

WorldCat UMD Usability Final Report

By Rebecca K. Goldfinger

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Research Team: Alex Carroll, Rebecca Goldfinger (Principal Investigator), Heidi Hanson, Jaime Mears, Steven Quintilian, Madhu Singh

Introduction and Brief Literature Review

The University of Maryland Libraries implemented WorldCat Local as a discovery service in May of 2009. In May of 2012, the Libraries made WorldCat Local the primary discovery tool available to patrons by locating the WorldCat single search box centrally on the Libraries' website (although the classic catalog was still available to patrons, and continues to be available, to this day). In 2015, the UMD Libraries Discovery Group commissioned a small group to conduct usability testing on WorldCat. In April 2015, this subgroup begin its two phase usability testing, conducting the first phase on WorldCat Local. In July of 2015, the Libraries transitioned from WorldCat Local to WorldCat Discovery. In October-November 2015, the subgroup conducted the second phase of usability testing on WorldCat Discovery. The subgroup presented its first round results at the Libraries Research and Innovative Practice Forum in June 2015, and the overall results at the following year's forum in June 2016. This report is the formal write-up for the project.

Literature Review

Various studies have been conducted to test the usability of the WorldCat discovery tools as well as other discovery tools. The main methods for testing usability include setting tasks for study participants such as finding specific known items using the discovery tool, or providing the participants with a research scenario, in which they must locate research materials based on certain criteria such as topic, date (or date range) of publication, or format (e.g., journal article, book, etc.). The investigators then assign the degree of success with which the study participants were able to achieve these tasks, and they can then determine the relative ease of use of the discovery tool based on how successful the participants were.

Common problems have emerged in WorldCat Local or WorldCat Discovery usability tests in the literature. For example, test participants were confused as to how search results were ranked, according to Bertot et al. (218) and Bradley, Szpunar, and West (11). Participants also faced difficulties because their search terms were not retained when they changed from the simple search to advanced search (Bradley, Szpunar, and West, 11), or the hit the "Back"

button even from the simple search results page (Winterling, 5). Participants also lost their search filters when clicking the “Back” button from advanced search results (Winterling, 10), and they lost their search facets when clicking the “Back” button (Gewirtz, Novak, and Parsons, 121). Additionally, participants had problems in locating materials of a specific format (e.g., print, electronic, etc.) (Bradley, Szpunar, and West, 9; Gewirtz, Novak, and Parsons, 120). Participants also found it difficult to differentiate between book results and article results (Gewirtz, Novak, and Parsons, 119, 120). Finally, a major obstacle for study participants was identifying the item location or fulfillment options to get that item (i.e., retrieving from the stacks, downloading from online, or requesting via Interlibrary Loan) (Bertot et al., 217; Gewirtz, Novak, and Parsons, 120, 121; Winterling, 8). For this last issue, Bertot and colleagues noted that in trying to determine whether holdings were held locally or by another consortium member library, “the concept of ‘local’ was not clear to users” (217). Winterling indicated that users were unsure what “Place hold” and “Request item” meant (8).

The following study conducted at University of Maryland confirms that many of these problems still exist for users of WorldCat Discovery.

Method

The goals of the study were to determine how easy it is for users to use WorldCat UMD (WCUMD) to do the following:

- Find items (either known or unknown). In the context of this study, “known” means that the user has citation information in hand for the item, so that the user can search using author, title, etc. “Unknown” means that the user does not have specific citation information and so must search by keyword or participant terms (and then use limiters or facets as necessary) to identify relevant materials.
- Identify materials held at University of Maryland, College Park (UMCP) and two consortial locations: the Big Ten Academic Alliance (formerly called the Committee on Institutional Cooperation (CIC)) and University System of Maryland and Affiliated Institutions (USMAI)).
- Identify different material types (articles, books, media).
- Effectively use limiters (applied to searches before running an advanced search) or facets (applied to search results after the search has run).
- Identify different material formats, such as online versus print materials.

To determine the answers to these research questions, the investigators designed a Qualtrics survey to ask test participants to complete the usability tasks listed below and answer

the following questions. In all cases, the investigators wanted to focus on the ability of the tool to meet users' needs, rather than the users' ability or skills in searching. The Usability Tasks are listed below, and the Qualtrics survey (the same questions were used for Round 1 and Round 2) appears as the Appendix. It should be noted that the tasks listed below show more information than was provided to participants; e.g., participants were not told the location, as they were to find that information as part of the task.

Usability Tasks:

1. Find a (known) book title (we provided the citation) owned by UMCP, held at a branch location known as Shady Grove.
 - 1.a. Is this title owned by UMCP?
 - 1.b. What is the permalink for this title?
 - 1.c. At what branch is this title located?
2. Find a (known) book title (we provided the citation) owned by USMAI institutions (not UMCP).
 - 2.a. Is this title owned by UMCP?
 - 2.b. What is the permalink for this title?
3. Find a (known) journal article (we provided the citation) owned by UMCP, held online.
 - 3.a. Is this article owned by UMCP?
 - 3.b. What is the permalink for this article?
 - 3.c. What is the format of this article? (print/online/microform; this did not display in Round 1 testing, due to incorrect display logic)
4. Find 3 (unknown) sources on the topic "the effects of sleep deprivation on mental health" fitting these criteria. Provide permalink or citation.
 - 4.a. An e-book published between 2004 and the present.
 - 4.b. A peer-reviewed journal article published between 2004 and the present.
 - 4.c. A video or DVD published between 2004 and the present.

The investigators determined that they wanted to test six participants each in two rounds of testing. According to usability expert Jakob Nielsen, five test participants are sufficient for the majority of usability studies, due to the lack of return on investment gained by additional test participants (Nielsen).

Round 1 was conducted using WorldCat Local, during April and May of 2015. Round 2 was conducted using WorldCat Discovery, during November 2015.

The participants in both rounds consisted of the following demographic make-up: two collegiate faculty members, two graduate students, and two undergraduate students. Study participants were given the option to receive an Amazon gift card for their participation, and funding for the gift cards was provided by the Library Research Fund.

Study participants were invited to complete the survey at a dual monitor workstation in a McKeldin Library meeting room. On one screen, the participants performed their searches in WorldCat, and on the other screen, they entered their responses in the Qualtrics survey. The screen on which the participants searched was screen-captured and recorded using Camtasia software. The participants were asked to speak aloud their search strategies, to capture as much information as possible regarding their search processes. The participants were audio-recorded also using Camtasia. After the Qualtrics surveys and Camtasia recordings were complete for both groups, the investigators analyzed the video and audio recordings and Qualtrics results.

Notes on Selected Differences Between WorldCat Local and WorldCat Discovery

It should be noted that the Libraries are able to make only very limited changes to the WorldCat user interface, and we are able to report problems that we find to OCLC either as bug reports or enhancement requests. Since we have switched to WorldCat Discovery, we can submit to OCLC any interface problems we discovered in Round 2, in the hopes that they will be remedied in future releases.

A few major differences between WorldCat Local and WorldCat Discovery are the following:

1. In WorldCat Local, the list of search results is in the center of the page (see Figure 1 below), and clicking on one result in the list takes the user to a separate page, where the user must navigate back to see the other results in the list. By contrast, in WorldCat Discovery, the search results remain on the left side of the page even after the user clicks on an individual result, while the result item details display on the right side (see Figure 2).

Figure 1

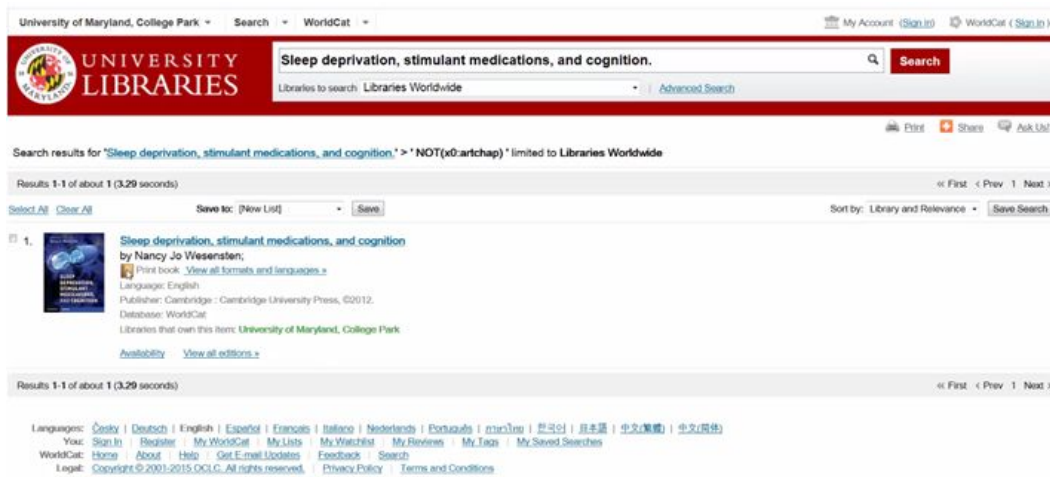
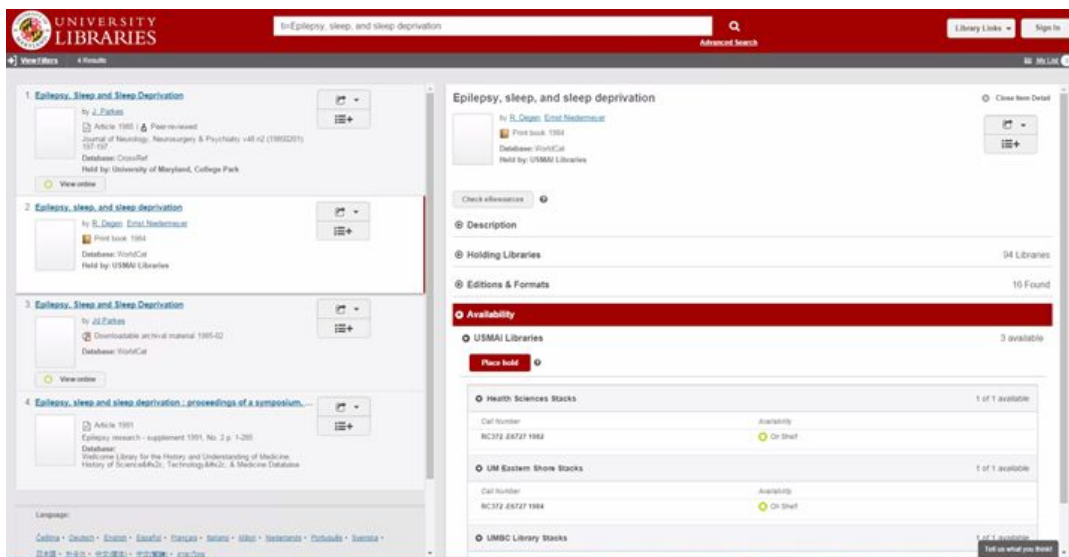
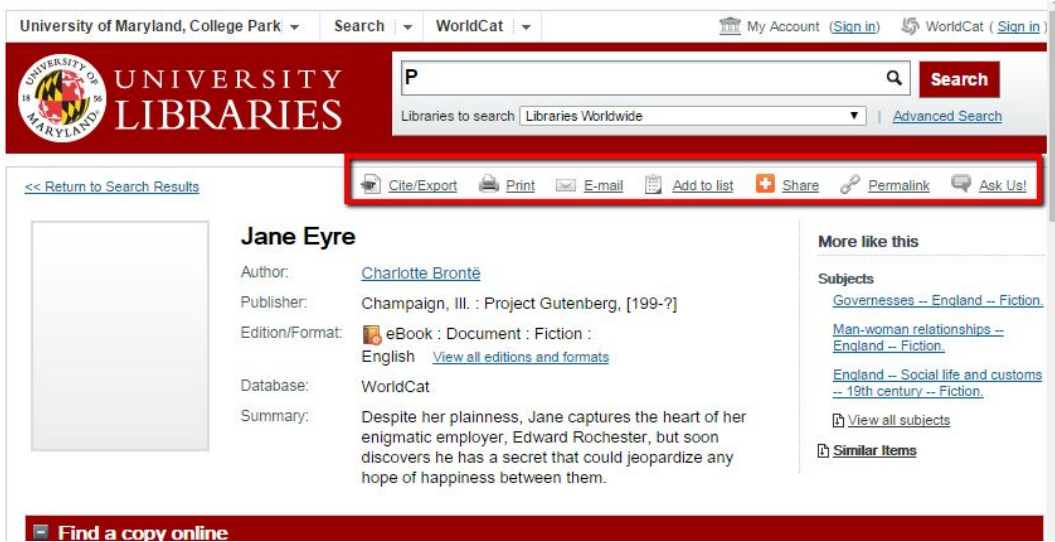


Figure 2



2. In WorldCat Local, from within an individual item result, the text links that displayed at the upper right provided the options to "Cite/Export | Print | E-mail | Add to list | Share | Permalink | Ask Us!" (See Figure 3, below). However, in WorldCat Discovery, the button with two icons at upper right (see Figure 2 above) replaces these text links: at the time that the testing was conducted, the bottom icon added the record to a list, and the top icon led to these options: "Email record | Cite record | Record link." (Note that the word "permalink" did not appear in these new options. Also, the option to print the record was gone.)

Figure 3



3. In the WorldCat Local interface at the time of testing, the facets did not clearly indicate that “E-book” was a subset of “Book.” There was no hierarchy to show that DVDs were a subset of “Video.” In WorldCat Discovery, however, E-books are a subset of Books, and DVDs are a subset of Videos (see Figure 4 below). Also in WorldCat Local, a category called “visual materials” was available in the facets, which referred to still images, but this term was not defined.

Figure 4

The screenshot shows the University of Maryland Libraries search interface. The search bar contains 'jane eyre'. The results are displayed in a list format. On the left, there is a sidebar with 'All Formats' and various options like 'Book (4407)', 'eBook (813)', etc. The main content area shows four results for 'Jane Eyre'. Each result includes a title, author, format, and holding information. Result 4 is highlighted with a green circle. Result 5 includes a book cover image. Result 6 includes a book cover image. Result 7 is partially visible at the bottom.

UNIVERSITY OF MARYLAND LIBRARIES

jane eyre

Advanced Search

Article (1719)

All Formats

- All Formats
- Book (4407)
 - Print book (3326)
 - eBook (813)
 - Thesis/dissertation (701)
 - Microform (64)
 - Large print book (45)
 - Braille book (14)
- Article/Chapter (2409)
 - Article (1719)
 - Downloadable article (463)
 - Chapter (228)
- Video (441)
 - DVD video (289)
 - VHS video (87)
 - eVideo (31)
 - Film (20)
 - Bluray Video (7)
- Archival material (350)
 - Downloadable archival material (293)

4. [Jane Eyre](#) by [Heather Glen](#)
Print book 1997
Held by: [University of Maryland, College Park](#)
Romantic melodrama or feminist classic, Jane Eyre is one of the most enduringly popular and compelling novels in the literary canon. Overlooked or dismissed by critics in the nineteenth and... [Read More](#)
On Shelf UMCP McKeldin Library PR4167.J5 J36 1997

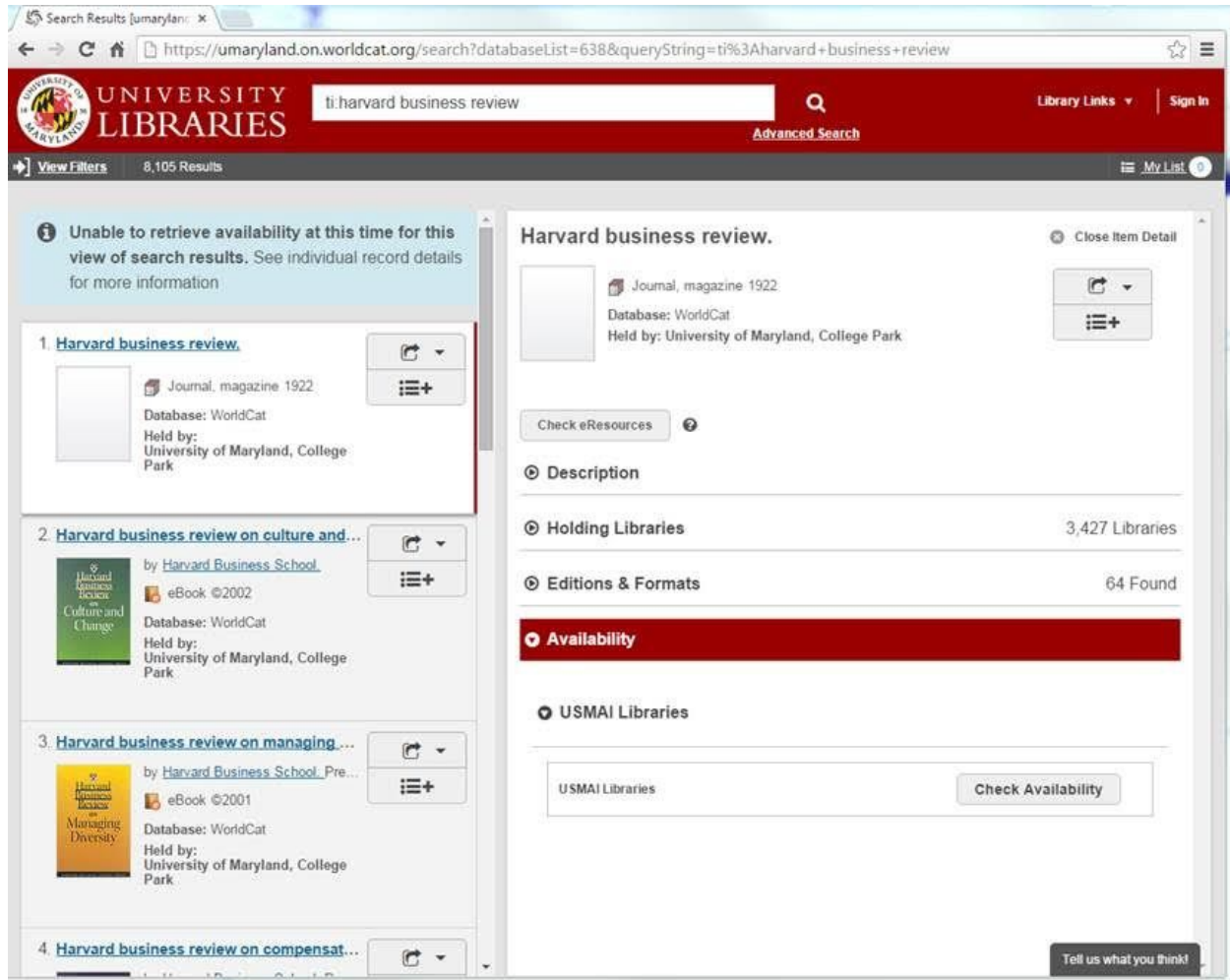
5. [Jane Eyre](#) by [Katie R. Peel](#)
Print book ©2013
Held by: [University of Maryland, College Park](#)
16/Feb/17 UMCP McKeldin Library PR4167.J33 J26 2013

6. [Jane Eyre](#) by [Jane Eyre Company](#), [Charlotte Brontë](#), [Bristol Old Vic](#), [Royal National Theatre \(...\)](#)
Print book 2015
Held by: [University of Maryland, College Park](#)
On Shelf UMCP Performing Arts Library PR6110.A54 J3 2015

7. [Jane Eyre](#) by [Charlotte Brontë](#)
Print book [1959]

4. Another difference between WorldCat Local and WorldCat Discovery was that after the transition to Discovery, error messages periodically appeared due to high server traffic (possibly on the Libraries' end in addition to on OCLC's end). These error messages appeared during the second round of usability testing, which made it impossible for a few test subjects to complete specific tasks. For an image of a sample error message, see Figure 5 below.

Figure 5



Results

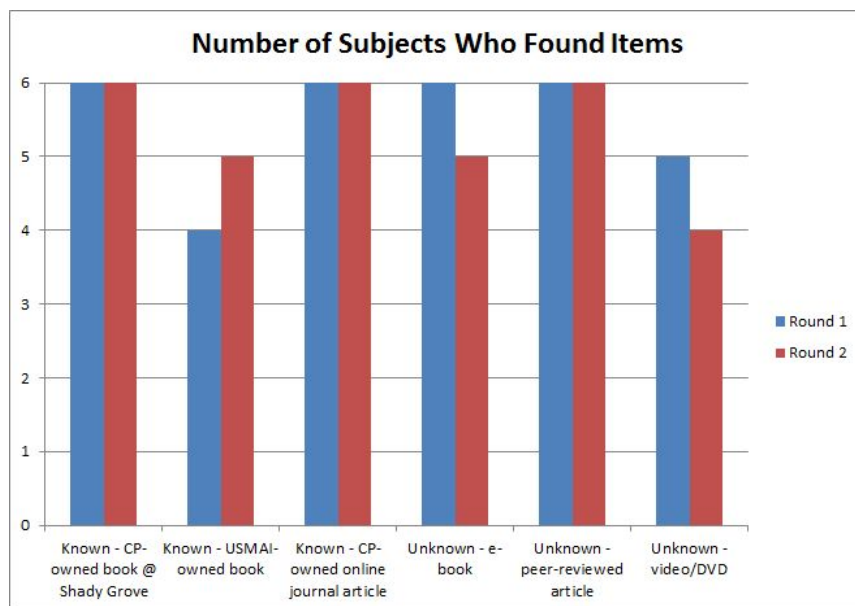
Again, the main goals of the study were to assess how easily library users are able to use WorldCat Discovery (a) to find unknown and known items and (b) to determine certain characteristics of those items.

The investigators discussed as a group what would constitute “ease of use” of WorldCat. In the end, the team determined that the number of participants who were successful in completing a task would indicate its relative ease; e.g., if a task could be successfully completed by six out of six participants in each round, this task was considered easy. However, if fewer than all six participants were able to complete the task successfully, this task was considered more difficult. If any test participants had to make multiple attempts to achieve a task or voiced any frustration about the task, the team considered these tasks more difficult. (The team was

only able to perceive user frustration when users actually voiced their frustration, so it is possible that the test participants' frustration is under-reported, however.) The research team did not attempt to create a formal difficulty scale or index, however, but rather presented the tasks as either "easier" or "more difficult."

Regarding the first objective, i.e., determining how easily test participants could find either known or unknown items, Figure 6 below summarizes the data. In both rounds, all six participants were able to find a known UMCP-owned book held at the Shady Grove branch location; a known UMCP-owned online journal article; and an unknown peer-reviewed article. The more difficult tasks proved to be finding a known book title owned by the USMAI consortium (achieved by four on the first round and five on the second); an unknown e-book (achieved by four on the first round and five on the second); and an unknown video/DVD (achieved by five on the first round and four on the second).

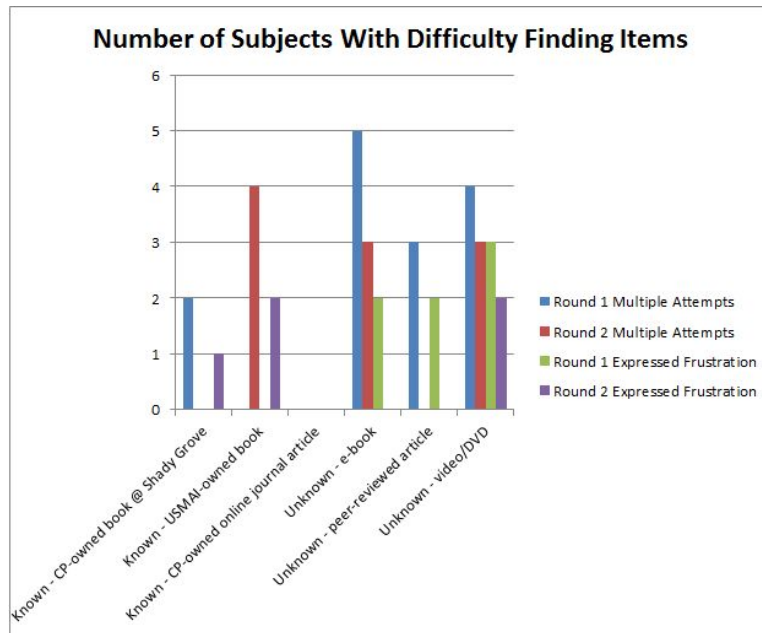
Figure 6



To reinforce this data, the team compiled the number of participants who made multiple attempts to find items and/or expressed frustration with finding items, represented in Figure 8 below. Across both rounds, participants made more attempts to find items and expressed frustration more times in finding the unknown items than they did with known items. Four participants also made multiple attempts to find the USMAI-owned book in the second round, and two participants expressed frustration, which suggests that this task was somehow more difficult in the second round. The most difficult task, with participants making multiple attempts

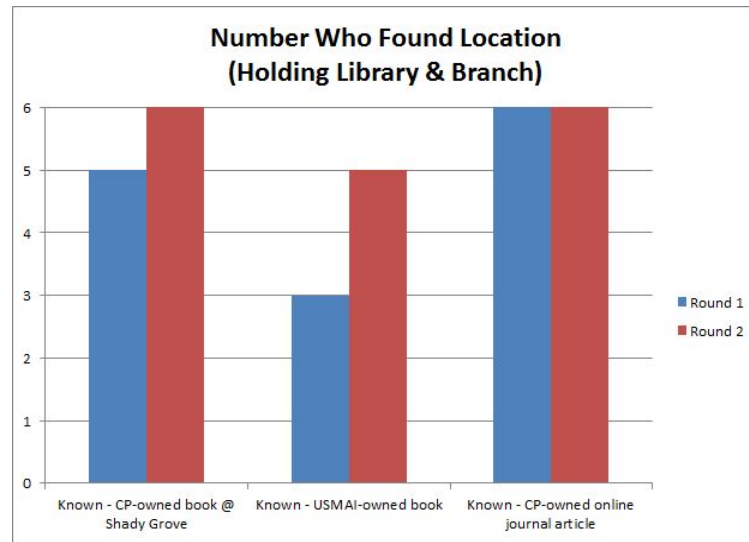
in both rounds and also the most participants expressing frustration, was finding an unknown video/DVD.

Figure 7



How easy or difficult was it for test participants to identify the holding location (either UMCP or consortial) of items they found? The researchers asked participants to determine the location of known items, only (not unknown items), so there were fewer opportunities to gauge relative ease. In Figure 8 below, across both rounds, all six participants succeeded only at determining the location of the online journal article owned by UMCP. Five participants in Round 1 and all six participants in Round 2 were also able to determine the location of the UMCP-held title located at the Shady Grove branch library. In Round 1, only half the participants were able to identify correctly the location of the consortium-held title, but in Round 2, five out of six participants succeeded in this task.

Figure 8

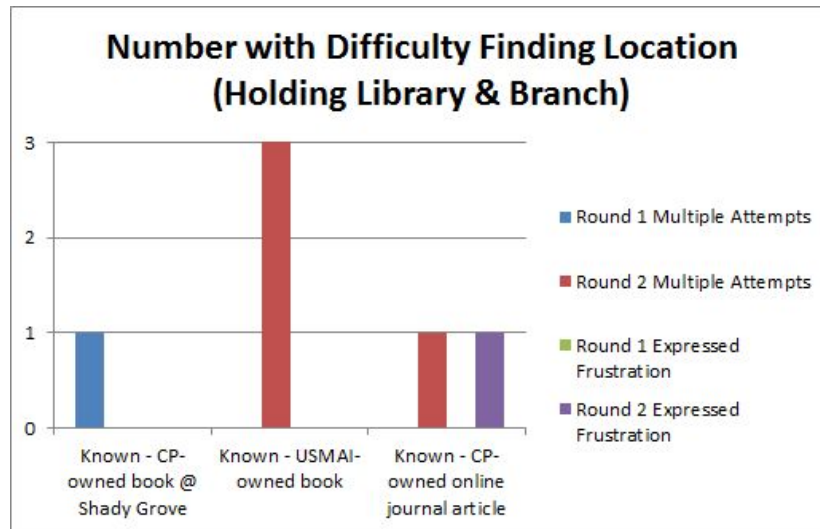


In addition, in Round 1, for the USMAI-held print book, one participant indicated that a holding library, University of Maryland Baltimore County, was a part of “the University of Maryland,” showing that this user may have been unsure as to which libraries are part of our local library system and which are our consortial state university system partners. Similarly, in Round 2, three participants were confused about the location and whether or not the libraries were affiliated with UMCP.

Also, although this study did not explicitly ask participants to tell us what the fulfillment options were for each item, in Round 2, one participant was unsure how to get a copy of the article in question, and another participant said that to get an article held by a university other than UMCP, this participant would have to drive to the campus of the other library that held the item in order to get the article. This demonstrates confusion about how to fulfill article requests.

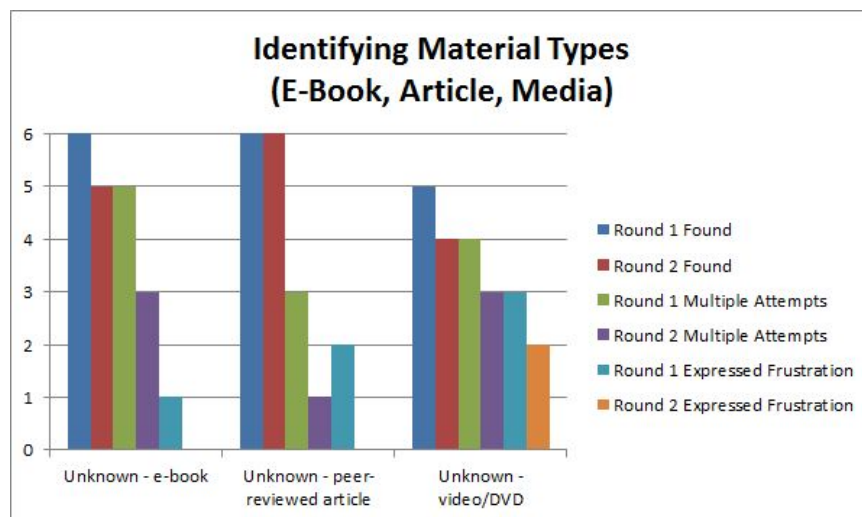
Looking at the number of participants experiencing difficulty finding location information, three of the six participants made multiple attempts at locating the consortially-held known book title, which confirms the “more difficult” status of this task; see Figure 9 below.

Figure 9



For the research goal of identifying material types (e.g., book, article, video/DVD), the participants were asked to identify material type (i.e., locate an item of a specific material type) only for the unknown items. In both rounds, all six participants successfully identified unknown peer-reviewed articles; and eleven out of twelve participants identified an unknown e-book. However, only nine participants total located the unknown video/DVD, and three participants in Round 1 and two participants in Round 2 expressed frustration with locating the video/DVD format. All tasks required multiple attempts by some subset of the participants, per Figure 10 below:

Figure 10



A participant in Round 1 also was unsure which tab to use on the Libraries' home screen in order to search for articles.

Were the test participants able to use limiters during their searches and facets after the searches were complete, to narrow down their results? Across both rounds, all six test participants used limiters or facets at one time or another. During Round 1, two used facets on search results to search for the consortially owned book. Only one used facets and limiters in achieving the same task. In Round 2, one participant used only limiters; two used only facets; the other three participants used both, but not necessarily on the same task.

Although participants were able to use facets and limiters, using them did present some confusion and frustration. In Round 1, two participants expressed frustration while trying to find an e-book with facets and limiters. Also in Round 1, two participants did not know that they needed to specify an end-date when using the date range limiter. In Round 1, three participants used the “visual materials” limiter rather than “DVD” limiter. The term “visual materials” actually refers to photography and other still images rather than moving images, but the test participants were not aware of this definition. In Round 2, one participant expressed frustration relating to facets/limiters in the search for the known USMAI title, and one participant expressed frustration in using the facets/limiters with finding an unknown video or DVD.

The next research goal was to see how easily users can determine the format of the material, e.g., print versus online. Due to an error in designing the survey, in the first round of testing, the research team did not ask participants to identify the format of the known article. In the second round, however, five out of six participants correctly determined that we held the known article in electronic format, but four of those five also indicated that the article was available in print, also, which was not correct. These participants were not able to determine the available format of the article based on the summary holdings statement in the discovery system and the citation they had. See Table 1 below.

When asked to find an unknown e-book, all six succeeded in the first round. In the second round, however, five succeeded and one person found a print title. Additionally, in the first round, five participants made multiple attempts to find the unknown e-book, and one person expressed frustration. Three participants made multiple attempts to locate the unknown e-book in Round 2. Again, see Table 1 below.

Table 1

Task	Round 1	Round 2	Round 2 Notes
Known article - find format	N/A	5	4 people also said available in print
Unknown - e-book - find item	6	5	1 person found a print book
Unknown - e-book - multiple attempts	5	3	
Unknown - e-book - expressed frustration	1		

General Problems with Searching

Participants mentioned several points of frustration during the search process that were not necessarily related to any given research goal. When presented with the choice between the default search and advanced search (which allows limiters), two participants in Round 1 expressed frustration: one commented that it was inconvenient to have to leave the current results page in order to conduct an advanced search, and it would be good if the search terms from the default search could automatically be populated in the advanced search page. Another participant in Round 1 indicated, in conducting multiple advanced searches, that it would have been good if the advanced search had kept the search criteria from the previous search in order to provide the option to refine the search. At the time of this writing, when users type in search terms and limiters to the advanced search, get results, and click on the “Advanced Search” link under the search box again, the search terms are automatically cleared, rather than being “sticky” and staying in the form.

Other participants indicated that they were not sure how their searches were being performed. One participant in Round 1 noted, after conducting a keyword search, that the search terms were prefaced by “KW:”, e.g., “KW:sleep deprivation”, and the user thought that this “KW:” tag needed to be removed from the search terms. A participant in Round 2 tried using the “Journal source phrase” limiter in order to find a journal title, although it was unclear from the WorldCat interface what “journal source phrase” means. Most likely, a title or keyword search would have been better in this instance.

Finally, in Round 2, as mentioned earlier, performance issues were introduced into the searching experience. Searches became very slow, as evidenced by three participants mentioning the slowness of the search. Additionally, participants encountered the error message that indicated a lack of availability data.

Participant Feedback on the Strengths and Weaknesses of the Tool

In looking at the survey responses that asked participants, “What did you like about the WorldCat UMD search experience,” test participants in Round 1 mentioned being able to select resources of a specific format (including filtering by format); ease of determining whether or not UMCP has access to a title; and ability to find materials at other institutions that are available through interlibrary loan. Participants in Round 2 also appreciated the filters; being able to see holding institutions and availability; and the persistence of the search results on the left side of the page. One participant remarked, “The search experience is very effective,” but then qualified this by saying, “but only if you know where to go and what to click.”

In fact, in comparing the results of both rounds of testing, multiple Round 1 and 2 participants commented that the tool is not intuitive. Also in comparing the rounds, in Round 2, multiple participants commented about the system being slow and unstable (crashing), whereas Round 1 participants had no comments about these kinds of problems.

Discussion & Recommendations

Based on the results and comments of the study participants, these are the investigators’ major recommendations to improve ease of use of WorldCat Discovery, in order of importance, the most important being first:

1. Resolve performance issues. It is not clear to what extent the problems leading to the error message “unable to retrieve item availability” are due to slowness in the Libraries’ network infrastructure or due to problems on OCLC’s end. But we recommend that OCLC ensure that a very high volume of users can successfully use the system, to rule out problems on OCLC’s end.
2. Allow for “stickiness” of search terms when moving from regular search to advanced search, or vice versa. Although none of the test participants mentioned this problem in the second round of testing, the investigators noted that it is still a problem.
3. OCLC should consider redesigning the way that users choose a date range in the advanced search, as users had difficulty with this feature.
4. Since it was confusing to have “power search” (e.g., “KW:”) information in the search box, perhaps this data could be removed from the search box (while still displaying, for example, in the search URL), so that users will be less confused.

5. Perhaps there could be a mouse-over with the definition of “Journal source phrase” or “participant phrase,” so that users who attempt to use these searches in the advanced search instead of keyword searching will understand their meaning better.

Additionally, the investigators have these main recommendations for Libraries staff, especially those involved in instructing classes and directly helping users:

1. Emphasize to users the different locations at which materials are located and how to request materials from those different locations. Users may not understand the relationship between the College Park branches, Shady Grove, USMAI institutions, and the Big Ten Consortium, in specific, and they may need special instruction to clarify how they can request materials from our different partners, if College Park does not hold the desired material.
2. Help users understand the format of the material they are viewing, whether it is print, online, microform, or other. This was sometimes difficult for the participants to determine.

Conclusion

From the evidence in these two rounds of the usability study, investigators learned that the easier tasks for participants were locating a known UMCP-owned book and finding a known UMCP-owned journal article. By comparison, it was less easy for participants to find a known item held by a consortium and unknown items of various types and formats (e-book, article, video/DVD). Participants expressed more frustration and made more attempts to locate the unknown items.

As seen in the literature review and replicated here, problems emerged in the lack of “stickiness” of search terms when moving from simple search to advanced, or vice versa; in locating materials, when they are not owned by the home institution; and in understanding fulfillment options. Although participants liked various features of the WorldCat discovery tools, they indicated that more work is necessary to make the tools more intuitive to use.

With the recommendations in this report for OCLC and Libraries staff, the investigators hope that these problems can be resolved with a combination of functionality updates in future releases and with additional user education.

References

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Appendix: Qualtrics Survey (Used for both rounds of testing)**University of Maryland College Park****Consent form**

Project Title	WorldCat UMD Discovery Service Usability Study
Purpose of the Study	We are inviting you to participate in this research project because you are a faculty member, graduate student, or undergraduate student at the University of Maryland, College Park. The purpose of this research project is to evaluate how well the University Libraries' WorldCat UMD discovery service allows you to find information resources such as books, articles, and videos so that we may improve the discovery of our materials through the Libraries' website. Your research skills and experience are not being tested.
Procedures	<p>During today's session, you're going to be simulating a scenario where you will need to search the WorldCat UMD discovery service to find information in order to complete a research project. The simulation is made up of four research tasks, some of which have multiple parts. At any time, you may skip a task and move on to the next by clicking "Next." While you perform these tasks, to the best of your ability, please "think aloud" by describing what you are thinking and doing to achieve the tasks. We will be audio-recording your voice as well as your actions on-screen.</p> <p>After completing the tasks, you will be asked to complete a brief questionnaire. Sample questions include: "If you are a student, what is your year of study? (First, Second, Third, Fourth, Fifth or Beyond)."</p> <p>The estimated duration of today's session will be 30-45 minutes.</p>
Potential Risks and Discomforts	The investigators certify to the best of their ability that this study design will pose no more than minimal risk to you and will not adversely affect your rights and welfare.
Potential Benefits	The benefits to you include possible improvements in the usability of WorldCat UMD through variables within our control, as well improved enhancements from UMD Library vendors. We hope that, in the future, other people might benefit from this study through improved understanding of the usability of library discovery services.
	No personal identifying information will be gathered from the study participants as part of the study. If you choose to receive the participation incentive (\$20.00 Amazon gift card), you will have to provide contact information to the UMD Libraries' Business Office. This data will be stored in the Business Office, and the investigators will not keep any copies. As part of the study, you will only be asked

Goal:

The goal of this usability test is to evaluate how well the WorldCat UMD library discovery service allows you to perform tasks to find resources such as books, articles, and videos. Your research skills or experience are not being tested.

Instructions:

During today's session, you're going to be simulating a scenario where you will need to search the library's website to find information in order to complete a research project. While you perform the following tasks, to the best of your ability, please "think aloud" by saying out loud what you are thinking and doing to achieve the tasks. At any time, you may skip a task and move on to the next by clicking "Next."

You're beginning a research project on *the effects of sleep deprivation on mental health*. You're pretty new to the topic, but fortunately, you've been given a few suggestions from a friend about where to get started.

These page timer metrics will not be displayed to the recipient.

First Click: 0 seconds

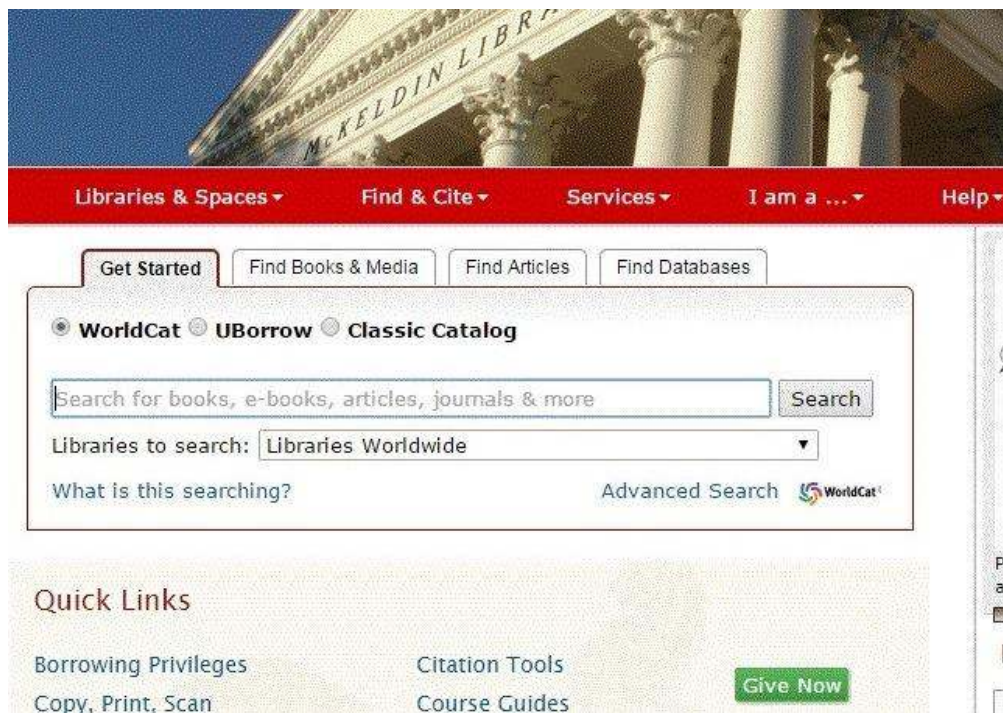
Last Click: 0 seconds

Page Submit: 0 seconds

Click Count: 0 clicks

Q1. Look at the library's home page on Screen B. Use the WorldCat UMD search box (displayed below) to find the following book:

Wesensten, N. J. (2012). *Sleep deprivation, stimulant medications, and cognition*. Cambridge: Cambridge University Press.



These page timer metrics will not be displayed to the recipient.

First Click: 0 seconds

Last Click: 0 seconds

Page Submit: 0 seconds

Click Count: 0 clicks

Q1.a. Wesensten, N. J. (2012). *Sleep deprivation, stimulant medications, and cognition*. Cambridge: Cambridge University Press.

Is this book owned by the University of Maryland Libraries?

- Yes
- No

These page timer metrics will not be displayed to the recipient.

First Click: 0 seconds

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Q1.b. Wesensten, N. J. (2012). *Sleep deprivation, stimulant medications, and cognition*. Cambridge: Cambridge University Press.

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Q1.c. Wesensten, N. J. (2012). *Sleep deprivation, stimulant medications, and cognition*. Cambridge: Cambridge University Press.

If yes, what branch has the item?

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- Art Library
- Engineering & Physical Science Library
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- White Memorial Chemistry Library

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Q1.d. Wesensten, N. J. (2012). *Sleep deprivation, stimulant medications, and cognition*. Cambridge: Cambridge University Press.

If no, how could you get access to a copy?

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**Q2. Again using Screen B, use the WorldCat UMD search to find the following book:
Degen, R., & Niedermeyer, E. (1984). *Epilepsy, sleep, and sleep deprivation*. Amsterdam:
Elsevier.**

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**Q2.a. Degen, R., & Niedermeyer, E. (1984). *Epilepsy, sleep, and sleep deprivation*. Amsterdam:
Elsevier.**

Is this book owned by the University of Maryland Libraries?

- Yes
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**Q2.b. Degen, R., & Niedermeyer, E. (1984). *Epilepsy, sleep, and sleep deprivation*. Amsterdam:
Elsevier.**

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Q2.c. Degen, R., & Niedermeyer, E. (1984). *Epilepsy, sleep, and sleep deprivation*. Amsterdam: Elsevier.

If yes, what branch has the item?

- McKeldin Library
- Architecture Library
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Q2.d. Degen, R., & Niedermeyer, E. (1984). *Epilepsy, sleep, and sleep deprivation*. Amsterdam: Elsevier.

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Q3. Again using Screen B, use the WorldCat UMD search to find the following journal article:

Cote, K. A., McCormick, C. M., Geniole, S. N., Renn, R. P., & MacAulay, S. D. (February 01, 2013). Sleep deprivation lowers reactive aggression and testosterone in men. *Biological Psychology*, 92, 2, 249-256.

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Q3.a. Cote, K. A., McCormick, C. M., Geniole, S. N., Renn, R. P., & MacAulay, S. D. (February 01, 2013). Sleep deprivation lowers reactive aggression and testosterone in men. *Biological Psychology*, 92, 2, 249-256.

Is this article owned by the University of Maryland Libraries?

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Q3.b. Cote, K. A., McCormick, C. M., Geniole, S. N., Renn, R. P., & MacAulay, S. D. (February 01, 2013). Sleep deprivation lowers reactive aggression and testosterone in men. *Biological Psychology*, 92, 2, 249-256.

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Q3.c. Cote, K. A., McCormick, C. M., Geniole, S. N., Renn, R. P., & MacAulay, S. D. (February 01, 2013). Sleep deprivation lowers reactive aggression and testosterone in men. *Biological Psychology*, 92, 2, 249-256.

If yes, what format is available to College Park users?

- Online
- Print
- Microform

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Q4. Again using screen B, use the WorldCat UMD search to find three more sources on this same topic, the effects of sleep deprivation on mental health, that meet the following criteria:

Q4.a. An e-book published between 2004 and the present. Please provide a permalink to this item, or complete citation information.

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Q4.b. A peer-reviewed journal article published between 2004 and the present. Please provide a permalink to this item, or complete citation information.

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Q4.c. A video or DVD published between 2004 and the present. Please provide a permalink to this item, or complete citation information.

What is your University affiliation?

- Undergraduate Student
- Graduate Student
- Faculty Member

If you are a student, what is your year of study?

- First
- Second
- Third
- Fourth
- Fifth or Beyond

What is your department?

How often do you use WorldCat UMD to conduct research/look for information?

- Very frequently
- Frequently
- Sometimes
- Rarely
- Never

What did you like about the WorldCat UMD search experience?

What did you not like about the WorldCat UMD search experience?

Do you have any other comments about WorldCat UMD?
