Assessment of First-Year Students’ Information Literacy Skills & Knowledge

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Background
Librarians and University Foundations (UF) instructors have been collaborating on curriculum development of the library sessions taught in UF 100 (Intellectual Foundations), UF 200 (Ethical & Civic Foundations), and UF 300 (Transitional Foundations) since Fall 2012. Spring 2016, however, was the first time we surveyed UF 100 students in order to find out their existing knowledge and skills about information literacy (prior to library instruction). The Instruction Team will use data obtained from Spring 2016 students to improve the UF 100 library curriculum, and survey UF 100 students during every Fall and Spring semester going forward.

Method
The Assessment of First-Year Students’ Information Literacy Skills & Knowledge (Appendix A) questionnaire was developed to ascertain information literacy knowledge and skill levels of UF 100 students. UF 100 faculty members presented the questionnaire to four plenary sections through Blackboard: Mind Games, Identities, Climate Change and Rifts & Shifts. Some UF 100 instructors gave credit for completing the questionnaire.

The response rate was 46%, with 351 out of 759 students completing the questionnaire. Of the 759 students offered the survey, 361 students began the survey with 351 completing the survey. The number of students not answering any given question ranged from 2 to 14.

The questionnaire consisted of 15 items, with multiple choice, yes/no, and open-ended questions. Questions 3-14 were pairs, with the second question in each pair asking for an explanation to the previous question’s answer.

Executive Summary
The following findings are based on students’ answers to this questionnaire.
• Most students (59%) rate their skill level in doing academic research as “Intermediate.”
• When given a list of sources, the majority of students (87%) correctly identify which source would be the most appropriate to use in an academic paper.
• When starting with a research question, 67% of students type the whole question into a search engine such as Google. Only 24% can identify the question’s main keywords to use in the search engine.
• 62% of students were unable to distinguish between a book review and a peer-reviewed, scholarly article.

The majority of students rated their research abilities at an intermediate level, which is reasonable based on having done research in high school or due to being in their 2nd or more year of college. Ninety-three respondents rated themselves expert or advanced, with explanations that varied widely in the six question pairs open text fields. Of those 93 respondents, one advanced self-rated student answered every yes/no and multiple choice question correctly.

Most students are familiar with searching Google or another open search engine and feel confident in their abilities. When asked in question 2 to develop two search strings to find information on a topic, of those answers that could be placed into a rubric, the majority used a complete question structure format. Though the question did not ask for information related to academic searching specifically, 28% of those answers showed Boolean usage, critical thinking in developing keyword search strings and understanding the differences in general vs. academic searching.

![Search Strings](image)

Figure 2: Development of search strings in a search engine

When given a list of complete citations the vast majority of students were able to choose correctly in identifying which would be best to use in an academic paper. When relying on their own thought processes, over half of the student respondents relied on things like spotting keywords within a title or abstract, noting an affiliated author statement or citations within the text to make decisions on the appropriateness of articles and their academic value.
While a large majority looked for the peer-reviewed research citations, slightly less than half used critical thinking skills, actually read the articles, and understood what they were reading, to make those decisions.

Many respondents were unable to ascertain the difference between a book review and an actual article. Over half based their decision specifically on the publisher, or that the word ‘review’ was in the title. Some students based decisions on the topic, indicating that specific topics could not be peer-reviewed. None indicated they had attempted to discover if the journal and/or article was a peer-reviewed title.

Of the three questions (3, 11 and 13) that required students to use critical thinking to evaluate an article for topic applicability and identification of peer-reviewed journals and articles, 47% were able to do so while 53% were unable to identify if the article added research value to their topic or if the article was peer-reviewed.

![Analytical Skills Applied Correctly Overall](image)

*Figure A: Combined percentage of correct answers for questions 3, 11 and 13*

Over half the student respondents understood that using a web search engine enhanced their research by assisting in defining topic choice and identifying trends and current events. Approximately 25% of the students indicated they would continue to use the web search engine to complete their academic research. At the same time, 50% of the respondents indicated they understood that research databases contained research and empirical studies on any given topic.

**Conclusions & Future Steps**

Data gathered during this assessment project suggests that UF 100 students lack basic information literacy skills and knowledge. UF 100 students could identify appropriate sources when presented with a list to choose from, but 62% were unable to distinguish between a book review and a peer-reviewed, scholarly article. These students also struggle with forming effective search strings; 67% of students stated they would type a whole research question into a search engine to find information on their topic.
Information literacy is an integral part of the Foundational Studies Program curriculum, addressing some basic misunderstandings about how to find and evaluate academic information sources. Library instruction assists in facilitating and enhancing many University Learning Outcomes: critical thinking skills, research skills, data gathering and evaluation, teamwork, and oral and written communication. These skills, once grasped, assist students throughout their educational career and beyond. While the information literacy curriculum may be adjusted to meet students’ needs, it is a beneficial aspect of the Foundational Studies Program.

Working through this assessment helped the Instruction Team come to a number of conclusions. Using the Survey form within Blackboard was found to be limiting after the fact. The assessment given in its current form did not account for other than first-year students responding. It was also found that including so many questions that had open text field answers became cumbersome to work through and find a standard rubric in which to assess the answers. No matter what answer students chose or provided, they finished the assessment with the assumption their answers were correct. Developing less open text fields would assist in streamlining the review process. This assessment will be revised and given out again each fall and spring semester going forward to allow for comparison of data.

APPENDIX A

Survey Canvas: Assessment of Student Research Skills

This assessment will help the Library measure first-year students' information literacy skills and knowledge.

Instructions

Please answer the following questions. This assessment will take approximately 10 minutes.

Total Questions 15

1. What do you perceive to be your skill level in doing research for an academic paper/project?

   a. Basic
   b. Intermediate
   c. Advanced
   d. Expert

2. Essay: You have to write a research paper on the topic of academic achievement. You want to narrow that topic, and you have developed the following research question: How does exercise affect academic achievement in college students? What are two different search
strings you might type into a search engine (such as Google) to find information on your topic?

3. Either/Or: As you are searching for information on this topic, you locate the following article. Is it relevant to your topic (stated in the previous question)? Stated another way, will it help you answer your research question? The Effect of Using Exercise-based Computer Games During the Process of Learning on Academic Achievement among Education Majors. (You will be asked to explain your answer in the next question.)

Yes
No

4. Essay: Explain your answer to the previous question.

5. Multiple Choice: Choose the BEST indicator for determining the reliability of an author’s information in an article:
   a. Specialized language
   b. Citing peer-reviewed research
   c. The presence of charts and graphs
   d. The author has a degree
   e. Other (please explain in the next question)

6. Essay: If you answered Other to the previous question, list that information here.

7. Multiple Choice: When completing academic research projects, for what purpose would you use a web search engine such as Google or Bing? Choose the answer that BEST describes your reason.
   a. It is the fastest way to find information
   b. To find out what direction to go with my topic
   c. To identify trends, current events, public perceptions
   d. The Internet has all the information I need
   e. Other (explain in the next section)

8. Essay: If you answered Other to the previous question, list that information here.

9. Multiple Choice: When completing academic research projects, for what purpose would you use a library research database? Choose the answer that BEST describes your reason.
   a. To access articles I would otherwise have to purchase
b. The information has been vetted

c. To find research and empirical studies on a topic

d. I like the links from one article to related and/or cited research

e. Other (explain in the next section)

10. Essay: If you answered Other to the previous question, list that information here.

11. Either/Or: You are searching for scholarly, peer-reviewed journal articles about Native American folklore when you find the following article. Is it a scholarly, peer-reviewed journal article? Review of The Anguish of Snails: Native American Folklore in the West (You will be asked to explain your answer in the next question.)

Yes

No

12. Essay: Explain your answer to the previous question here.

13. Either/Or: As you continue searching for scholarly, peer-reviewed journal articles about Native American folklore, you find another article. Is it a scholarly, peer-reviewed journal article? ‘More Real than the Indians Themselves’: The Early Years of the Indian Lore Movement in the United States (You will be asked to explain your answer in the next question.)

Yes

No

14. Essay: Explain your answer to the previous question here.

15. Multiple Choice: Which of these sources would you be most likely to use in an academic research paper?


