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Chapter 3

Assessing Student Learning In A One-Shot Information Literacy Instruction Session

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Introduction

Librarians at Humboldt State University teach information literacy instruction sessions each semester to students in credit-bearing courses across the university's three colleges at the request of faculty. These sessions cover a variety of research topics including search strategies for locating various types of sources, how to properly cite sources, and conducting research using primary sources. In many cases, these instruction sessions are one-shot and afford the librarian only one class session to work with the students.

In spring 2020, the library's College of Arts, Humanities and Social Sciences librarian was asked by faculty in several departments to provide instruction on locating peer-reviewed articles using library databases. This topic is frequently requested by faculty as students in lower and upper division courses need to locate and utilize these articles in order to complete course-specific assignments. This write-up analyzes the results of the in-class assessments and discusses the need for additional assessments in the future beyond the one-shot instruction session.

Literature review

One-shot information literacy sessions are common in academic libraries across higher education. A brief review of the literature reveals some of the ways academic librarians assess student learning in these limited interactions. Additionally, the literature cites numerous challenges that these limited opportunities to work with students pose to the long-term assessment of student learning.

Turnbow and Zeidman-Karpinski discuss using instruction design as part of the assessment process in their 2013 article entitled, "Don't Use a Hammer When You Need a Screwdriver: How to Use the Right Tools to Create Assessment That Matters." The authors stress that assessment of one-shot instruction sessions cannot adequately measure, "changes in information-seeking behavior" given the limited time that librarians have to work with students.(Turnbow and Zeidman-Karpinski, 144). Daland (2015) surveyed college students' attitudes towards information literacy workshops that followed the initial one-shot instruction session. The majority of these students, who were working towards their bachelor's degree at a European university, found the subsequent workshops useful in building their research skills. Wang (2016) developed the Research Readiness-Focused Assessment (RRFA) Instrument to code

Assessment 2020 @ HSU Library

variables from pre and post tests that were administered to students in ten one-shot information literacy instruction sessions (Wang). At University of Wisconsin-Eau Claire, Watson et al (2013) developed lesson plans for one-shot instruction sessions as a way to convey to faculty how much material could be realistically covered in one such session (Watson et al.)

The challenges of assessing learning in one-shot information literacy instruction sessions are discussed in these works and others. The literature cites the need for additional time outside of a one-shot instruction session to effectively measure student learning. While there are tools and methods that can be used to measure student learning over the course of a session 50 minutes in length, measuring changes in students' information-seeking behavior requires more than a once-a-semester session with a librarian.

Methodology

In Spring 2020, the CAHSS Librarian provided information literacy instruction to students in eight courses in departments across the college on how to locate peer-reviewed scholarly articles. The instruction included strategies for developing keywords from a research topic and searching for peer-reviewed articles in various library databases. Each session included three learning outcomes that formed the foundation for the assessment:

- Identify and use keywords to locate relevant information sources
- Evaluate sources for relevance and timeliness on a given topic
- Retrieve resources from the databases or by using InterLibrary Loan

As part of each instruction session, the students were asked to submit information regarding their research topic and search results onto a Google Form for an in-class assessment. The assessment used in these courses is based on an assessment conducted by librarians at Augustana College in Rock Island, Illinois (Bluemle et al.)

On the Assessment form (see appendix), students were tasked with entering information about their chosen research topic. This included listing their research topic and keywords that they would use to locate peer-reviewed articles, which were developed by working in pairs during the instruction sessions. Students were provided time in each session to locate at least one article that would be suitable for their respective research assignment. The students were asked to include a short explanation for why they chose the article they listed, as well as provide the permalink to the article. Students were also afforded the opportunity to rate their confidence to locate peer-reviewed articles and list what was helpful about the session as well as what they still had questions on. The form was shared with the students in the second half of each instruction session. The students were given time in each session to search for sources in one of the library's databases and were tasked with completing the entire form prior to leaving the instruction session.

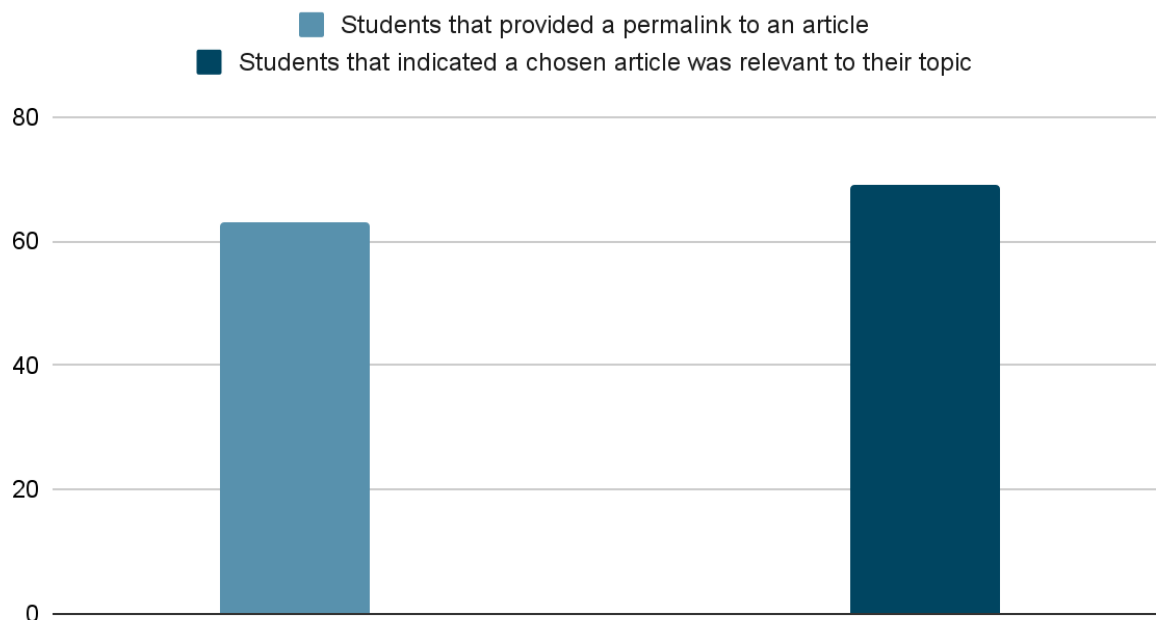
Data

74 students completed the Google Form across eight courses that the librarian provided information literacy instruction for. The classes where this Google Form was used were selected specifically for being sessions where faculty required students to locate peer-reviewed research articles. It is important to note

Assessment 2020 @ HSU Library

here that the librarian did not seek IRB approval for the assessment prior to implementation. Data has therefore been anonymized and will be discussed in a general context.

Figure 1



Each student listed their research topic and at least two keywords that they used to search for sources. Some students utilized only the main terms from their research topic while others listed synonyms, as well as broader and narrower terms for keywords that they derived from their research topic. Out of the 74 students that submitted responses to the Google Form, 63 provided a permalink to the article that they intended to use for their assignment (see chart). Other students listed varying levels of information about an article, ranging from the article's title to the citation or DOI or some combination of these elements.

Additionally, 69 of the 74 student responses expressed that the article they selected had some level of relevance to their topic. Students cited new information and the presence of data and statistics as some of the main factors that led to the selection of their respective articles. Seven students cited the article meeting their search criteria, including the article having been peer-reviewed or recently published or both. Six students cited their article's multidisciplinary approach to the topic as one justification for selection, while a personal connection or the presence of primary source material (quotes from people involved in the study) were listed by a few students as factors that influenced their selection of a given article.

Discussion

The majority of students in these instruction sessions were able to utilize keywords derived from their respective topics to locate at least one peer-reviewed article for their research, as well as provide some sort of justification for why they selected the article they listed on the Google Form. Searching for and

Assessment 2020 @ HSU Library

evaluating sources align with two frames of the Association of College and Research Libraries (ACRL) Framework for Information Literacy for Higher Education: Searching as Strategic Exploration and Authority is Constructed and Contextual (Association of College & Research Libraries). The data shows that in the short-term, the students were able to search for and evaluate sources that met their respective information needs. The responses to the questions regarding what was most helpful in the session and what remaining questions they still had reveal areas where future instruction sessions can focus. However, this will take careful consideration as the literature stresses the fact that one-shots are limited in how much content can adequately be covered in a single session.

The time constraints posed by one-shot information literacy sessions led to a change in assessment tools from Spring 2019 to Spring 2020. The Spring 2019 assessment utilized pre and post tests that were administered at the beginning and conclusion of each instruction session. This assessment method proved challenging for a number of reasons. The pre and post tests consumed valuable instruction time, particularly in sessions that were limited to 50 minutes in length. Additionally, the pre and post tests incorporated multiple choice questions. This leaves open the possibility that guesses were submitted on the pre and post tests, thereby ineffectively measuring student learning between the start and end of each session. It should be noted here that while the Spring 2020 assessment focused exclusively on finding peer-reviewed articles, the Spring 2019 assessment included other topics including finding grant opportunities. The Google Form used in the Spring 2020 assessment did not consume valuable time at the beginning and ending of class. Rather, the form complimented the instruction instead of serving as an independent tool administered at the start and conclusion of the session.

There remains the question of changes in the information-seeking behavior of the students beyond the individual instruction session. The data shows that within the class period the students could find and evaluate at least one article to determine if it would be of use to them for their research topic.

One factor that needs to be explored further is the time at which a subsequent or multiple subsequent measures of student learning would be administered. Information literacy instruction is requested by faculty at different points in the semester based on course design. Instruction sessions with a librarian are typically held right before the issuing of an assignment that incorporates information literacy. The sessions from which data was gathered for this article took place between the third week of the semester through the eighth week of the semester. For future studies, it will be important to consider where additional assessments beyond the one administered at the conclusion of the instruction session are integrated into the course design. Such assessments should measure the retention of skills gained during the instruction session while also considering how the skills are applied to other assignments in the course.

Next steps

This study is limited in the ability to measure long-term retention of information literacy skills. While students may have been able to demonstrate the immediate ability to locate and evaluate peer-reviewed research articles, a question of the value of the information literacy sessions in the weeks and months following the session remains. The librarian that conducted this assessment is interested in working with classes and faculty in the future to have an in-class assessment followed by at least one additional

Assessment 2020 @ HSU Library

assessment later in the semester. This second assessment would, ideally, measure the students' retention of the skills developed in the session while also measuring the application of the skills to needs beyond the assignment for which the initial information literacy instruction was provided. Alternatively, a collaborative assessment with the faculty member would afford both the teaching faculty member and librarian an opportunity to measure the impact of the instruction session on student learning. One such opportunity could be to evaluate the bibliographies submitted for the assignment that the information literacy instruction was provided for. Both the librarian and teaching faculty would gain insights on students' abilities to find and evaluate information sources, as well as whether additional information instruction is needed for student success.

The assessment conducted in these one-shot instruction sessions cannot measure long-term retention of information literacy skills, hence the need for additional assessments. .

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Assessment 2020 @ HSU Library

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Appendix: Spring 2020 Google Form Questions & Prompts

1. What is your research topic?
2. Enter the keywords that you will use to search for peer-reviewed journal articles on your topic
3. Using *Social Sciences Full Text**, submit the permalink for an article that you will use for your research. The article must be peer-reviewed, and published within the last 10 years.
4. Provide a short explanation for why you selected this source for your research. Why do you feel the source would be appropriate for your topic?
5. Please rate your confidence to locate peer-reviewed articles for this current assignment and future assignments on a scale of 1-5 (1 being not confident, 5 being confident)
6. What did you find most helpful about today's session?
7. What do you still have questions about?

*- Indicates a variation in the form for each class. Depending on the course, a different database was chosen to reflect the area of study.