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Scaffolding Self-Direction with the ACRL Framework: A Reflection-Based Approach

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Abstract

This case study reports on the information literacy component of a pilot first-year-experience course, U1X, at Concordia University. Based on the ACRL Framework for Information Literacy for Higher Education, the information literacy component of U1X was designed to encourage self-direction.

Through exploring the university's larger research mission, the module aimed to shift the emphasis from "how to do research correctly" to viewing research as a personal endeavour in which the researcher cultivates the skills necessary to make a meaningful contribution. It encouraged students to reflect on what they could contribute and the skills they would need to do so.

The design of this module aligned with the U1X syllabus, which included as learning outcomes that students gain an understanding "of the University's research mission at its highest level" and "of the relationship between research and citizenship." The module took a similarly "big picture" approach, while also looking at students' personal development through reflection. This paper will explore the challenges and opportunities of this approach.

Keywords

ACRL Framework; threshold concepts; self-direction; reflection; first year experience

Introduction

This case study reports on the information literacy component of a pilot first-year experience course, U1X, at Concordia University. Based on the Association of College & Research Libraries (ACRL) Framework for Information Literacy for Higher Education, the information literacy module was designed to encourage self-direction.

Through exploring the university's larger research mission, the module aimed to shift the emphasis from "how to do research correctly" to viewing research as a personal endeavour in which the researcher cultivates the skills necessary to make a meaningful contribution. It encouraged students to reflect on what they could contribute and the skills they would need to do so.

The hope was that situating students at the centre of their own research and within the context of the university's larger research mission might make them less inclined to take shortcuts and more motivated to develop scalable research processes, choose meaningful topics, conduct thorough literature reviews, and cite responsibly.

The ACRL Framework is based on six concepts identified as essential to being effective "consumers and creators of information" (2015, p. 8). They are:

- Research as Inquiry
- Scholarship as Conversation
- Searching as Strategic Exploration
- Authority Is Constructed and Contextual
- Information Creation as a Process
- Information has Value

For each concept, a set of related knowledge practices and dispositions is provided. A disposition is an "affective, attitudinal, or valuing dimension of learning" (ACRL, 2015, p. 8). The framework names self-direction as an overall goal rather than a disposition associated with one particular concept (ACRL, 2015, p. 8).

The authors of the ACRL Framework write that it "is not intended to be prescriptive but to be used as a guidance document in shaping an institutional program" and thus may be adapted by libraries to suit their situation (ACRL, 2015, p. 25). As such, the design of the U1X module followed the lead of the U1X course syllabus, whose learning outcomes included students gaining "a deeper understanding of the University's research mission at its highest level" as well as "an understanding of the relationship between research and citizenship." The content provided by the library took a similarly "big picture" approach to the research landscape, while also looking at students' personal development through reflection.

This case study represents a first attempt by the author to plan an information literacy module based on the ACRL Framework, with a dispositional learning outcome in mind. It was not perfect. However, instruction librarians may benefit from the opportunity to reflect on the dispositional learning outcomes they may wish to emphasize in their

practice. The ACRL Framework is a valuable tool for considering and formulating such outcomes.

In accordance with the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans, research conducted at Concordia University for “quality assurance or quality improvement studies [or] evaluations” is not subject to ethical review, regardless of intent to present results at a conference or in an article (Concordia University, 2012). This is a reflective paper and anonymized interview material is provided for consideration rather than as qualitative data. Quotations provided in this article are from semi-structured interviews conducted post-course and the interview question script is included in Appendix A. Participants were informed that quotes could be used anonymously in presentations or articles.

Although the authors of the ACRL Framework refer to the relevance of the affective dimensions of the researcher (ACRL, 2015), there is not a lot of information literacy literature that directly measures or addresses affective qualities. George and Foster (2013) argue that maturity sets successful student researchers apart from their peers (p. 97), while Matteson (2014) states that there is a correlation between emotional intelligence and information literacy scores.

Students in U1X explored affective components of academic success through their contact with Concordia’s Student Success Centre, where they participated in assessment activities that explored their strengths and weaknesses. It is typically centres like these, rather than the library, that universities task with addressing the “whole student” (Matteson, 2014), including the cognitive, emotional, social and cultural aspects of the self. However, there are many ways in which information literacy is an aspect of overall student maturity.

Whitmire (2003) compares several models of epistemological development, each of which places at its apex the concept of knowledge as being either contextual or constructed. Can a critical look at the information landscape prompt first-year students towards this higher stage of personal epistemology? Can it give them a head start on the intellectual maturity required for critical reading and critical self-reflection?

Similarly, George and Foster (2013) find that the degree of commitment and personal interest that students have in their research contributes significantly to their success (p. 97). Could supporting first-year students to establish a personal research question, as they would do in U1X, give them a head start in developing self-direction, which might in turn prompt them to build the skill set required to contribute meaningfully during their studies and careers?

Foster (2013) explains that expert researchers see themselves as part of a network of scholars, while novice researchers may not yet have made the connection between the research literature they encounter and the people who publish it (p. 72). Could introducing first-year students to expert researchers in person, as the U1X course did, promote a greater sense of connectedness? Could introducing new students to this

atmosphere of community encourage them to approach their assignments with greater interest, confidence, or sense of responsibility?

The introduction to the ACRL Framework identifies metacognition and critical self-reflection as components of self-direction (ACRL, 2015, p. 8). Education literature employs similar concepts and terms to express cognitive and affective aspects of self-direction, such as self-authorship (to define one's own beliefs and identity) (Baxter-Magolda, 2007, p. 69) and personal epistemology (one's perspective of where knowledge comes from) (Hofer & Bendixen, 2012, p. 227).

The U1X information literacy component was designed by the Teaching & Learning Librarian to help students cultivate their skills in metacognition, critical self-reflection, self-authorship and personal epistemology. This may seem like a tall order, but in this case represents a modest change of emphasis on the part of the library. This paper will share reflections on the outcomes resulting from this shift in approach.

Description of Course and Information Literacy Module

Concordia University has a total undergraduate enrollment of more than 37,000 students (Concordia University, 2019). U1X was a pilot first-year-experience course taught during the winter 2016 semester. Approximately 25 students participated in the course, from a range of disciplines. Although this project was spearheaded by the Office of the Vice-Provost, Teaching & Learning, stakeholders from Concordia Library and Student Success Centre were invited to participate in the development of the course alongside the course professor and teaching assistant (TA). The author, the Teaching & Learning Librarian at Concordia Library, developed information literacy content in consultation with this team.

During this semester-long course, the Teaching & Learning Librarian gave four workshops, assigned pre-readings and "viewings" for students to consider before each workshop, and assigned reflections for them to complete afterwards. These were organized as modules on the course's WordPress site. Outside of the information literacy module, the course featured class visits to many of Concordia's "research units," which are leading-edge research teams, often organized around particular interdisciplinary issues, such as the Centre for Zero Energy Building Studies, the Technoculture, Art and Games Research Centre, and the Montreal Institute for Genocide and Human Rights Studies.

Course assignments designed by the professor and TA encouraged students to examine the research units and themselves, as well as reflect on their learning experience. Specific assignments included:

- Creating a personal research profile on the course's WordPress site;
- Developing a wiki profile for one of the research units they visited;
- Documenting their self-directed, experiential learning through blogging;
- Delivering a final project lightning talk to practice their communication skills;

- A final project that could be any expression of what students had learned in the course, from an essay to an app to everything in-between.¹

Inspired by both the self-focused approach taken in the non-library course content and the ACRL Framework, the library component of the U1X course was reflective. It was designed to encourage students to identify the skills they would need to become expert researchers and contribute to the greater research community they were encountering during their research unit visits. Below follow details about some of the activities employed during the information literacy workshops to stimulate students' reflections on their skills, the research endeavour, and the information landscape, as framed by the ACRL threshold concepts.

Research as Inquiry

To illustrate the concept of "Research as Inquiry", the Teaching & Learning Librarian shared quotes from Project Information Literacy (Head & Eisenberg, 2010), wherein students described the challenge of choosing a research question and getting started. The class discussed ways in which they related to the students quoted in the study. They were also read a quote about how the research process unfolds for experts: "One starts from ill-formed general ideas, follows initial leads amid great confusion, and finally ends with a clear and important piece of research" (Abbott, 2014, pp. 14-15).

The librarian framed research as a "voyage into the unknown" to address the anxiety common to students beginning a new research project. Emphasis was placed on the inherent uncertainty in choosing a research question and a plan for its exploration because there is no right answer and researchers must choose their own path.

After this workshop, students were asked to respond to the following questions in their blogs:

- What are the characteristics of a good research question?
- What is your process for developing a research question?
- Are there ways you could improve this process?

Scholarship as Conversation

The librarian evoked the concept of "Scholarship as Conversation" with a demonstration of a Google Scholar search for one of the Concordia professors the students had encountered in their research unit visits. The class explored the themes in her research, as well as her own description of her research interests, as written in her faculty profile.

By collectively exploring the publishing history of one researcher and her self-described research focus, the students were prompted to consider how research is driven by personal interest and experience, along with other contextual factors. This point was further illustrated to students when they visited research units and asked researchers

¹ Course syllabus available at: <http://u1x.concordia.ca/>

questions such as “how did you come to focus on this area of study?” In the research unit visit that the librarian attended, there was a personal component to the answer they received.

Following up on the concept of “Research as Inquiry,” the librarian also emphasized how a literature review is one of the tools students can use to set their course. Reviewing existing literature—and situating one’s research within it—provides structure and direction to the inquiry process, reducing the uncertainty inherent to the research process. It also ensures the relevance of research, which ultimately needs to be shared with the larger academic community and society. The author also discussed how researchers communicate with their colleagues in research partnerships, grant applications, and conference presentations, as well as in published works.

After this workshop, students were asked to respond to the following question in their blogs:

- What does it mean to participate in the scholarly conversation?

Searching as Strategic Exploration

For this concept, different classification systems used to organize information were demonstrated briefly, including NAICS, MESH and the Canadian census geographical hierarchy. Students were shown how these systems are used in databases. They were also shown a Google promotional video that explains broadly how Google’s search algorithm works. The class discussed the difference between controlled searching in a database and relying on a Google algorithm.

The librarian also “quizzed” students about who might have gathered or published a statistic or other type of information, such as a news agency, a government, a commercial research organization, a non-profit, or an academic researcher. In this way, they explored how familiar they and their peers were with the information landscape and publishing processes. This discussion shifted the centre of research from keywords in a box to students’ own knowledge of the world and of publishing processes, allowing them to be more strategic when searching for information. Here again, the author sought to put students at the centre of their research process. This activity also broadened the students’ understanding of searching from the basic skill of using Boolean operators to how an expert researcher might approach the search process.

After this lesson, students were asked to respond to the following questions in their blogs:

- What skills or knowledge does one need to be effective in searching for information?
- Do you have the skills and knowledge that you need?

Information Creation as a Process/Authority as Constructed and Contextual

For these concepts, students read an article from *The Atlantic* entitled “A Scientific Look at Bad Science: What Recent Research says about Fraud, Errors, and other Dismaying Academic Problems” (Lam, 2015). They were also briefly shown the website “Retraction Watch” (<https://retractionwatch.com/>) to highlight that the peer-review process is not perfect.

Students also completed an online “quiz” which presented several online documents on the topic of street harassment and asked them to determine whether they were scholarly articles, and, in either case, whether they were appropriate for academic research. This started a conversation about how information gets its credibility from the process by which it was created and how different formats of information suit different information needs. The topic also lent itself well to considering who has authority to speak on different topics and when personal accounts might be academic sources.

Students in the U1X class were savvy when it came to questioning authority and identifying the privilege of some voices over others, but the notion of establishing authority through process, particularly in the context of academic research, was new.

The librarian positioned “process” as part of a student’s compass on their voyage into the unknown, similar to the literature review, as a tool for managing the uncertainty of the research endeavor. Every discipline has established frameworks and methodologies that can be used to plan the process, and the credibility of one’s research comes from this process. It was hoped that students would recognize the need to develop processes that are scalable to more complex projects they may wish to pursue as they progress in their studies, as opposed to taking shortcuts.

After this lesson, students were asked to respond to the following questions in their blogs:

- How do you decide whether the sources you find are authoritative/reliable?
- What steps can you take to ensure the reliability of your own research?

Information Has Value

This activity was ultimately abandoned to provide more time for students to talk to their instructors about their assignments. However, the librarian originally intended for students to work in groups to summarize the content of a set of articles related to the politics or economy of information. Titles included “Harper’s Attack on Science: No Science, no Evidence, no Truth, no Democracy” (Linnit, 2013); “Canada’s Long-form Census is Back for 2016” (Campion-Smith, 2015); “Yes, We were Warned about Ebola” (Dahn, Mussah & Nutt, 2015); and “Who’re Ya Gonna Call?: Not the Corporate University” (Schafer, 2005).

“Information has Value” is something about which participating students seemed relatively informed, suggesting that further discussion could be set aside until later

academic levels. However, future workshops might pay more attention to copyright and citation, which were only briefly addressed by the librarian.

Reflection

Co-constructing through Conversation

The conversational/reflection-based approach of the library's contribution to U1X provided an opportunity for students to share what they knew, and together with the librarian build an understanding of the big picture. The librarian learned more about students than from any other teaching experience, and this provided an opportunity to co-construct. Students in U1X had a lot to learn about scholarly research and publishing processes but showed a fair amount of awareness when it came to political, social, and economic aspects of information, which can provide rich territory for making connections. For example, here are one student's free-ranging thoughts on the threshold concept "information has value," taken from a post-course interview:

Information has value in different senses. If we look in the fields of chemistry and medicine, research has a very real monetary value ... There are a lot of people who make money off of what other people don't know ... And when you get into higher levels of university that's when you learn when you read new research look at who funded it ... there's blues songs that existed for so many years and then all of a sudden someone did it and their record label copyrighted it and so now no one else can play that song anymore ... people who are in positions of power to begin with ... they benefit both from their economic or demographic advantages.

During class discussions, students shared their thoughts on phenomena such as filter bubbles and showed an impressive awareness of where different types of information – such as industrial, academic, or governmental – come from. Googling to organizational websites may, in its haphazard way, provide students a sense of the information landscape. On the other hand, perhaps this was a particularly well-informed group. In any case, the design of the U1X module allowed for students to share their information landscape and for the librarian to share hers. There was learning on both sides.

Connecting with Expert Researchers

The most meaningful information literacy experience for students in the U1X course was embedded in the visits to Concordia's research units, arranged by the professor and TA, rather than the librarian. In one student's words:

I would say dealing with the people in the research centres was the best turning point and discussing with the classroom as a whole about these researchers ... I was able to learn more about research in general and how it actually works, that it's not always successful but it's always a work in progress ... we don't just go "oh, I just found this out!" It's through inquiring, and making the proper

experiments, hypotheses, and going and searching through what you think is possible or what is not possible.

In addition to providing students the opportunity to imagine themselves in the shoes of the researchers they met, these visits may have also helped students to see, as Alpi and Hoggan (2016) suggest is important, that their instructors and the authors whose research they read don't necessarily know all of the answers either.

What about Practical Application?

In debriefing on the course experience, the instructor, the TA, the author and the students interviewed post-course, all agreed that students would have benefitted from a more concrete opportunity to practise academic research. As one student put it:

All the stuff that's like research is an inquiry, scholarship is a conversation, it's like "oh that's so lovely, but I have to finish this paper now, because I have two more lined up," you know. And then it just kind of becomes that extra thing you have to learn and do... the more you can tie it to what people already have to do, I think that would be a lot more strategic.

The sample activities and discussions above do not mention the traditional skills that were also included in the module, such as choosing a topic and using Boolean operators, but these were taught through a combination of videos and brief review. The connection between these skills and the students' assignments may not have been sufficiently direct.

For the librarian's part, building a grading rubric around the threshold concepts was challenging. This may be the result of having tried to cover too many concepts, or trying to cover each discretely. It might also be attributed to the focus on a dispositional learning outcome. There were a lot of dotted lines at the start of rubric development as attempts were made to separate overlapping outcomes. In the end, a conversational/reflective approach was chosen because there was no other obvious measure of changes in student disposition apart from asking them to reflect on themselves. This took time, and may have crowded out more practical application of skills. Hayes-Bohanan and Spieveck (2008) argue that it is not usually enough to explain or describe concepts to students, or hope that they will learn something incidentally, and apply it to their own work. In future iterations of the course, more practical application of research skills will be included in response to the author's own observations and those of students and faculty.

One way to balance both practical and dispositional outcomes is to have students work on a "big project." The professor, TA, and librarian agreed that for future iterations students would need a more concrete opportunity to practice their academic research skills—perhaps through a combination of their "Personal Research Profile" and a well-scaffolded annotated bibliography. The annotated bibliography is not a particularly fresh idea, but students have remarked on its value in exploring different perspectives (Dubicki, 2015). Students could also write a group paper, contribute to a student-based

academic journal, publish Wikipedia articles, develop a podcast, or work together to address a “wicked” problem, whether it be social, environmental or other. There are many ideas reported in the literature on first year experience courses.

Dempsey and Jagman (2016) managed to assess several threshold concepts in a simple activity whereby students retrieved a resource from the library, and wrote about the experience. Trying to assess each concept discretely through separate assignments was cumbersome, and led to a perhaps overly reflective approach.

Going Public

“Going public” was a core component of Concordia’s U1X course. In this context, it referred to students creating eportfolios in WordPress, blogging about their experiences, creating wiki articles about the research units they visited, and publicly sharing their final assignments. Several librarians have reported on the positive impact of “going public” on student work.

Students in a Pomona College course “went public” by completing unfinished Wikipedia articles as an experience of authorship. One of the participating students reported that, “[i]t felt more real that other people will be reading us besides just our group and the teacher ... It makes us feel more obligated to do a good job and present the facts in an unbiased way” (Gordon, para. 5, 2014).

Jacobson and O’Keeffe (2014) had students create a website that classmates could use as a topical resource guide, then complete related individual projects using web-based social media tools (p. 28). Jacobson and O’Keeffe report that students felt empowered by the experience.

Similarly, Alfino, Pajer, Pierce and Jenks (2008) reported that students who shared their work with peers on social media showed evidence of knowing the arguments of their fellow students, having had conversations with them, and having thought about how their arguments were developing in relation to those of their peers. Their professors reported that students in the class exhibited a higher quality of work than in past semesters (p. 97).

Providing such opportunities to share their work is a great way to create a space for students to think about their voice beyond the grading rubric, as a way to contribute to the university community and as citizens. To embed such opportunities in a meaningful “big project,” where students use their creativity, critical thinking and research skills, would be the goal for future iterations of this course. While it is not possible to do everything in one course, a balance between conversation, reflection and a challenging project that allows students to learn from experience should be achievable with thoughtful planning and a smaller set of learning outcomes. For example, students could submit one reflection at the end of the project, rather than reflect throughout.

Conclusion

Many factors contribute to the arc of a student's intellectual and emotional development, including mentors, assignments and experiences inside and outside of the classroom, as well as a factor that has nothing to do with our teaching—time. Students are changing every day in their internal and social lives. However, there is room in the library literature to explore ways to scaffold such dispositions as self-direction by teaching with the “whole student” in mind. There is also room for development in the U1X information literacy module to adjust and expand the approach, particularly through adding practical application of concepts and skills. Student blog reflections suggest that something in the balance worked:

Thank you for coming in and teaching us about scholarly conversations, the wild world of Google ... role of serendipity in research, citing, how to find a needle in a haystack when it comes to information, how to watch out for plagiarism and finally how to encourage sustainable research practices. When reading this, I only now realize how much information you provided for us and how you made it seem less overwhelming.

Teaching from the ACRL threshold concepts provided a framework both for discussing the big picture and students' place within it. This case study proposes this as a starting point for giving students the opportunity to reflect on themselves as independent learners and contributors, along the continuum from novice to expert researchers—in the hope of prompting them along the path of self-direction. There is room to develop, and hopefully more instruction librarians will experiment with scaffolding dispositional learning outcomes and share their ideas and insights.

Addendum

In a collaborative meeting on plagiarism that I attended with various representatives of Concordia University, one professor suggested that plagiarism finds its source in the way in which the university asks students to perform. This conversation was on my mind as I wrote this paper. Is there another way for the library to address students? Students need the library to provide point-of-need help to find information and to provide streamlined access to print and online material from individual or consortial collections. Do we also have a role in other aspects of their development? As with all educators, there needs to be some scope to our practice. But likewise, our presence in their educational process gives us a role whether we choose it or not.

Learning to live one's own life according to one's own values is a developmental task that students approach from different positions when they enter university. Some have been setting their own direction as long as they can remember, others have been striving to complete the tasks set for them by teachers, parents, and coaches. Others might feel themselves quite lost. As educators, we also find ourselves at different points of this lifelong journey. Perhaps to acknowledge this is a starting point for shifting students' perspective towards one of increased self-direction, and for us as educators to consider our role.

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Appendix A

Threshold Concepts Interview Preamble and Questions

Thank you again for volunteering for this interview. Before we begin, I will explain how this works. I have four questions that I am going to ask all of the students that I interview, but I may prompt you with more questions as we proceed. You can stop and ask me for clarification at any time.

Also, I am planning to record this interview, but if you wish for me to take notes instead, I can do that. Your name will not be attached to either the audio file or the transcript, and no one but me will see either. I may share select quotes at a conference or in a journal article, but any personally identifying information will be stripped out. Is it okay with you if I record this interview?

In the survey that you completed, you were presented with six concepts that the Association of College and Research Libraries has indicated are essential for students to understand in order to be effective researchers and informed citizens. Some of my questions will be about these concepts, whereas others will ask more generally about your experience so far as someone learning about research and information. It is in no way a test of your understanding. I am interested in your experience and perspective. There are no wrong answers.

-
1. Date and time.
 2. Can you think of any turning points you have had, either in this course or another, or in your everyday life, that changed the way you thought about research or the information landscape? Please describe them.
 3. What were the most valuable lessons you learned in class about conducting academic research?
 4. What would your ideal information literacy workshop be like?
 5. There is a theory in education research that students need to grasp certain “threshold concepts” to be successful in their field. These are concepts that bring you closer to understanding your discipline the way your professors understands it—they take you over a “threshold.” The concepts listed in the survey you completed are a new set of “threshold concepts” for conducting research generally.

Please tell me if you think discussing these concepts in class can have an impact on new students, and what that impact might be.

[provide handout of concepts, if needed]

- a. Research is an inquiry (prompt: does it impact how you choose a question?)
- b. Scholarship is a conversation (prompt: does it change how you view citation?)
- c. Information creation is a process (prompt: does it change how you select and evaluate sources? Does it affect your research process?)
- d. Authority is constructed and contextual (prompt: Does it change how you select and evaluate sources?)
- e. Information has value (prompt: Does it change how you choose topics, or evaluate sources?)
- f. Searching a strategic exploration (prompt: Does it change how you search for information for a research paper?)