

# Do Screencasts Really Work? Assessing Student Learning through Instructional Screencasts

*Jo Angela Oehrli, Julie Piacentine, Amanda Peters, and Benjamin Nanamaker*

## Abstract

As libraries experiment with new instructional technologies, questions about the effectiveness of those technologies emerge. This paper focuses on an instructional screencast assessment process completed with undergraduate students at the University of Michigan Undergraduate Library. It introduces a potential model for assessment and discusses the assessment results indicating whether learning was accomplished. It also includes an analysis of challenges that were overcome and shares the best practices identified as a result of the assessment.

## Introduction

Librarians at the University of Michigan have explored the idea of strategically targeting UM's large student population with screencast videos. UM has over 27,000 undergraduates, and although the Shapiro Undergraduate Library (UGL) alone serves almost 4000 students per year in instructional sessions, we recognize that a large portion of the student population likely has a need for library instruction, given our complex academic environment.

In the summer of 2009, a graduate student assistant created several screencasts. The screencasts were a technical success and artfully designed, but after they were completed questions arose as to how to assess their effectiveness, and the effectiveness of

any other screencast projects going forward. We have since viewed many screencast videos, noting that some are more successful than others. In our experience, many screencasts are too long, vocal and sound quality varies, and productions vary from the professionally polished to the amateurish. Production issues aside, the key question for UM librarians became: do undergraduate students really learn from watching these videos?

In response to this need for assessment of learning, a group of UM librarians designed a very simple study. The main research question was: Can students learn a library-related task through a screencast? With advice from the library's User Testing & Interface Specialist and the University's Center for Research on Learning and Teaching (CRLT), assessment questions and methodology were developed. The assessment was performed with university undergraduates who self-identified as having little experience with library databases. This paper will outline our assessment process and provide a model for other institutions that would like to perform a similar assessment. We will share the results of our study, and what we consider best practices for effective learning outcomes.

## Literature Review

We approached the literature review in a series of stages. Literature about web-based tutorials using a

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variety of technologies, articles about how other librarians approach screencasting at their institutions, and articles about education theory and multimodal learning all helped inform our study.

In the initial stages of the literature review, articles on online tutorials were a useful starting point. Many of the instructional goals remain the same, even if the technology has changed. Since our main question was whether students can learn from screencasts, and there are many articles that have assessed student learning from online tutorials, these articles proved helpful.

Kraemer et al.<sup>1</sup> (2007) determined that students do learn, regardless of type of instruction (in-person, online only, a hybrid of both) in varying degrees. In their study, the hybrid group who completed an online tutorial and had face time with a librarian performed the best in the post-tests, and the students who only completed the online tutorial did not perform as well in the post-tests on various tasks, including searching, navigating the online catalog, database use, etc. However, these ranges of difference were not extreme. Ultimately, the students who only completed the online tutorials did learn the material presented. Kraemer asserted, "Most studies comparing computer-assisted instruction to librarian-led sessions find few significant differences in post-test performance between instructional formats."

We found that many articles specifically about screencasting in libraries are about initial experiences using the medium. Many observations made by these authors echoed our instincts about these new kinds of tutorials. In particular, Pressley<sup>2</sup> (2008) found that the current generation of Millennial students responds better to shorter, faster videos at point of need, and that it makes educational sense to shift from linear, HTML based tutorials to a modular video concept. Her institution moved from a linear tutorial to a modular video "toolkit."

Brown-Sica<sup>3</sup> (2009) also listed the advantages of screencasts. They are available 24/7 and accessible at point of need. Students can replay the videos if they are confused, whereas they may feel embarrassed about asking a librarian to repeat something several times. Additionally, screencasts can be helpful for visual learners. Brown-Sica also pointed out that commercially produced tutorials often break down complicated tasks into smaller steps, citing videos created by Apple Inc. as examples. (Brown-Sica p. 86–88)

Although we found these articles informative and helpful, these articles did not specifically assess student learning in relation to this new technology.

Oud's<sup>4</sup> (2009) research came closer to addressing some of our concerns. Early in her 2009 article she states, "Implications for instruction include the need to be aware of the limits of students' capacities for information processing." Oud used psychology and education research to apply best practices to library screencasts, focusing on reducing cognitive overload, identifying the audience and goals for the video, and incorporating interactivity into the process in order to make the information more meaningful for students. She offered best practices in terms of organizing videos for maximum learning, such as: "Focus on what the main points are, then organize and present these to make it as easy as possible for people to understand them clearly. Don't include information that isn't needed to convey the main points, even if it seems interesting or useful."

Articles written by experts in the fields of education and psychology proved helpful in regard to multimodal learning. For example, Atkinson<sup>5</sup> (2002) stated that narration plus an online image was more effective than narration-only or text-only examples, supporting the idea that two sensory modes were better than one for learning. Mayer<sup>6</sup> (2003) also supported the idea that multimodal learning was effective, referring to the modality effect, which states that animation and narration are more effective than animation and on-screen text. This in particular was applicable for our research, as screencasts usually comprised of animation and narration, and other web-based tutorials are often comprised of animation and text.

## Methodology

### *Preparation*

After the completion of our literature review, a series of potential assessment scenarios were created. We hoped to test students who were new to campus or at least had not participated in a library instructional workshop. Qualtrics software (<http://www.qualtrics.com/>) was available as a possible tool for the data collection. After articulating various possible directions for the study, we consulted a usability specialist and two members of the campus's CRLT staff for input regarding best practices in conducting assessments. Based on their advice and our time constraints, we determined that the best methodology would be to

have students complete a pre- and post-test individually through the Qualtrics software in the Library Lab, UGL's research consultation room. Students would be recruited in the UGL lobby and would be offered a \$10 Munchie Money incentive (gift certificates that could be used at the University-owned eateries on campus). Students would be asked to complete a series of pre-test tasks to find a subject-specific library database on the library's website, watch two screencasts with instructions about how to do this (see screencasts at <http://www.youtube.com/watch?v=FwdhHM9C9Pk> (Why Use Library Databases) and <http://www.youtube.com/watch?v=e9vYvP5DroY> (Finding Library Databases)), and then complete a post-test asking them to complete the same series of tasks. (See Appendix A for the complete Qualtrics survey).

In a meeting with one of the CRLT consultants, we had a complex discussion regarding how students learn in a multimedia environment. As a result of this meeting, we reviewed additional educational research sources recommended by the consultant. We decided that two screencasts—one screencast illustrating the purpose of library databases to give context and one screencast to teach how to find a library database—would address the learning challenges that can occur in a multimodal or computer-based learning setting. The screencasts were then created following a script that we developed together and using ScreenFlow recording and editing software (<http://www.telestream.net/screen-flow/overview.htm>).

After receiving campus Institutional Review Board approval, we then crafted pre-and post-test questions. Objectives made clear in the screencasts were the basis of the assessment questions. We determined that a real world example in the screencasts and in the assessment would make the instruction relevant. The pre- and post- tests, which were identical, consisted of a series of three tasks, which participants were asked to complete. For each task, an image of the library's web site was displayed and the participant was asked to indicate on the screen where he or she would click to complete the task. For two of the three tasks, participants were asked to explain how they chose to complete the task and then self-report their confidence in their choice. After completing these two follow-up questions, participants who successfully completed the task advanced to the subsequent task. Unsuccessful participants did not advance, but rather were taken to the end of that test. At the end of

the pre-test, participants viewed the screencasts and then completed the post-test. (The complete survey appears in Appendix A.) The test tasks were:

Task 1: Imagine you have to write a paper about how birth order (being the youngest child in your family, the oldest child in your family, etc.) affects personality. You have to use three scholarly sources in the paper. Click on the image below to indicate where you would begin your search for an appropriate library database for this assignment.

Task 2: Click on the image below to indicate where you would go to find a psychology library database.

Task 3: Where would you click to find good results quickly so that you can write better papers?

Follow-up questions after each task were designed to help capture qualitative data. Our goal was to use the qualitative data found in participants' explanations of their choices to measure the level of learning achieved through viewing the screencasts. Did students use the language from the screencasts to explain their answers? Did they guess? We expected that richer data beyond the clicked location would help to determine if learning occurred.

We piloted the study with three students to test participant responses to both the screencasts and to the survey. Pilot participants indicated that some of the highlighting/zooming techniques used in the screencasts were distracting so these screencasts were revised to eliminate those effects. We also tested whether every step in the "Finding Library Databases" screencast needed to be assessed. We determined that eliminating the assessment of some of the steps created confusion.

### **Participants**

The target population for this study was inexperienced library users because our research question centered on whether students can learn from library-related screencasts. We wanted to measure learning from the screencasts only and so we actively recruited students who had not attended a library instructional workshop. Our goal was to complete the study at the beginning of the school year when more new students would be on campus. Because UGL has a café that brings many students into the building even if they do not intend to make use of library services or collections, we targeted our recruiting efforts here. Potential participants were pre-screened to eliminate those who had attended a library instructional workshop.

We recruited 15 undergraduate students. Because it was difficult to recruit enough first-year students to create an adequate sample, second- and third-year students also participated. There were five first-year students, five second-year students and five third-year students. All students were between 18 and 22 years of age. Eight of the students had a declared major and seven of the students did not. Those students who had a declared major were studying business administration, material science engineering, ecology and evolutionary biology/Spanish, nursing, pre-architecture, French, engineering and German. Every student that did not have a major was enrolled in the College of Literature, Science and the Arts. None of the students that had declared a major were enrolled in a social science program. Since the task in the study involved searching for a social science database (a psychology database), it was more likely that the study's participants had not searched for this particular database before. Thus their responses were more likely to be based on what they learned from the screencasts rather than on prior knowledge.

### **Materials**

We used ScreenFlow to create the screencasts for this study. An external hard drive was used as the safest and easiest way to collaboratively manage the screencast files. We used Qualtrics, a survey-creation software program to administer the assessment, because it allowed us to easily create both quantitative and qualitative questions for the study and capture rich data. We were eager to use the heat-mapping capability in Qualtrics to determine exactly where students clicked on the screen as they proceeded through the test. Qualtrics data was imported into SPSS for analysis.

The Director of Shapiro Undergraduate Library/Head, Graduate Library Research and Education Services contributed \$200 toward incentives for the project. We converted these funds into Munchie Money gift certificates. Each student was awarded \$10 in Munchie Money for his or her participation.

### **Procedure**

We scheduled four sessions during one week in early October to recruit and conduct assessments with students. All sessions were in the early afternoon. Three librarians were needed to conduct the sessions. One librarian recruited students in the main lobby

of UGL, another administered the test, and the third took notes in case important behavior or comments occurred during the test that could not be captured in Qualtrics.

Recruiting students for the assessment was especially challenging. Some students indicated that they could not spare the twenty minutes needed to complete the tests. Others were simply uninterested or did not meet the criteria for participant inclusion. Initially, we desired to recruit only first-year, first semester students. It was difficult to do so, even in the pilot study. We soon expanded recruitment to include transfer students and students who were further along in their schooling but had not attended a course-related library workshop. We determined that because the Library's web site was redesigned in the previous year to include the feature taught in the screencasts, upper-division students might not have experience using the new feature. Thus, in a broader sense, they still met our participant criteria for inexperienced library users.

After a student agreed to participate, she/he was taken to the first floor Library Lab. Another librarian read a prepared script of instructions (See Appendix B). The participant then completed the pre-test, watched the screencasts, and moved on to the post-test. After completing the post-test the participant received \$10 in Munchie Money. This procedure was repeated until fifteen students completed the assessment.

### **Analysis**

After administering the assessment, we examined the quantitative and qualitative results. We worked with UM's Center for Statistical Consultation and Research (CSCAR) to complete a statistical analysis of the data, which is described in detail below. McNemar's test with continuity correction was used to examine any changes in the success rate between the pre-test and post-test. Two-sample paired t-tests were used to examine the relationships between success rates and confidence, as well as the relationships between success rates and participants' references to the screencasts in their comments.

### **Results**

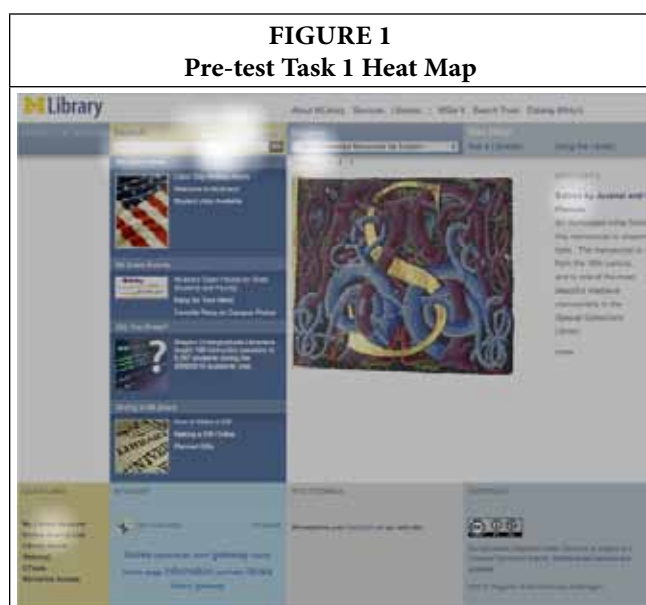
#### **Task Completion**

The pre-test data provided us with a baseline against which to measure learning. In Task 1 of the pre-test, two out of fifteen participants clicked on the Browse

feature, which was considered the correct answer and which advanced these two participants to Task 2. Of the remaining participants, eleven clicked on the Search box, one clicked in the Quick Links box, and one clicked in the Spotlight area.

<i>Pre-test</i>		
	Success	Failure
Task 1	2	13

The survey tool, Qualtrics, captured participants' clicks, which are displayed in the heat map below:



Though the screencasts—which participants had not yet viewed at the time they completed the pre-test—instruct viewers to use the Browse feature, it is important to note that as discussed previously there are multiple ways to successfully navigate to databases through the Library website. Choosing the Search box does not necessarily imply failure to complete Task 1 in the pre-test.

Qualitative data was used to examine how participants intended to use the Search box. Of the eleven participants who clicked on the Search box, at least five explained in their comments that they would immediately begin a search for articles, or, in one case, books on the paper topic provided in the prompt. This represents a failure to follow the prompt instructions to find a library database. Two additional participants clicked

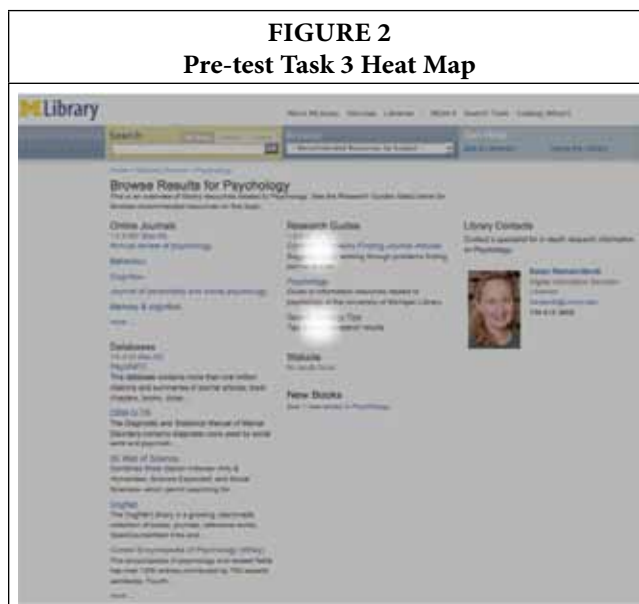
on the Articles tab above the Search box, which would enable a search of the Library's federated article-search tool. While this strategy might be effective for finding appropriate articles, it would not enable users to find databases, which was the specified task. Again, this represents failure to complete Task 1. Seven of eleven participants, then, used the Search box in a way that represented failure to complete Task 1.

The test design did not allow those who might have searched for databases from the Search box to advance to Task 2 or beyond in the pre-test. This was necessary in order for the pre-test and post-test to be identical and in order for the post-test to measure learning of the specific process demonstrated in the screencasts.

Of the two participants who successfully completed Task 1 in the pre-test, both also successfully completed Task 2 and advanced to Task 3. Both of these participants did not complete Task 3 successfully.

<i>Pre-test</i>		
	Success	Failure
Task 2	2	0
Task 3	0	2

Both participants clicked on results displayed under the Research Guides heading on the Browse Results for Psychology page:



One participant explained her choice to click on “Common Problems Finding Journal Articles,” stating, “If I needed help finding a journal, I would click that link to give me assistance.” The Task 3 prompt intentionally omitted explicit references to the terms “articles” and “databases” in order to test participants’ conceptual understanding of the process of finding a database, as well as the usefulness of databases, not just their simple recognition of words on the web page. Pre-test results show that prior to viewing the screencasts, participants lacked this conceptual understanding.

After completing the pre-test, participants viewed the screencasts and then immediately began the post-test. While in the pre-test only two of fifteen participants clicked on the Browse feature of the library homepage to complete Task 1, we found that after viewing the screencasts, all fifteen participants successfully completed Task 1 in the post-test.



Using SPSS and R software, as well as the help of the staff at CSCAR, we used statistical analysis to examine pre- and post-test data.

**TABLE 3**  
**Pre-test and Post-test Success Rates**

	<i>Pre-test</i>		<i>Post-test</i>	
	Success	Failure	Success	Failure
Task 1	2	13	15	0
Task 2	2	0	13	2
Task 3	0	2	10	3
Series	0	15	10	5

We first looked at the change in participants’ successful completion of Task 1 from the pre-test to the post-test. McNemar’s test with continuity correction indicates that there is a significant change in the success rate between the pre-test and the post-test:

**TABLE 4**  
**McNemar's test: Task 1 Success Rates**

<i>Pre-test</i>	<i>Post-test</i>		
		Success	Failure
Success		2	0
Failure		13	0

McNemar’s chi-squared = 11.0769, df = 1, *p*-value = 0.000874

The data provided sufficient evidence to reject the hypothesis that the probability of success is the same for the pre-test and the post-test (*p*-value < 0.5). In fact, participants had a significant tendency to successfully complete a task—in this case to use the Browse feature to begin their search for a library database appropriate for a specific research topic—after viewing relevant screencasts.

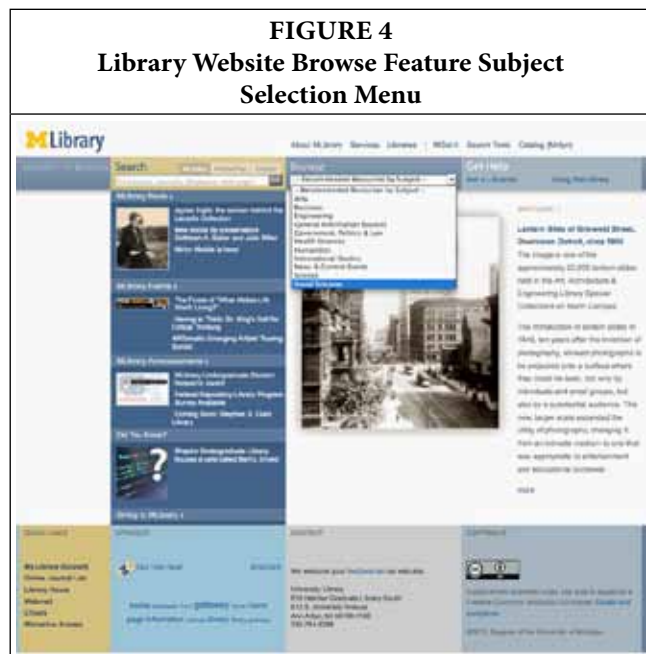
Qualitative data was also examined for evidence of learning. Responses to the open-ended survey questions were coded based on whether or not participants referred to the screencasts when explaining their choices. We argue that this provides evidence of learning—participants who referred to the screencasts were able to internalize information presented in the screencasts to the extent that they could articulate how it applied to the test tasks they were asked to complete. Many participants reiterated points from the screencasts when explaining their choices in the post-test:

**TABLE 5**  
**Participants' References to Screencasts in Post-test Task 1**

	Any reference	No reference
Task 1	11	4

In Task 2, all fifteen participants clicked in the Browse subject selection sub-menu. But, only thirteen of those fifteen participants successfully completed the task by choosing “Psychology” from the list of subjects in the Browse subject selection sub-menu. Of the two unsuccessful participants, one chose a different subject area—“Sociology”—and the other clicked

on “Social Sciences (General).” The latter response could reflect a problem in the test design; the screencasts demonstrate the complete process of subject selection using the Browse feature, the first step of which is choosing “Social Sciences” from the broad subject menu, followed by the selection of “Psychology” from the sub-menu:



**FIGURE 4**  
Library Website Browse Feature Subject Selection Menu



**FIGURE 5**  
Browse Feature Subject Selection Sub-Menu

The participant who chose “Social Sciences (General)” might have been attempting to replicate the exact sequence of steps demonstrated in the screen-

casts, not expecting that in the assessment, one step was skipped. The two participants who did not choose “Psychology” did not advance to Task 3.

Thirteen participants completed Task 3 of the post-test. Of those thirteen participants, ten successfully clicked on “PsycINFO,” which appears under the “Databases” heading on the Browse Results for Psychology page. Any selection under the “Databases” heading would have been considered successful completion of the task. There were three participants who did not select a database; two clicked again on the Browse feature and one clicked on the research guide for psychology, which appears under the “Research Guides” heading on the Browse Results for Psychology page.



**FIGURE 6**  
Post-test Task 1 Heat Map

While in the pre-test, no participants successfully completed all three tasks, in the post-test, 10 of 15 participants successfully completed all three tasks. McNemar’s test with continuity correction indicates that there is a significant change in the success rate between the pre-test and the post-test:

**TABLE 6**  
McNemar's Test: Overall Success Rates

	Post-test	
Pre-test	Success	Failure
Success	0	0
Failure	10	5

McNemar’s chi-squared = 8.1, df = 1, *p*-value = 0.004427

Again, the data provided sufficient evidence to reject the hypothesis that the probability of success is the same for the pre-test and the post-test ( $p$ -value < 0.5). Participants had a significant tendency to successfully complete a series of tasks after viewing relevant screencasts.

Qualitative data for Task 3 was also examined for evidence of learning. As with Task 1, responses to the open-ended survey questions were coded based on whether or not participants referred to the screencasts when explaining their choices. One participant noted explicitly that the screencasts demonstrated how to complete Task 3. Six participants used language from the screencasts to explain their choices in Task 3 of the post-test:

	Any reference	No reference
Task 3	7	3

Students' comments included:

"Its [sic] a specific database on the subject. It should be updated and well kept up."

"If I am looking for good psych articles then I should search a database that is specific to psychology."

Based on the quantitative and qualitative evidence from Task 3, we concluded that screencasts could facilitate student learning.

**Student Confidence**

Next, we examined whether screencasts impacted students' confidence. Students' self-reported confidence for Task 1 was compared across the pre-test and post-test. Confidence increased for all participants, including those two participants who successfully completed the task in both the pre- and post-tests. The screencasts had a clear, positive impact on students' confidence.

We then asked whether there was a relationship between students' confidence in Task 1 of the post-test and references to the screencasts in their explanations of how they completed the task. The relationship between referring to the videos and confidence

in Task 1 approached significance ( $t = 2.093$ ,  $df = 13$ ,  $p=0.057$ ). Participants who referred to the video were 1.34 points more confident on average.

Similarly, the relationship between completion of all three test tasks and confidence approached significance ( $t = 2.401$ ,  $df = 5.216$ ,  $p = 0.059$ ). Participants who referred to the videos were 3.05 points more confident on average.

**Other Evidence of Learning**

Finally, we asked whether there is a statistically significant relationship between participants' success in completing tasks and their explanations of their choices. As noted above, we hoped to use qualitative data from the survey to find additional evidence of learning. While there was not a statistically significant relationship between references to the screencasts and successful task completion, there was a very clearly observed trend.

- Seven successful participants—the majority—talked about the videos or used language from the videos in their responses.
- Three successful participants did not use language from the videos and made no mention of the videos in their responses.
- None of the five participants who failed to complete the three post-test tasks referred to the screencasts in their responses.

**Discussion**

Through the literature review and observations made during our study, we discovered several best practices for effective learning outcomes. Many articles about screencasting recommend a limit of three to four minutes or less for video length. Based on observations during our study, we suggest that screencasts be two minutes or less in length. For the purpose of illustrating basic concepts, we argue that there is a difference between showing students two videos back to back, roughly two minutes each, as opposed to one four minute long video. The script for each video is then conceived differently, with each video addressing a single concept. The viewer can more easily digest shorter screencasts that focus on one concept, which reduces a student's cognitive load for learning.

Other learning considerations were valuable regarding the instructional design of the screencasts. For example, what is the context for which the stu-



dent will use the skills learned in the screencast? How can we concisely create context for the student, especially in our complex academic environment? Our CRLT consultant suggested these questions and offered other advice on learning theory. We found that it is essential to carefully consider these questions in order to effectively frame concepts in screencasts.

There are dissenting views about how much time it takes to design and create screencasts. Much of the literature asserts that creating screencasts is a quick process. Brown-Sica's<sup>7</sup> (2009) team adhered to this concept: "Developing imperfect yet effective tutorials as quickly as possible, [librarians] can respond immediately to their learners' needs." It is our view that the amount of time needed to create an effective screencast will vary depending on its purpose and intended audience. For the purposes of most undergraduate instructional needs, it may be important to put a significant amount of time into the video concept and script. Blakesley-Lindsay's<sup>8</sup> (2006) team agreed: "Students can learn from tutorials, but, if the tools are not meticulously constructed to emphasize important information, they can lead students on the wrong track through assumptions made by the designers. Authors of tutorials should anticipate the common misperceptions that students bring with them to the learning experience and address those explicitly" (Blakesley-Lindsay p. 444). Scripting, piloting, and editing while keeping educational principles at the forefront will undoubtedly take additional time. Through the process of our study, we conclude that screencasts can indeed work when they incorporate instructional design principles and feedback from librarians, education specialists, and, most importantly, students who can benefit from this new technology.

### Suggestions for Further Research

We have identified several aspects of this study that would benefit from further research. A comparison of students who watch screencasts and students who receive face-to-face instruction would be a significant addition, as well as a longevity study; do students retain the concepts from the screencasts, and does this positively affect their academic work? In addition, this study's sample size was small; it would be gratifying to explore a larger sample.

### Conclusion

The results of this study indicate that screencasts facilitate student learning. By viewing instructional screencasts, most students learn how to successfully complete a multi-step research process, such as the series of tasks in this study. Most students are able to transfer their knowledge of the concepts involved in the process and apply it in new scenarios.

In the context of increasing demand for library instruction, we set out to determine whether screencasts would be effective tools with which to supplement in-person classroom instruction. Because the results of the study show that screencasts have the potential to provide effective instruction, we conclude that it is appropriate to dedicate resources to develop effective screencasts for this purpose.

### Notes

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8. Elizabeth Blakesley Lindsay, Lara Cummings, Corey M. Johnson, and B. Jane Scales. "If You Build It, Will They Learn? Assessing Online Information Literacy Tutorials." *College and Research Libraries*, 67 no. 5 (2006): 429–445.

## Appendix A

# Complete Assessment Survey

### Screencast Survey

Thank you for participating in our survey. Today, you will answer some initial questions, watch two videos, and then answer questions again. The process should take about 15 minutes and you'll get \$10 in Munchie Money for your time. Although the facilitator will be observing and taking notes, please remember that we're testing the effectiveness of the videos, not you. While you're answering some of the questions, the facilitator will ask you to 'think aloud'. This means that as you are working, we'd like you to describe what you are thinking and doing. Thanks, again! Click the Next button below to begin.

What is your age?

- 17 or younger
- 18-22
- 23 or older

Please select the category that best describes what kind of student you are.

- Undergraduate student
- Graduate student

What is your year in school?

- 1st year
- 2nd year
- 3rd year
- 4th year
- Other

Do you have a major?

- Yes
- No

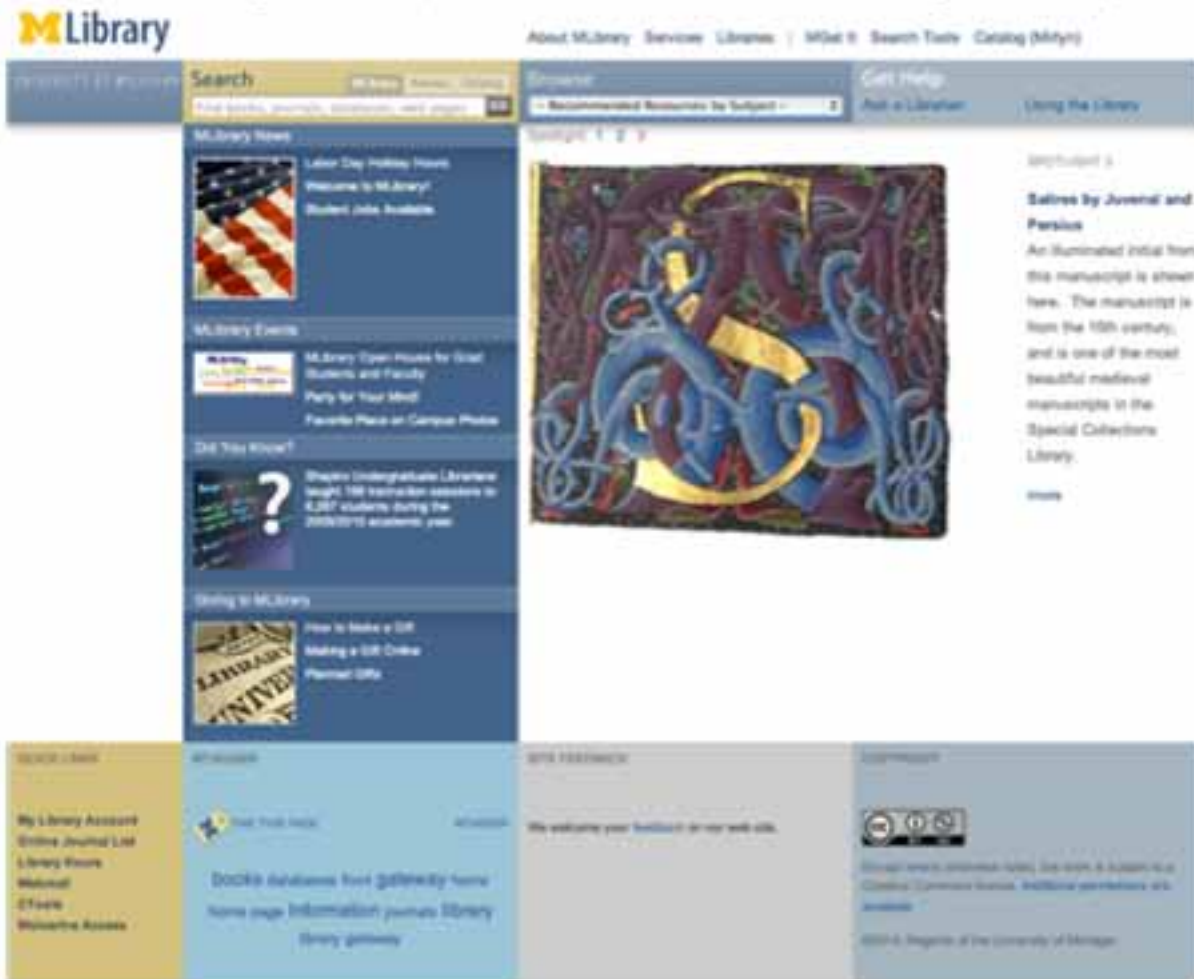
What is/are your major(s)? (open-ended)

In what school/college/department are you enrolled? (open-ended)

**Task 1:**

Imagine you have to write a paper about how birth order (being the youngest child in your family, the oldest child in your family, etc.) affects personality. You have to use three scholarly sources in the paper.

Click on the image below to indicate where you would begin your search for an appropriate library database for this assignment. Then, scroll down and click the Next button to go to the next question.

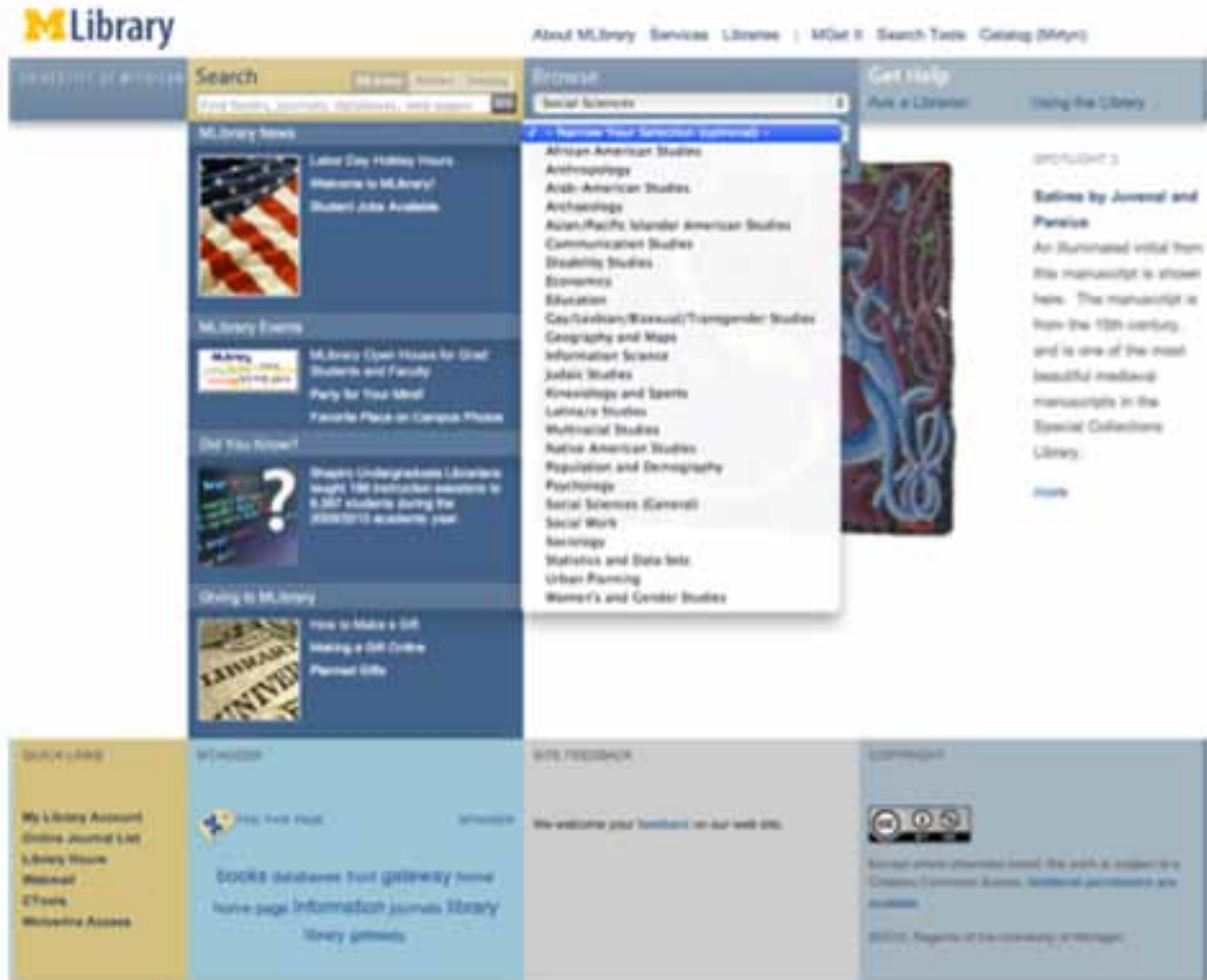


Why did you choose to click on that portion of the image? (Refer to the image below and enter your answer in the box below the image.)

How confident are you in how you completed this task? (Not at all confident (1) – Very confident (10))

Task 2:


Click on the image below to indicate where you would go to find a psychology library database. Then, scroll down and click the Next button to go to the next question.



## Task 3:

Where would you click to find good results quickly so that you can write better papers?

The screenshot shows the MLibrary website interface. At the top, there is a navigation bar with links for 'About MLibrary', 'Services', 'Libraries', 'MGet It', 'Search Tools', and 'Catalog (Mlynx)'. Below this is a search bar with a 'Search' button and a 'Browse' dropdown menu. The 'Browse' menu is open, showing 'Recommended Resources by Subject'. The main content area is titled 'Browse Results for Psychology' and lists several categories of resources:

- Online Journals:** 1-3 of 307 (See All)
  - Annual review of psychology
  - Behavior
  - Cognition
  - Journal of personality and social psychology
  - Memory & cognition
  - more ...
- Databases:** 1-3 of 24 (See All)
  - PsycINFO:** This database contains more than one million citations and summaries of journal articles, book chapters, books, dissertations...
  - DSM-IV-TR:** The Diagnostic and Statistical Manual of Mental Disorders contains diagnostic tools used by social workers and psychiatrists...
  - ISI Web of Science:** Combines three citation indexes—Arts & Humanities, Science Expanded, and Social Sciences—which permit searching for...
  - CogNet:** The CogNet Library is a growing, searchable collection of books, journals, reference works, OpenCourseWare titles and...
  - Concise Encyclopedias of Psychology (Wiley):** This encyclopedia of psychology and related fields has over 1200 entries contributed by 700 experts worldwide. Fourth...
  - more ...
- Research Guides:** 1-3 of 3
  - Common Problems Finding Journal Articles: Suggestions for working through problems finding journal articles.
  - Psychology: Guide to information resources related to psychology at the University of Michigan Library.
  - Search Strategy Tips: Tips to improve search results.
- Library Contacts:** Contact a specialist for in-depth research information on Psychology.
  -  Karen Robinson-Bentl, Digital Information Services Librarian, karenrb@umich.edu, 734 615 3458
- Website:** No results found.
- New Books:** See 1 new books in Psychology.

Why did you choose to click on that portion of the image? (Refer to the image below and enter your answer in the box below the image.)

How confident are you in how you completed this task? (Not at all confident (1) – Very confident (10))

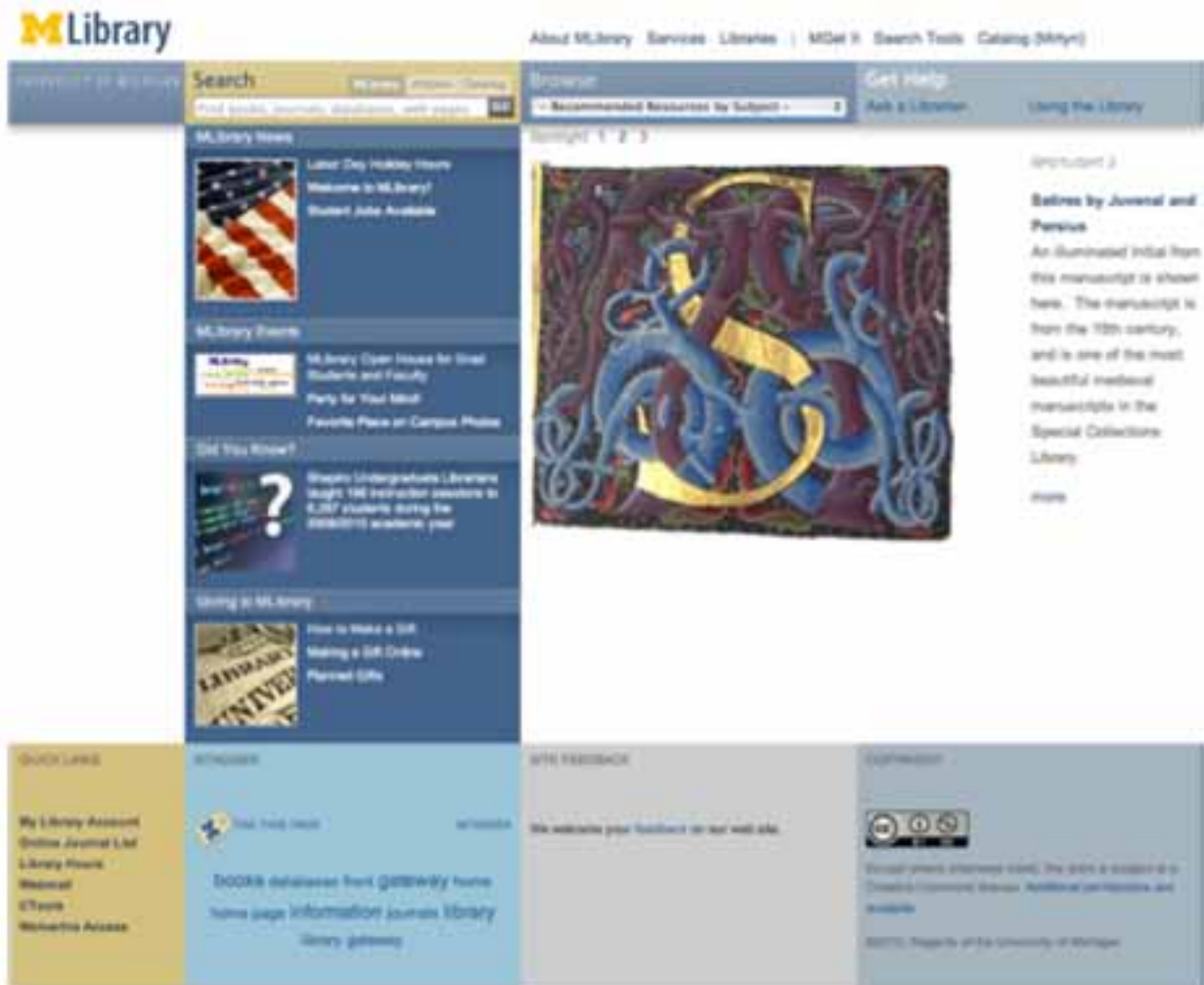
Thank you for completing this portion of the survey. Now, please watch the two screencasts entitled Why Use Library Databases and Finding Library Databases. Then, please return to the survey.

Post-test:

Task 1:

Imagine you have to write a paper about how birth order (being the youngest child in your family, the oldest child in your family, etc.) affects personality. You have to use three scholarly sources in the paper.

Click on the image below to indicate where you would begin your search for an appropriate library database for this assignment. Then, scroll down and click the Next button to go to the next question.

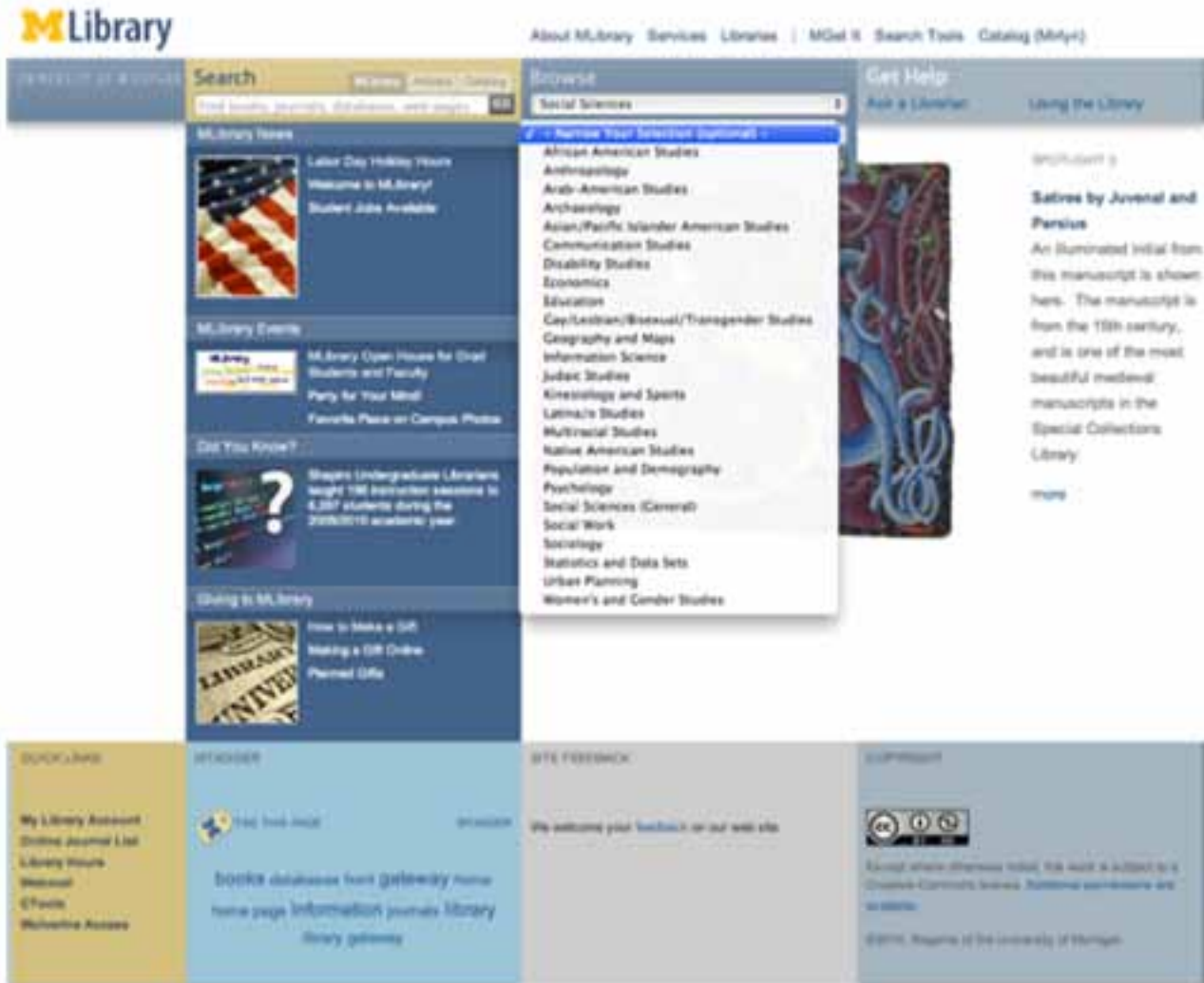


Why did you choose to click on that portion of the image? (Refer to the image below and enter your answer in the box below the image.)

How confident are you in how you completed this task? (Not at all confident (1) – Very confident (10))

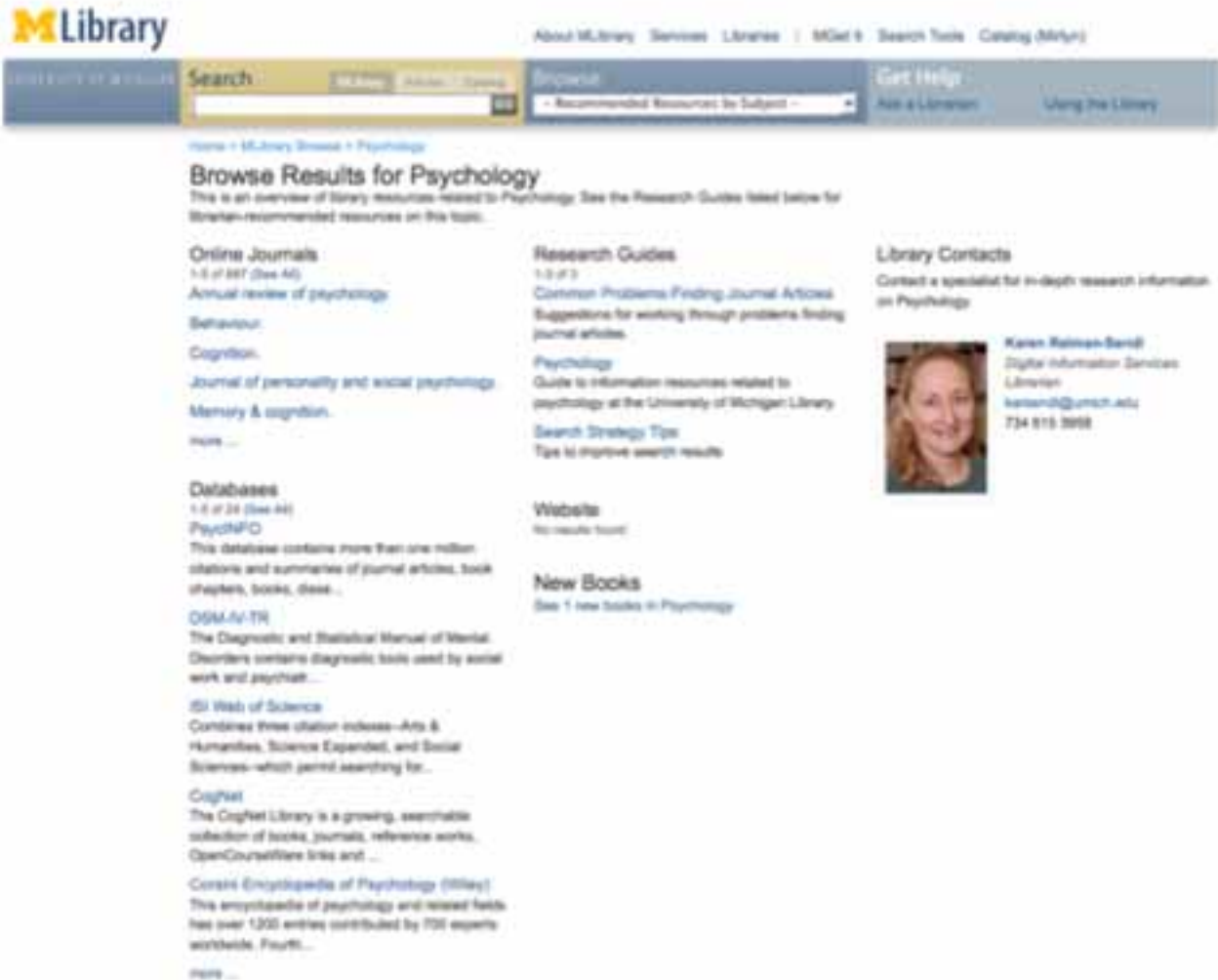
**Task 2:**

Click on the image below to indicate where you would go to find a psychology library database. Then, scroll down and click the Next button to go to the next question.



Task 3:

Where would you click to find good results quickly so that you can write better papers?



Why did you choose to click on that portion of the image? (Refer to the image below and enter your answer in the box below the image.)

How confident are you in how you completed this task? (Not at all confident (1) – Very confident (10))

Thank you for participating in our survey! Please click the Close button below to record your answers and then collect your Munchie Money from the facilitator.



## Appendix B Assessment Session Script & Instructions

### SCRIPT FOR ASKING STUDENTS TO PARTICIPATE

Hi! I'm a librarian here at the UGLi (change for Mason Hall), and we're looking for students who will take a few minutes to look at a video and answer a few questions for us.

We have munchie money—certificates that work at the Union, League, Pierpont, and Bert's. We'll give you \$10 in munchie money for about 15 minutes of your time.

We want students who have never been to a college library workshop—it's ok if you went to new student orientation this summer!

If you're interested, come over to the Library Lab across the way—and we'll use a computer in there to watch the video.

### SCRIPT FOR INSTRUCTIONS BEFORE BEGINNING

Hi, I'm \_\_. Thanks for taking the time to participate today. Here's what we'll be doing: I'll have you answer some initial questions, watch two videos, and then answer questions again. The whole process should take about 10 to 15 minutes and you'll get \$10 in Munchie Money for your time.

Although I'll be observing and taking notes, please remember that we're testing the videos, not you.

While you're answering some of the questions, I'll ask you to 'think aloud'. This means that as you are working, I'd like you to describe what you are thinking and doing. The goal is to learn about what is clear and unclear as you go through the questions.

We'll be using an audio recorder to help record the session and, if it is okay with you, we'd like to take your photograph. We will be presenting our findings at a conference and we would like to use the photo in our presentation. No identifying information about you will be associated with the photo. Your responses to the survey questions will also be totally anonymous. To use your photo in the presentation, though, we'll need you to sign a release form. Would you mind signing the release form?

Thank you!

Do you have any questions before we get started?

Please answer these initial questions.

[Take participant to Qualtrics pre-survey.]

Next, please watch these videos.

[Take the patron to the screencasts.]

Now, please answer these questions again. Feel free to refer back to the videos if you'd like.

[Take the participant to the post-survey in a new window or tab so they can view the screencasts again, if they choose.]

Thank you, again, for participating!

[Give the participant \$10 in Munchie Money.]