHS format in item summary. To place a hold on the item, the participants clicked the “Place Hold” widget in the “Availability/Holdings” collapsible section of the item detail, which is expanded by default to complete the task.


The task was designed to determine if participants utilized the advanced search to locate a specific article when given the author, title, and journal information (title, edition, year, and page number). To complete the task, participants must demonstrate a successful search technique that results in locating the specific article. This task requires participants to choose how they search for the item because they are given various typed of information that represents the article.

Undergraduate Students: The eight participants completed the task successfully. All of the participants began the task by clicking the “Advanced Search” link below the general search bar. Four of the eight participants utilized the dropdown filters (Figure 11.6) to search by “Title” and “Author.” Two of the four participants searched using the full title, “Assessing the Effects of Information and Communication Technologies on Development” and author, “qureshi, sajda.” The remaining two participants searched with a partial title, “assessing the effects of information and communication technologies” and “assessing the effects of information and communication” and by the last name of the author. Two of eight participants utilized the default keyword and title search. For the keyword, both participants searched the author name, “qureshi, sajda” and used the full title in the title filter. The six participants clicked the first result to complete the task.
Figure 11.6

One of the eight participants selected the author dropdown to search “Qureshi, Sajda,” and the title to search the full title, and then clicked “Add Row” (Figure 11.7) to selected “Publisher” and searched “Information Technology for Development.” The participant received an error message that no results have been found, thus they returned to the advanced search. The participant then searched using the author and title. The participant clicked the first result to complete the task. One of the eight participants selected author from the dropdown and searched “qureshi, sajda.” The participant scrolls through the search results until they located the correct article.

Figure 11.7

Graduate Students: Four of the five participants completed the task successfully. All of the participants began the task by clicking the “Advanced Search” link below the general search bar. It is noted that one participant needed help locating the advanced search to begin the task. Two of the five participants utilized the dropdown filters to search the full title, "Assessing the Effects of Information and Communication Technologies on Development" and author, “qureshi, sajda.” The two participants clicked the first result to complete the task.

One of the five participants utilized the “Title” dropdown to search by partial title, “Assessing the effects of information and communication technologies.” The participant does not find any
relevant results and returned to the advanced search to add the “author” dropdown to search, “qureshi, sajda.” It is noted that the original search’s title dropdown resets to the “Keyword” default. The participant clicked the first result to complete the task. One of the five participants utilized the “Author” and “Title” dropdown filters to search, “qureshi, sajda” and “assessing the effects of information and communication.” The participant additionally utilized the “Limit your search” section to type “2008” to the “Year.” There is only one result and it automatically opens the item detail (Figure 11.8).

Figure 11.8

One of the five participants utilized the “Title” and “Author” dropdown filters. The participant searched with a partial title, “assessing the effects of information and communication” and by the last name of the author. The participant clicked the first result to complete the task.

The remaining participant utilized the “Author” and “Title” dropdown filters to search, “qureshi” and “assessing.” The participant does not find any relevant results and returned to the advanced search to only search by author, once again, the participant does not find the correct result. The participant then utilized the general search to search “communication technologies on development” and does not find the correct result. The participant asked the facilitator to move on to the next task.

Faculty: The five participants completed the task successfully. All of the participants began the task by clicking the “Advanced Search” link below the general search bar. The five participants utilized the dropdown filters (Figure 11.9) to complete the task. Two of the five participants searched using the full title, "Assessing the Effects of Information and Communication Technologies on Development" and author, “qureshi, sajda.” Two of the five participants searched with a partial title, “assessing the effects of information and communication technologies” and “assessing the effects” and by the last name of the author. The remaining participant searched by title, author, and publication date. The five participants clicked the first result to complete the task.
Task 10: Use the Advanced Search to locate a Russian version of Fyodor Dostoyevsky’s *Crime and Punishment* that was published in 1965.

- **How would you request this item?**

The task was designed to determine if participants could utilize the advanced search to locate a book when given the title, author, publication date, and language. To complete this task, participants must demonstrate a successful search technique that results in locating a specific book. This task requires participants to choose how they search for the item because they are given various typed of information that represents the book.

**Undergraduate Students:** Four of the eight participants completed the task with difficulty; none of the participants completed the task on their first attempt. All of the participants began the task by clicking the “Advanced Search” link below the general search bar. Five of the eight participants utilized the “Title,” “Publication date,” “Language,” and “Author” dropdown filters. The five participants searched the full title “Crime and Punishment,” the author’s name “Fyodor Dostoyevsky,” publication date “1965,” and language “Russian” (*Figure 12.1*) and the search provided no results. Two of the five participants returned to the advanced search and altered their search to only author and title. The participants then utilized the left side filter to selected “Russian” as the language and typed “1965” in the “Custom year range” in the “Year” section. The utilized filters produced one result; the two participants clicked the result and clicked the “Place Hold” widget (*Figure 12.2*) to complete the task. One of the five participants returned to the advanced search and altered their search to include the author, the title, and the publication date that still resulted in no results. The participant returned to the advanced search for the third time and altered the search to include the author and the title. The participant then utilized the left side filter, selected “Russian” as the language, and typed “1965” in the “Custom Year Range” in the “Year” section. The utilized filters produced one result; the participant clicked the result and then clicked the “Place Hold” widget to complete the task. One of the five participants returned to the advanced search and altered their search to filter by title and language, which resulted in no results. The participant returned to the advanced search to filter only by author and was given many results, which led them to returned to the advanced search to add the publication date to the search (the participant did not realize that when they returned to the advanced search the dropdown filters reset to the default, meaning the author’s name filtered as a title not as an author name). This search led to one incorrect result; the participant asked the facilitator to move
to the next task. The remaining participant returned to the advanced search and altered their search to title and publication date and again produced no results. The participant then asked to move on to the next task and stated that they would go to the circulation desk if they needed the item.

One of the eight participants utilized the title dropdown to search the full title, “Crime and Punishment.” The participant was given too many results so they returned to the advanced search to add “Russian” as a keyword, which resulted in no results. The participant returned to the advanced search for a third time to search by title and publication date; the top results were articles, which confused the participant. The participant asked to move to the next task. One of the eight participants utilized the title and author dropdown filters to search the full title and full author name. From the results page, the participant then utilized the left side filter, selected “Russian” as the language, and typed “1965” in the “Custom Year Range” in the “Year” section. The utilized filters produced one result; the participant clicked the result and clicked the “Place Hold” widget to complete the task. The remaining participant utilized the default keyword and
The participant clicked the “Advanced Search” link below the general search bar. Three of the five participants utilized the “Title,” “Publication date,” “Language,” and “Author” dropdown filters. The three participants searched the full title “Crime and Punishment,” the author’s name “Fyodor Dostoyevsky,” publication date “1965,” and language “Russian” (Figure 12.3) and were given no results. One of the three participants returned to the advanced search and altered their search to only author and title. The participant then utilized the left side filter, selected “Russian” as the language, and typed “1965” in the “Custom Year Range” in the “Year” section (Figure 12.4). The utilized filters produced one result; the participant clicked the result and clicked the “Place Hold” widget (Figure 12.5) to complete the task. One of the five participants returned to the advanced search and altered their search to filter by title and language, which resulted in no results. The participant returned the advanced search to filter only by author and was given many results, which led them to returned to the advanced search to add the publication date to the search (the participant did not realize that when they returned to the advanced search the dropdown filters reset to the default, meaning the author’s name filtered as a title not as an author name).
Figure 12.4

Figure 12.5
One of the five participants utilized the “Title” dropdown to search the full title, “Crime and Punishment” and the “Author” dropdown to search “Fyodor Dostoyevsky.” The participant then utilized the left side filters and selected “Russian” in the “Language” section and typed “1965” in the “Custom Year Range.” The utilized filters produced one result; the participant clicked the result and clicked the “Place Hold” widget to complete the task.

The remaining participant utilized the general search. The participant searched, “fyodor Dostoyevsky crime and punishment” and participant then utilized the left side filters to selected and typed “1965” in the “Custom Year Range.” The participant clicked the first result and found that the language was not Russian so they returned to the results page and utilized the left side filters to selected “Russian” in the “Language” section. The utilized filters produced one result; the participant clicked the result and clicked the “Place Hold” widget to complete the task.

**Faculty:** The five participants completed the task; two of the five participants did not complete the task on their first attempt. All of the participants began the task by clicking the “Advanced Search” link below the general search bar. Two of the five participants utilized the “Title” and “Author” dropdown filters. The two participants searched the full title “Crime and Punishment,” and the author’s last name “Dostoyevsky.” The two participants then utilized the left side filter, selected “Russian” as the “Language,” and typed “1965” in the “Custom Year Range” in the “Year” section (Figure 12.6). The utilized filters produced one result; the participant clicked the result and then clicked the “Place Hold” widget to complete the task (Figure 12.7). Two of the five participants utilized the “Title,” “Author,” and “Language” dropdowns filters to begin their first attempt. The two participants searched the full title “Crime and Punishment,” the author’s last name “Dostoyevsky,” and the language “Russian” and found no results. The two participants returned to the advanced search and altered their search to include the “Title” and “Author” dropdown filters. The two participants then utilized the left side filter, selected “Russian” as the language, and typed “1965” in the “Custom Year Range” in the “Year” section. The utilized filters produced one result; the participant clicked the result and then clicked the “Place Hold” widget to complete the task. The remaining participant utilized the title and author dropdown filters and the “Year” filters in the “Limit your search” section. The two participant searched the full title “Crime and Punishment,” the author’s last name “Dostoyevsky,” and “1965” in the “Year” in the “Limit your search” section (Figure
12.8). The participant then utilized the left side filter to select “Russian” as the language. The utilized filters produced one result; the participant clicked the result and then clicked the “Place Hold” widget to complete the task.

![Figure 12.7](image)

![Figure 12.8](image)

**Task 11:** Use the Advanced Search to find a peer-reviewed article published between 2013-2015 about public health.
• Sort the results by articles that are “most widely held,” what is the first result listed?

The task was designed to determine if participants could utilize the advanced search to locate a 2013-2015 peer-reviewed article about the subject, public health. To complete this task, participants must demonstrate a successful search technique that results in locating a 2013-2015 peer-reviewed public health article. This task requires participants to choose how they search for the item when given various types of information that represents the book.

Undergraduate Students: The eight participants completed the task successfully. All of the participants began the task by clicking the “Advanced Search” link below the general search bar. Four of the eight participants utilized the keyword default dropdown to search “public health,” and utilized the “Limit your search” section and selected “only returned peer-reviewed articles and enter “2013” and “2015” into the year category (Figure 12.9). Two of the eight participants utilized the “Keyword” default dropdown to search “public health.” The two participants then utilized the left side filters on the results page to filter by “Article” found in the “Format” section and entered “2013” and “2015” in the “Custom Year Range” option found in the “Year” category. One of the eight participants utilized the “Keyword” default dropdown to search “public health,” and utilized the “Limit your search” section to enter “2013” and “2015” into the “Year” category. The participant then selected “Article” from the “Format” section of results page left side filter. The remaining participant uses the “Keyword” and “Publication date” dropdown filters, the participant searched “public health” and “2013-2015.” The search produced zero results. The participant returned to advanced search and altered the publication date to “2013.” The participant then scrolled through the results and found the “Custom Year Range” in the “Year” section of the left side filter. The participants asked why this option is not available in the advanced search. Note: that this is available in the advanced search in the “Limit your search” section but is below the fold. The participant enters 2013-2015 in the “Custom year range.”

Six of the eight participants completed the subtask with ease while two participants had to be guided. All the participants located the “Sort by” filter at the top of the left side filter on the results page (Figure 13.1).
Graduate Students: The five participants completed the task successfully. All of the participants began the task by clicking the “Advanced Search” link below the general search bar. Two of the five participants utilized the keyword default dropdown to search “public health,” and utilized the “Limit your search” section to selected “Article” from the “Format” subsection. The two participants utilized the left side filter to selected “Peer Reviewed” from the “Content” section. The two participants clicked the first result to complete the subtask. Two of the five participants utilized the keyword default dropdown to search “public health,” and utilized the “Limit your search” section to select “only to returned peer-reviewed articles” and entered “2013” and “2015” into the year category (Figure 13.2). Two of the eight participants utilized
the keyword default dropdown to search “public health.” The two participants clicked the first result to complete the subtask. The remaining participant utilized the “Publication Type Phrase” dropdown to search “public health.” The participant then utilized the left side filter to selected “Article” from the “Format” section and “Last 5 years” from the “Year” section. The participant clicked the first result to complete the subtask.

Figure 13.2

Three of the five participants completed the subtask with ease while two participants had to be guided. All the participants located the “Sort by” filter at the top of the left side filter on the results page (Figure 13.3).

Figure 13.3
**Faculty:** The five participants completed the task successfully. All of the participants began the task by clicking the “Advanced Search” link below the general search bar. Four of the five participants utilized the keyword default dropdown to search “public health,” and utilized the “Limit your search” section to selected “only to returned peer-reviewed articles and enter “2013” and “2015” into the year category (Figure 13.4). The remaining participant uses the “keyword” and “publication date” dropdown filters, the participant searched “public health” and “2013-2015.” The search produced zero results. The participant returned to advanced search, altered the initial search, and removed publication date. The participant then scrolls through the results, finds the “Custom Year Range” in “Year” section of the left side filters, and enters 2013-2015 in the “Custom year range.”

Two of the five participants completed the subtask with ease while three participants had to be guided. All the participants located the “Sort by” filter at the top of the left side filter on the results page (Figure 13.5).

![Figure 13.4](image1)

![Figure 13.5](image2)
Task 12: Use the Advanced Search to locate the following article’s summary, *A novel sensitive cell-based Love Wave biosensor for marine toxin detection*.

The task was designed to determine if participants could utilize the advanced search to locate an article when given the title, participants then were asked to locate the article’s summary to complete the task. To complete the task, participants must use the advanced search to locate a specific article and then locate the article’s summary.

**Undergraduate Students:** The eight participants completed the task successfully. All of the participants began the task by clicking the “Advanced Search” link below the general search bar. The eight participants searched the full title, “A novel sensitive cell-based Love Wave biosensor for marine toxin detection” in the “Title” dropdown filter (*Figure 13.6*). The participants clicked the first result and were directed to the item’s detail. The participants located the summary in the “Description” (*Figure 13.7*) to complete the task. Note: One participant clicked the browser back button and did not notice that the previous used filters did not resist, which caused a misleading search; the facilitator guided the participant to remove the entered material from the “Limit your search” section.

![Figure 13.6](image1)

![Figure 13.7](image2)
**Graduate Students:** The five participants completed the task successfully. All of the participants began the task by clicking the “Advanced Search” link below the general search bar. Three of the five participants searched the full title, “A novel sensitive cell-based Love Wave biosensor for marine toxin detection” in the “title” dropdown (Figure 13.8). The participants clicked the first result and were directed to the item’s detail. The participants located the summary in the “Description” (Figure 13.9) to complete the task. The remaining two participants searched by the following partial title, “a novel sensitive cell-based love wave.” One of the two participants clicked the first result and was directed to the item’s detail. The participants located the summary in the “Description” to complete the task. The remaining participant’s search did not produce any results because they clicked the browser back button from the previous task and did not notice that the previous used filters did not resist, which caused a misleading search; the facilitator guided the participant to remove the entered material from the “Limit your search” section. The participant then clicked the first result and was directed to the item’s detail. The participants located the summary in the “Description” to complete the task.

**Faculty:** The five participants completed the task successfully. All of the participants began the task by clicking the “Advanced Search” link below the general search bar. The eight participants
searched the full title, “A novel sensitive cell-based Love Wave biosensor for marine toxin detection” in the “title” dropdown (*Figure 14.1*). The participants clicked the first result and were directed to the item’s detail. The participants located the summary in the “Description” (*Figure 14.2*) to complete the task.

![Advanced Search](image1)

*Figure 14.1*

![Description](image2)

*Figure 14.2*

**Post-Test Survey**

The 18 participants all provided responses for the post-test survey. The questions gathered qualitative data from the participants. The three participant groups answered the same post-test survey questions. The post-test survey responses are organized by the question and the participant group (*Figure 14.3*).
<table>
<thead>
<tr>
<th>Post-Test Survey</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Have you attempted any of the tasks before today?</strong></td>
</tr>
<tr>
<td><strong>Undergraduate:</strong></td>
</tr>
<tr>
<td>• Yes (7)</td>
</tr>
<tr>
<td>• No (1)</td>
</tr>
<tr>
<td><strong>Graduate:</strong></td>
</tr>
<tr>
<td>• Yes (3)</td>
</tr>
<tr>
<td>• No (2)</td>
</tr>
<tr>
<td><strong>Faculty:</strong></td>
</tr>
<tr>
<td>• Yes (5)</td>
</tr>
</tbody>
</table>

| **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 catalog?** |
| **Undergraduate:** |
| • Item Availability/Holdings Information |
| • Advanced Search |
| • Date Filter |
| **Graduate:** |
| • Movie Availability |
| • Advanced Search |
| • Citation Tool |
| • Left Side Filters |
| **Faculty:** |
| • Left Side Filters |
| • Music Availability |
| • Citation Tool |
| • Email Tool |
| • Advanced Search |

| **Which feature do you find the most useful?** |
| **Undergraduate:** |
| • Advanced Search |
| • Left Side Filters |
| **Graduate:** |
| • Advanced Search |
| • Left Side Filters |
| **Faculty:** |
| • General Search |
| • Advanced Search |
| • Left Side Filters |

| **Are there any features that are difficult to navigate or find?** |
| **Undergraduate:** |
| • Advanced Search |
| • Sort By Tool |
| **Graduate:** |
| • Sort By Tool |
| • Advanced Search |
| • Item Availability |
| **Faculty:** |
| • Sort By Tool |
Are there any features missing from the catalog?

- Undergraduate: N/A
- Graduate: Tutorials
- Faculty: N/A

Do you prefer the advanced search or the general search?

- Undergraduate: General Search (4), Advanced Search (2), Depends on Specific Search (2)
- Graduate: General Search (1), Advanced Search (4)
- Faculty: General Search (3), Advanced Search (1), Depends on Specific Search (1)

Conclusion

The WorldCat Discovery usability study focused on the effectiveness, efficiency, error tolerance, engagement, and ease of use of the interface through the analysis of common tasks. The study revealed opportunities for the interface to improve the targeted participant groups’ experience with the system. In addition, the study identifies opportunities for further studies after training/tutorials and interface changes have been implemented.

Targeting training and tutorials for participant groups will ensure a successful implementation and adoption of WorldCat Discovery. J. Murrey Atkins’ training and tutorials should address the issues uncovered and the recommendations in this initial study and should be made available to users before implementation. If the OCLC recommendations cannot be made prior to the implementation, Atkins should address them in training and additional instruction should be provided to the users. In addition, Atkins will need to stay up to date on changes to the interface and altered training/tutorials as needed.

The following recommendations need to be addressed:

- J. Murrey Atkins Library to create training/tutorials:
  - General Discovery Tutorial/Training
  - How to Use the Advanced Search
  - How to Create a Citation
  - Emphasize the Meanings of “Place Hold” and “Request Item”

- OCLC
  - Improve the Effectiveness, Efficiency, Error Tolerance, and Engagement of the Advanced Search
J. Murrey Atkins Library adopted WorldCat to serve as the catalog search interface. Atkins Library uses OCLC’s WorldCat catalog as the primary portal to locate electronic, print, and multimedia resources. Students, faculty, staff, and community patrons use the electronic catalog. To ensure this goal, usability testing should be conducted on WorldCat Discovery on a regular basis to ensure continued functionality, efficiency, and desirability.
Appendix

Pre-Test Survey (Students)
- What year are you in school?
- What is your field of study?
- How often do you use the library’s catalog?
  (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
- What do you use the library’s catalog for?
  o What format do you usually search for?

Pre-Test Conversation (Faculty)
- What is your current position?
- What college are you a part of?
- What department are you in?
- How often do you use the library’s catalog?
  (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
- What do you use the library’s catalog for?
  o What format do you usually search for?

Post-Test Conversation (Students & Faculty)
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 catalog?
3. Which feature do you find the most useful?
4. Are there any features that are difficult to navigate or find?
5. Are there any features missing from the catalog?
6. Do you prefer the advanced search or the general search?