

Fall 2015 Information Literacy Assessment of Students in First Year Seminar Courses

Context:

In the Fall 2015 Semester, all First Year Seminar courses were provided with an introductory information literacy session in which students were provided with an overview of plagiarism, citation, identifying an appropriate topic, identifying scholarly sources, and evaluating resources. In total, more than 240 students were provided with a 1 hour instruction session. In addition, a 10 question quiz, which counted towards the course grade, was administered through the Blackboard course shell (see appendix for quiz questions).

As the quiz counted towards the course grade, almost all the students (225) submitted the quiz. The quiz focused on measuring students' abilities within as many of the ACRL Information Literacy Frameworks (<http://www.ala.org/acrl/standards/ilframework>) as possible. As this was a freshman class, and students were learning about research and information literacy as a portion of a 1-credit class, the ACRL Frames "Searching as Strategic Exploration," and "Information Creation as a Process" wasn't heavily integrated. More specifically, because of space availability, librarian availability, and the structure of the FYS courses, instruction and assessment needed to be at the beginning of the semester, which didn't allow instruction to occur as students were actively working on research projects. However, with additional staffing and changes in space availability, future FYS library assessments will attempt to be delivered during the second half of the semester to allow for more consultation with research projects as they are occurring. Nonetheless, the following ACRL Frames were addressed throughout library instruction and through the Information Literacy quiz within the Blackboard courses: "Authority is Constructed and Contextual," "Information Has Value," "Research as Inquiry," and "Scholarship as Conversation."

Summary of Findings:

Students typically performed well on questions that asked them to demonstrate their ability to identify basic practices or understandings about Information Literacy, but struggled when asked to reflect on Information Literacy concepts, or to go beyond a basic understanding of frames.

Most students (typically between 75%-80%) performed well on questions that asked about citation practices or to demonstrate their ability to find specific information. For example, 77% of students were able to successfully locate a scholarly journal. 85% of students were able to successfully list the main parts of a book citation in APA. And, over 80% could identify forms of plagiarism. The only major misunderstanding of plagiarism was that 13% of student responses indicated that how much you cite (eg the number of times sources are cited or the percentage of a paper that includes citation) is linked to plagiarism. Freshman students at SUNY Poly seem to have a good basic understanding of the "Information Has Value" frame as "The novice learner may struggle to understand the diverse values of information in an environment where "free" information and related services are plentiful and the concept of intellectual property is first encountered through rules of citation or warnings about plagiarism and copyright law." ("Framework"). With more practice and experience in research, students will understand more about the role of information and intellectual property in the research process. Part of the instruction provided to students included discussing the process of publishing in scholarly journals, as well as the economic realities of scholarly publishing, and that much of what is published in scholarly journals is still only available via library subscriptions or by individuals paying for content.

The questions where students did not perform as well were those in which they were asked to critically evaluate sources and justify why they thought a source was either reliable or biased. For example, one question asked students to pick a Wikipedia article and evaluate it. Only 60% of students provided minimal justification for why a Wikipedia article was well researched or reliable. Similarly, students were asked to select a website that had information on sexual assault in higher education that is reliable. Less than 60% of students identified a website and provided minimal reasons why the site would be reliable. Another question where students had some difficulty in providing reasons to justify their choices was a question asking students to identify a magazine that would have good information on sports and performance enhancing drugs. 155 of the 222 responses listed *Sports Illustrated*, but without any rationale other than the publication is widely known. Additionally, some students also listed whatever came up within the first five results within Google, which often included student essays from another college. Most difficult for students was identifying bias in a website, in the question “Identify a website that has information on global warming that you think might be biased.” Only 19 of the 219 students who responded provided a thorough answer (with more than one reason or explanation) for why a site was biased. Most students provided the type of answer that the ACRL frame regarding authority identifies is typical of beginning students, as “Novice learners may need to rely on basic indicators of authority, such as type of publication or author credentials, where experts recognize schools of thought or discipline-specific paradigms.” (“Framework”). Many students deferred their own judgment to accepted norms of publications or domains (such as .edu) having inherent credibility without their critical reflection. Developing the recommended disposition for critically analyzing authority and becoming “conscious that maintaining these attitudes and actions requires frequent self-evaluation” is an important part of developing further information literacy regarding authority (“Framework”).

The other trend that became apparent in reviewing the responses was the difficulty that students have in identifying what they are reading on the web and how it fits within a topic. The question where students were asked to identify a scholarly journal in SUNY Poly’s library indicates that they have the knowledge to identify formats; however, the many markers within the Library’s databases and discovery service make it easier for students to determine what type of source they’re reading. When the sources are results from a search in Google, identifying what type of source they’re looking at becomes more difficult. Only 36% of students identified a website when asked a website with bias on global warming. Most identified a specific news article, a journal article, or a report or book. And, none identified that the specific article was only part of the entire site or is reporting only on a specific issue within the much larger issue of global warming. Confusion over formats also came up in responses to the question where students were asked to find a magazine on PEDs in sports. Over 10% of student responses (25) did not provide a magazine, but instead identified collections of student essays from high schools and college, a “GNC magazine” that didn’t exist, or other formats that included informal blogs.

Students’ difficulty with engaging with critical evaluation or analysis of sources in addition to confusion regarding what types of sources are on the web provides an area for growth and instruction during the undergraduate years at SUNY Poly. The SUNY Poly Information Literacy Program will need to focus on the ACRL frame “Authority is constructed and contextual,” which includes the idea that “An understanding of this concept enables novice learners to critically examine all evidence—be it a short blog post or a peer-reviewed conference proceeding—and to ask relevant questions about origins, context, and suitability for the current information need.” (“Framework”). As a focus in second year and

upper division courses within the Information Literacy program will involve the frame “Information Creation as a Process,” in which students “could result in a range of information formats and modes of delivery, so experts look beyond format when selecting resources to use.” (“Framework”). Thus, understanding how to identify formats and use different types of sources differently will be crucial in teaching about the research process.

Last, one question briefly touched on the frame “Research as Inquiry,” and asked students to identify a topic appropriate for a 10-page paper. The “Research as Inquiry” Frame asserts that “Research is iterative and depends upon asking increasingly complex or new questions whose answers in turn develop additional questions or lines of inquiry in any field.” Only 67% of students identified a complex topic as one that would be appropriate for a 10-page research paper, with 1/3 selecting topics that were broad and did not acknowledge the complexity of the topic. Developing the Knowledge Practice that will allow students to “determine an appropriate scope of investigation,” is an area that SUNY Poly Librarians can work with students in Freshman Level writing courses, and intermediate and advanced research courses.

Closing the Loop

As SUNY Poly develops its Information Literacy program, additional assessment areas should be identified in Freshman Writing courses, the introductory research methods classes in the majors, in 300 level research and writing classes (e.g. COM 307, COM 308), and finally at the capstone level. It’s clear that students are coming to SUNY Poly well prepared in some areas of Information Literacy, but need to build skills that will allow them to become better at critical analysis and reflection.

Specifically, students are coming with good baseline knowledge of citation practices and with good strategies for identifying sources. However, SUNY Poly librarians should help develop the critical thinking skills needed to develop within the ACRL Information Literacy Framework, which “depends on these core ideas of metaliteracy, with special focus on metacognition, or critical self-reflection, as crucial to becoming more self-directed in that rapidly changing ecosystem.” (“Framework”). The questions in the quiz that asked students to critically reflect on authority, research, and sources were ones that they struggled with most, and this is an area that Librarians and Faculty can track through additional assessments within general education courses and within majors.

As First Year Seminar is not offered at the Albany Site, this study did not include Albany site students. Future assessment should include students at both SUNY Poly sites.

References:

Framework for Information Literacy for Higher Education. (2015, February 2). Retrieved January 3, 2016, from <http://www.ala.org/acrl/standards/ilframework>

Appendix:

Quiz Questions:

1. Using MLA Citation Style, provide a citation for a scholarly journal that you find from SUNY Poly's Library resources. **FRAME: INFORMATION HAS VALUE**
2. Find a website that you think would be a reliable source if you were researching Sexual Assault in Higher Education. Provide a few reasons why you chose this site. **FRAMES: AUTHORITY IS CONSTRUCTED AND CONTEXTUAL, SCHOLARSHIP AS CONVERSATION**
3. When is it appropriate not to cite an idea in your paper (select all that apply)? **FRAME: INFORMATION HAS VALUE**
 - a. Your professor provided this information to everyone in a class presentation.
 - b. The information can be found on the web from a reliable website.
 - c. You added some of your ideas to the information you're using.
 - d. The information is a commonly known fact, like who is the current President of the United States.
 - e. The idea is something you came up with.
4. Which of the following is an example of plagiarism? **FRAME: INFORMATION HAS VALUE**
 - a. Using an entire paragraph from another author, while providing the author's name and page number of the paragraph.
 - b. Taking an idea from a source and putting it into your own words.
 - c. Citing a source more than 5 times in a paper less than 8 pages.
 - d. Summarizing ideas from another source, and providing a citation for where you got the ideas.
5. Provide an example of a popular magazine you might use to learn more about sports and performance enhancing drugs? Explain how you chose this magazine. **FRAME: AUTHORITY IS CONSTRUCTED AND CONTEXTUAL**
6. Identify a website that has information on global warming that you think may be biased. Explain why you think the site is biased. **FRAME: AUTHORITY IS CONSTRUCTED AND CONTEXTUAL**
7. What are the main parts of a citation for a book using APA format? **FRAME: AUTHORITY IS CONSTRUCTED AND CONTEXTUAL**
8. Pick a Wikipedia article that you think is well researched. Explain why you think this article is founded on good information. **FRAMES: AUTHORITY IS CONSTRUCTED AND CONTEXTUAL, SCHOLARSHIP AS CONVERSATION**
9. Of the topics below, what would be the most appropriate for a 10-page research paper? **FRAME: RESEARCH AS INQUIRY**
 - a. Nanotechnology is a major part of the United States economy.
 - b. Because nanotechnology is now part of most industries, more funding for research on health effects of nanotechnology (nanotoxicology) is needed.
 - c. Nanotechnology is growing quickly.
 - d. Nanotechnology can help the energy industry.
10. What of the following titles would be least likely be from a scholarly journal article? **FRAME: INFORMATION HAS VALUE**

- a. Perceptions of risk from nanotechnologies and trust in stakeholders: a cross sectional study of public, academic, government and business attitudes.
- b. Nanotechnologies and Green Knowledge Creation: Paradox or Enhancer of Sustainable Solutions?
- c. What Lies Ahead for Nanotechnology?
- d. Consumer Perceptions of Nanotechnology Applications in Italian Wine.

Itemized Analysis of Quiz Questions

Question	Observation
What topic is appropriate for 10 pg paper	The question provided a general overview of what topics would be appropriate for a 10-page research paper. The correct answer, "Because nanotechnology is now part of most industries, more funding for research on health effects of nanotechnology (nanotoxicology) is needed" was chosen 67% of the time in the 220 responses. Students most often selected broad topic answer choices such as "Nanotechnology is growing quickly" without a specific research question.
Which of the following is plagiarism?	Of the 229 responses, 83 percent correctly identified a form of plagiarism. However, almost 13 percent indicated that plagiarism is directly linked to how much you cite (i.e. a paragraph), even when citing, which is a common misconception about citation and plagiarism heard from undergraduates at SUNY Poly. Although students can demonstrate general knowledge of plagiarism, more refined instruction on citation could help to further understanding of citation practices to avoid plagiarism.
Provide an example of a popular magazine you might use to learn more about sports and performance enhancing drugs? Explain how you chose this magazine.	Of the 222 responses, 155 chose Sports Illustrated. For the most part, the majority of students responded that they chose SI because it is well-known, and therefore reliable. The other responses listed titles that came up within the first 5 results with a Google search for "performance enhancing drugs and magazine." 25 of the 222 responses did not correctly identify a magazine, but chose resources such as student essays on a college website and "GNC Magazine," which does not exist. The vast majority, however, identified a magazine correctly, but indicated that name recognition was sufficient to justify choosing this magazine as a source for the topic.
Identify a website that has information on global warming that you think may be biased. Explain why you think the site is biased.	Of the 219 responses, 10 did not identify a website, but instead listed items such as a google book. A common response, 25% of the time, was to provide a citation for a specific article, and then claim bias because "both sides" were not presented. However, upon reading the articles, these were found to be from a variety of sources including the NY Times and a variety of other major newspapers, and were reporting on topics or events related to global warming. 81 of the 219 responses correctly identified a website (rather than an article or other type of format), and provided some reasoning for why the site may be biased. However, only 19 of 219

	<p>responses provided complex analysis of the site and its potential bias using more than one criteria or observation.</p>
<p>What of the following titles would least likely be from a scholarly journal article?</p>	<p>Exactly half of the students correctly identified the article with the broad topic, "What Lies Ahead for Nanotechnology" as the article most likely not to be from a peer-reviewed journal. In the instruction for the class, we participated in an activity in which we focused on identifying scholarly journals and scholarly journal articles, including discussing how specific the topics for the article would be. Half of the students selected article titles with very focused topics, which were from actual scholarly journal articles. The most selected incorrect answer was "Consumer Perceptions of Nanotechnology Applications in Italian Wine," which may have confused students unfamiliar with sub-disciplines in academics studying topics such as wine.</p>
<p>Find a website that you think would be a reliable source if you were researching Sexual Assault in Higher Education. Provide a few reasons why you chose this site.</p>	<p>As part of state-wide efforts to reduce sexual violence on campuses, FYS students were required to complete a 3-hour online training and also discussed sexual violence and sexual assault in class. Thus, students were provided with a great deal of information regarding these issues. 60 students out of 223, or 27%, responded with a source that was not a website, but rather a journal or another format. 124 students responded with a website, but provided little or no information about why the website is reliable. Most of these students responded with an answer that followed the pattern of listing the website name and then stating that it provides accurate information and is reliable, but without providing specifics to support the claim. 16 % of students did identify a reliable website and provide specific reasons why the website was reliable. Most of the websites listed, whether for students who provided extensive support for why the website is reliable or not, were found within the first 8 results of a google search for "higher education and sexual assault," which indicates that search engine rankings are a major determiner for students selecting websites.</p>
<p>Pick a Wikipedia article that you think is well researched. Explain why you think this article is founded on good information.</p>	<p>This question was surprising in that over 60% of students, or 139 students responded with a meaningful review of the content and the wikipedia entry. In the instruction session that all FYS classes participated in, students were shown how to analyze a Wikipedia entry, determine who was editing, if it was a featured article, and several other ways to analyze Wikipedia content. The majority of students who did not provide in-depth analysis of wikipedia articles either stated that an article was good because it provided citations, or commented that the article was well researched because it was well formatted (i.e. had headings, charts, etc.). Another subset of responses were students who identified well researched wikipedia articles because the topic was either well known (like baseball) or obscure (eg Marcy South electrical line). In many cases, students ignored markers from Wikipedia that identified the article as containing insufficient information or markers from wikipedia that it was a feature article.</p>

<p>What are the main parts of a citation for a book using APA format?</p>	<p>As this question only asked students to identify what elements are needed to create a citation for a book in APA, over 61% responded correctly, providing all parts of the citation. Over 85% identified most of the elements needed to cite a book in APA. Of the 15% that did not identify any or only one element of a book citation, the issue was most often providing the elements to cite a different format (i.e. a journal), or providing an answer that indicated that the question wasn't read closely, such as listing the main parts of a paper in APA.</p>
<p>When is it appropriate not to cite an idea in your paper (select all that apply)?</p>	<p>For this question, 79% of the 228 respondents answered correctly indicating that when an idea is common knowledge, citation is not needed. However, 10% of students responded that it was appropriate not to cite if "you added some of your ideas to the information you're using," which was something that was covered in class regarding plagiarism prevention and how one could unintentionally plagiarize. The other answer that was provided 10% of the time was that citation was not needed if the professor provided the information in class. Although this notion is not one that is correct in citation styles, it may indicate a need for reinforcing citation expectations as High School teachers may not want citation of class discussion or information.</p>
<p>Using MLA Citation Style, provide a citation for a scholarly journal that you find from SUNY Poly's Library resources.</p>	<p>Overall, 77% of students were able to successfully identify a scholarly journal article. The students who did not correctly identify a scholarly article or journal most often identified a book, newspaper article, or other type of source. As all courses received instruction on how to find and identify scholarly journals and articles, the high rate of success indicates that students have good knowledge of what a scholarly article is. Because of the technical difficulty in gathering quiz results from all of the instructors' Blackboard courses, determining if MLA style was correctly followed as the formatting of the responses could not be properly exported. However, working with SUNY Poly's Instructional Technologist, we have determined how to overcome this issue in future assessments given across multiple courses using an "Enterprise Survey" tool in Blackboard.</p>