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DEVELOPING A TASTE FOR SCHOLARLY COMMUNICATION: TEACHING "SCHOLARSHIP IS A CONVERSATION" THROUGH POSTER SESSIONS

SILVIA VONG AND VINCCI LUI

INTRODUCTION

Typically, the teaching context for librarians teaching information literacy skills to students is within a classroom environment. Librarian efforts are more often than not devoted towards tailoring workshops to course-related assignments or essays, particularly for undergraduate students. But as more undergraduates are engaging in research projects and research assistant work outside of classroom walls, they also find themselves venturing into an alien research landscape, often without fully understanding how they got there. No longer the exclusive domain of graduate students and upper-year undergraduates, undergraduates are becoming producers of knowledge, but still need help to effectively communicate their scholarly contributions and better understand their role in research culture.

One way to engage with students within the context of these scholarly extracurricular pursuits is to provide them with the means to showcase their research. At the University of Toronto, undergraduate students engage in research activity through the Research Opportunities Program, as well as seek work as a departmental research assistant. In 2013, the Collaborative Learning Librarian partnered with the Principal at St. Michael's College to establish the St. Michael's College Undergraduate Research Forum, a poster session event to engage undergraduate students more deeply in research culture. Since many poster session participants were new to the conference experience, a workshop on the research life cycle, presentation skills, and poster design skills was developed with a Faculty Liaison & Instruction Librarian at the Gerstein Science Information Centre to prepare the poster session participants. In 2014, the Association of College and Research Libraries (ACRL) introduced a new Framework for Information Literacy for Higher Education (ACRL, 2015), introducing several new threshold concepts, including "scholarship as conversation," and "research as inquiry."[1] These concepts were integrated into the workshops for the 2015 poster session event.

The workshop and poster session in this particular study employed the use of inquiry-based learning and experiential learning strategies, making a connection between "scholarship as conversation" and students' experience disseminating their research in an authentic environment. By making a connection between the concepts and an authentic experience, students can engage and learn the information literacy concepts more effectively. Fink (2003) writes:

> If we can find ways to identify and create learning experiences that students and others can agree are truly significant, we will have made important progress in our effort to improve the quality of higher education... in a powerful learning experience, students will be engaged in their own learning, there will be a high energy level associated with it, and the whole process will have important outcomes or results. (pp. 6-7)

This study aimed to assess how effective the poster session experience and supporting workshop are as methods of helping undergraduate students grasp certain scholarly communication-related threshold concepts.

UNDERGRADUATES AND SCHOLARLY RESEARCH INTERSECT: A LITERATURE REVIEW

From lab work to conference participation, undergraduate students are no longer mere consumers of information, but are increasingly becoming producers themselves. This growing role in undergraduate education is an opportunity for librarians to teach students about scholarly communication in relation to information literacy. ACRL's white paper, *Intersections of Scholarly Communication and Information Literacy: Creating Strategic Collaborations for a Changing Academic Environment* (2013) discusses the role of the students and librarians with information literacy and scholarly communication in the context of a changing publishing and technological landscape. In addition, Stamatopolos (2009), Davis-Kahl (2012), Hensley, Shreeves and Davis-Kahl

(2014) identify the need and opportunity for academic libraries to support undergraduate students, and develop partnerships with undergraduate research programs or faculty. Hensley (2013), Jones and Canuel (2013), and Davis-Kahl, Fishel and Hensley (2014) discuss how undergraduate students are becoming more engaged in research culture and the need for support, including the need to educate undergraduate students about topics such as copyright and publishing.

METHODOLOGY

Study Design

This study used a single group pre-test/post-test design, implemented during a mandatory 1-hour workshop delivered two weeks before the research forum. The workshop focused on the research information cycle, conference culture, and poster presentation skills, and also used an inquiry-based learning group activity, which asked students to piece together and explain the relationship between various elements of the information cycle (e.g., journal article, news article, thesis, grant, presentation, etc.).

Before the workshops, students were recruited through e-mail to confirm their interest in study participation. Students were informed that they would complete a pre-test, a post-test, and a workshop feedback survey. The pre and post-test are adapted with permission from Peter Davies and Jean Mangan, who developed the threshold network exercise (Davies & Mangan, 2013). When students arrived at the workshop, the students that agreed to participate in the study signed a consent form. They were then given a sheet with threshold concept definitions and asked to completed a paper pre-test, which asked students how their poster session related to the information literacy concepts, to identify troublesome concepts and, if they did not understand the concepts, who they would consult [Appendix A]. A few days after presenting their research at the poster session event, students were emailed an online post-test to complete. As an incentive, students were offered a $10 gift card for Starbucks or Tim Hortons to complete the post-test. The post-test data was collected through SurveyMonkey. The answers were graded and coded, and the ACRL Information Literacy Framework dispositions were used as categories to examine students' answers. Names were removed from the submissions and replaced with numbers to protect the identity of students.

RESULTS

There were 7 out of 13 students who consented to participating in the study. Students' level of classification was distributed across all four years, with over half in their third and fourth years. With the exception of one humanities student, the participants were all enrolled in a science-related program. In the pre-test, students were asked to identify relevant threshold concepts, and discuss how these concepts connected with the poster presentation. Most students identified "scholarship is a conversation" and "research as inquiry" while a few identified "authority is contextual and constructed" and "information has value," or indicated they did not understand how the concepts connected with their research poster.

Figure 1: Threshold Concepts Identified in the Pre/Post-Test
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The post-test results showed an increase in the identification and discussion of "scholarship is a conversation" and "information has value." Notably, identification of "research as inquiry" remained the same from the pre and post-test, with one exception: in the post-test, one participant added "research as inquiry" while one student removed "research as inquiry." The one student that removed "research as inquiry" noted that they had some trouble connecting the threshold concepts with the experience. In the pre-test where students were asked to explain each concept in relation to their research and the presentation of their research, two students were not able to identify, understand, or make connections to the presented threshold concepts. In addition, during the pre-test, the threshold concept that proved to be challenging for all the students was "format as process." Many could not identify a connection or wrote that there was no connection. While students indicated that the description of the concept made sense, they could not connect it to their poster session experience.

Figure 2: Seeking Help with Threshold Concepts
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Students were asked to reflect on what they learned by identifying their level of understanding in the pre and post-test. When students were asked, "Do you understand why the concepts were relevant?" in the pre-test, 3 out of 7 students indicated "partly" while the rest of the students identified "yes." In the post-test, those that indicated partial understanding of the concepts' relevance replied "yes." The students were then asked who they would consult if they were to seek help with the threshold concepts: a librarian, T.A., or practice with more exercises. Answers to this question were mixed, with most students checking off "no," as in they would not seek help from a librarian, T.A., or complete more practice exercises. In the pre-test, only 2 students indicated that they would seek a librarian for help with threshold concepts; however, after the workshop and poster session, the post-test showed a marked increase, with all study participants indicating that they would seek help from a librarian (see Figure 2).

DISCUSSION

Figurative and Literal Conversations

"Scholarship is a conversation" really stood out as a threshold concept. Notably, the two students that could not connect any threshold concepts in the pre-test came to identify "scholarship is a conversation" in connection with their research poster in the post-test. A majority of the students that did identify this concept in the post-test often referenced the idea that "they are often entering into an ongoing scholarly conversation and not a finished conversation" (ACRL, 2015). For example, one student wrote:

> My project adopted "scholarship is a conversation" approach in a way since conflicting theories exist in the field […] using the available literature I was able to develop my own theories to further contribute to the current knowledge that exists.

Interestingly, some students interpreted the experience as a literal conversation with other scholars to discuss research:

> While talking to one of the judges I found out that he uses a similar protocol (with a few variations) in his lab, [to] that we used in our lab. It was really interesting to see the wider implications of my work and how it relates to many other projects in the field of health care.

Whether students discussed the figurative or literal concept of "scholarship is a conversation," students connected the most with this concept in relation to sharing their research through poster sessions.

From Consumer to Producer

In the pre-test, only two students identified "information has value." However, by the end of the workshop and poster session, 5 out of 7 students described this threshold concept. The common disposition described by students was that they saw "themselves as contributors to the information marketplace rather than only consumers of it" (ACRL, 2015). The value that students placed on their research and the increase in confidence was clearly outlined in the post-test. One student wrote, "I felt that spreading my findings helped some people think of things in a different way." The particular student saw themselves as a part of the field and identified the value of their research in their field. The students that did identify "information has value" referred to their work as contributing to the topic. The poster session gave students the opportunity to explain their research to faculty with experience in publishing and producing research in their field. Moreover, student comments indicated that the judges' interest in the students' research also helped to build their confidence.

Troublesome Knowledge

There were two types of troublesome knowledge that emerged from the reflections. One student described the notion of "conceptually difficult knowledge" in their reflection. It refers to the idea that students have trouble grasping a concept, which means that students can misinterpret or not understand the concept. There were two students that could not identify threshold concepts, with one student writing, "I still find myself having trouble understanding the majority of the concepts. The wording is challenging and I am unfamiliar with the vocabulary used to describe them. Explaining each concept in simpler terms would be more effective."

The other type of troublesome knowledge that emerged from the reflections was "foreign or alien knowledge." It is when a student's "perspective conflicts with their own [knowledge]" (Perkins, 2006, p. 39). Some of the students described their frustration with particular concepts in relation to their specific context. For example, one student wrote in reference to authority is contextual and constructed:

> [It] seems to be one of the more confusing topics since I initially did not understand what it meant. It could mean that my research is as good as any top-ranking scientist as long as we follow the scientific method honestly and responsibly. It could also mean that I need to verify and continuously challenge the existing knowledge rather than accept it.

Learning is not an event, it is a process. Since these students were introduced to the ACRL information literacy threshold concepts for the first time, it is expected that some will experience some type of troublesome knowledge. It is interesting to note that Format as Process/Information Creation as Process did not emerge in the students' responses. The possible reason for this may be that academic papers and academic posters are produced for an academic audience. The pedagogical literature on threshold concepts indicates that the concepts are meant to be learned over a period of time through exercises, deep reflection and connection to students' experiences; for example, a potential exercise to illustrate the concept of Format as Process further may be to ask students

to take their posters and produce a short blog post on their research and ask them to compare the purpose and creation process of each.

CONCLUSION

Given the expanding scholarly landscape of undergraduate students, and the introduction of the new ACRL Information Literacy Framework, this study's goal was to explore which threshold concepts might be learned through the experience of a library-run poster session and supporting workshop.

The combination of inquiry-based activities, reflective exercises, and hands-on experience helped to strengthen students' understanding of threshold concepts. By presenting the concepts in different settings throughout the experience, students with different learning preferences were able to connect to the threshold concepts "scholarship as conversation" and "research as inquiry," as well as a few others. In addition, the reflective exercises helped students think more deeply and critically about their experience and how the threshold concepts connected with their work.

The ACRL document, *Intersections*, discusses the changing landscape and the role that teaching librarians and scholarly communication libraries play in educating students: "We can no longer expect that only instruction librarians with special training in teaching will forward the library role in education, and librarians with experience in scholarly communication will forward the library's role in the changing nature of scholarship" (2013, p. 16).

With many undergraduate research programs in multiple disciplines now allowing students to conduct research and produce research papers or posters, librarians have more opportunities to teach students threshold concepts within a more relevant context, as well introduce scholarly communication topics, including research dissemination methods, intellectual property rights, and types of publishing models. The implementation of a research poster session and supporting information literacy workshop provides librarians with one such valuable opportunity to teach scholarly communication-related information literacy threshold concepts.

NOTE

1. The authors designed and implemented the study during the time of the draft ACRL Framework. They acknowledge that the final document has slight changes to the threshold concepts (e.g., format as process to information creation as a process).

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APPENDIX A

How will your poster make an impact on research? Identify relevant information literacy concepts from the below list in answering the question and explain why they are important in this context.

Scholarship is a conversation refers to the idea of sustained discourse within a community of scholars or thinkers, with new insights and discoveries occurring over time as a result of competing perspectives and interpretations.

Format as Process refers to the way tangible knowledge is disseminated. The essential characteristic of format is the underlying process of information creation, production, and dissemination, rather than how the content is delivered or experienced.

Searching as Exploration refers to the idea that locating information requires a combination of inquiry, discovery and serendipity. Discovery is nonlinear and iterative, requiring the use of a broad range of information sources.

Research as Inquiry refers to an understanding that research is iterative and depends upon asking increasingly complex questions whose answers develop new questions or lines of inquiry in any field.

Authority is Contextual and Constructed refers to the idea that authority of information resources depends upon the resources' origins, the information need, and the context in which the information will be used.

Information has Value acknowledges the creation of information and products derived from information requires a commitment of item, original thought, and resources that need to be respected by those seeking to use these products.

Association of College and Research Libraries (ACRL). (2015). *Framework for Information Literacy for Higher Education*. Retrieved from http://www.ala.org/acrl/standards/ilframework

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Explain:

Reflection

	Yes	Partly	No
1. Did you identify relevant threshold concepts?			
2. Do you understand why the concepts were relevant?			
3. Do you understand why the concepts were important?			

If your answer is No or Partly to any of the above, which of the following do you now intend to do to improve your understanding?
1. Ask for guidance from a librarian?   ☐

2. Ask for guidance from my teaching assistant (T.A.)?   ☐

3. Work through some more example questions?   ☐

Which concept was troublesome or challenging? Why?

Adapted from "Threshold network exercise" by P. Davies and J. Mangan, 2013, *Threshold concepts in economics: Implications for teaching, learning, and assessment*, pp. 29-32. Adapted with permission.

Images for Tables and Figures (Editor will put in body of the text later)

Figure 1 Participants' Identification of Information Literacy Concepts in Connection with Poster Sessions
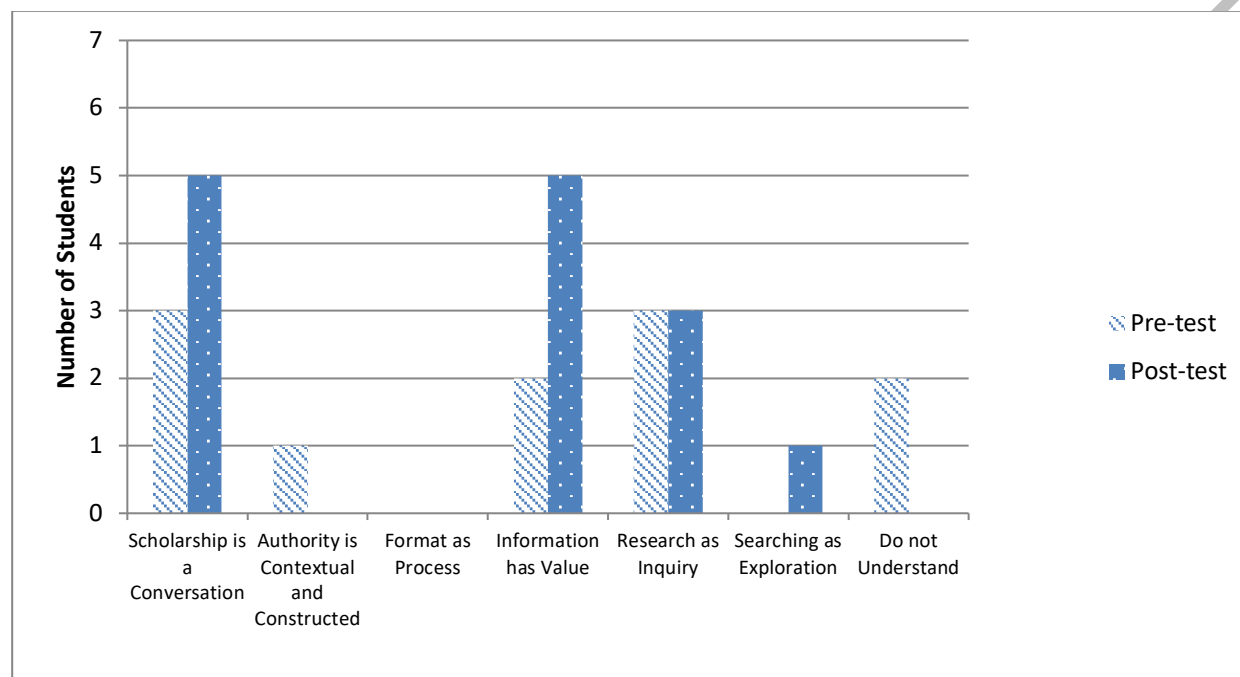

Figure 2 Participants' Preference in Seeking Help with Information Literacy Concepts