Précis Plus: A Collaborative Approach to Teaching Information Literacy

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Précis Plus: A Collaborative Approach to Teaching Information Literacy

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Abstract
Research papers have been widely used as an assignment in higher education. While they can be useful in reinforcing students' learning and fostering applying, analyzing, evaluating, and creating skills to some degree, they are often overwhelming for lower level undergraduate students who are new to research papers. Meanwhile, librarians confront challenges of integrating recently-published Association of College and Research Libraries (ACRL)’ Framework for Information Literacy for Higher Education into information literacy training. McGill University in Montreal, Canada has been making efforts to embed librarian services, including information literacy training, in students' learning. In the past two years, the instructors of an undergraduate geography course adopted a new assignment entitled “Précis Plus” to replace the research paper that had been used for a decade. Similar to a regular Précis, Précis Plus asked students to write a concise, coherent, and critical summary of a scientific paper. Beyond that, it also required the students to assess the legacy of that paper and select examples from the contemporary literature to demonstrate how that legacy has manifested itself relevant to research questions today. These learning objectives are in line with three fundamental concepts outlined in the ACRL’s Framework for Information Literacy for Higher Education — “research as inquiry”, “scholarship as conversation”, and “searching as strategic exploration”. To prepare students for the assignment, the geography liaison librarians were invited to deliver a 80-minute library workshop to the class, consisting of (1) locating full text for a known reference, (2) tracing articles that cite a selected paper, and (3) handling references using EndNote. The improved quality of student assessments attested the effectiveness of Précis Plus in achieving its learning objectives. The embedded assessment revealed that students valued this new assignment and the library workshop offered. This conference article reports on the collaboration between the faculty instructor and liaison librarians. Challenges, success, and lessons of using Précis Plus as a term assignment in an undergraduate science course are discussed. It is hoped that this collaborative approach to teaching information literacy will inspire the interest and discussion on explorations and practices of information literacy training in higher education.

Keywords
Information literacy; Faculty and librarian collaboration; Library instructions; Library workshop; Research assignment; Framework for Information Literacy for Higher Education
Context

Information literacy training in the course of Environmental Hydrology at McGill University

McGill University is a large research university in Montreal, Canada. In 2016, it enrolled 33,056 full-time students (Enrolment Services, 2017) and offered more than 300 programmes across all disciplines to undergraduate, graduate, and doctoral students (McGill University, 2017). The University Library is committed to advancing teaching, learning, research, and community service through its well-organized collections and multi-faceted services. It has 13 branches across two campuses. About a decade ago, a liaison librarian model was adopted to embed librarian services into student subject studies. Since then, liaison librarians are assigned to each department and are responsible for providing information literacy training, collection management, reference assistance, research consultation, and outreach activities within their departments. The key to this model is deeply relied on the relationship developed between the liaison librarian and the departmental faculty.

Since the inception of this liaison model, information literacy has become a priority in liaison librarians’ responsibilities. Embedding information literacy training in students’ program courses has been widely used. Environmental Hydrology is a fundamental class for students in the Department of Geography and in other natural, earth, and environmental science programmes. It is offered once a year by two professors in the Department of Geography and there are on average 60 undergraduate students enrolled. The majority of these students are in their second or third year of university. Previously, a research paper — a critical review of literature on a selected topic was used as the course’s major assignment. To ensure that every student be able to find quality primary literature on the topic to complete the assignment, the liaison librarian delivered a library instruction workshop to the class, consisting of a demonstration of the research process, from choosing relevant library resources, searching article databases, to retrieving the full text, and an introduction to library services in relevance to the research process, such as the interlibrary loan and the article/chapter scan service.

Concerns about the previous assignment

After using the research paper assignment for years, the instructor who ran this assignment saw a need for change. While it helped to reinforce student learning and foster their analyzing, evaluating, and creating skills, the large amount of reading and writing was often overwhelming for students, especially those who were new to a research paper. Though most students were able to locate a required number of articles on the topic and submit the paper in the end, the process of understanding major findings reported in each paper and synthesizing them in a way to support an argument was fairly difficult for them. The quality of students’ assignments accordingly needed to improve. It was the instructor’s perception that students needed to understand the legacy of a research piece as well as the continuum of research works on the topic so as to propose meaningful a research question. In addition, this process required some scaffolding with good examples, guided analyses, and self-reflections. Published research works, for instance, the primary literature, could serve as the examples. The instructors and teaching assistants could also provide guidance on how to read, understand, analyze, summarize, and pose a further question before students submit their assignment, which could be a more interactive learning experience. With the research paper, the assignments were only graded and commented in the end and there was little opportunity for an active follow-up.

In addition, there were concerns about the library workshop. Since students were allowed to take different courses before enrolling in this course. Some had learned database searching in their previous classes. Thus, they wished to learn new knowledge beyond database searching in the library workshop. This provided a good opportunity for the librarian who was in the period of integrating recently-published Association of College and Research Libraries (ACRL)’s Framework for Information Literacy for Higher Education into her information literacy training (2015).
Précis Plus

In order to make the assignment a more rewarding, broader, and directed experience for students, the instructor has adopted a new assignment — Précis Plus since 2015 (Figure 1). Similar to a regular Précis assignment, Précis Plus requires students to write a concise, coherent, critical summary of a scientific paper, but in addition, it asks students to assess the legacy of that scientific paper by providing a modest annotated bibliography of the contemporary literature to demonstrate how that legacy has manifested itself still relevant to research questions today.

- Select one of the papers provide with this assignment and read and understand the paper in detail
- Write a 400 word précis of the selected paper
- Use a bibliographic search engine to find recent papers (last decade) that cite the selected paper. Select four that you think are the most interesting and relevant and provide a proper citation for each paper. With each citation, write a 100 word annotation explaining how original cited paper was relevant and/or useful to the paper

Figure 1. Précis Plus Assignment

Library Workshop

The instructor set up the learning objectives for this assignment (Figure 2). In preparation for the library instruction, the librarians mapped these objectives with the ACRL’ Framework for Information Literacy for Higher Education (2015) and found that three concepts — “research as Inquiry”, “scholarship as conversation”, and “searching as strategic exploration” were relevant (Figure 2).

Learning Objectives of Assignment
- How to write a concise, coherent, critical summary of a scientific paper
- Learn to use bibliographic search engine to assess the legacy of a scientific paper
- Select examples from the contemporary literature to demonstrate how that legacy has manifested itself and still relevant to research questions today

Relevant Concepts Outlined in ACRL’s Framework for Information Literacy for Higher Education
- Research as inquiry
- Scholarship as conversation
- Searching as strategic exploration

Figure 2. Learning Objectives of Assignment and Relevant Concepts in ACRL’s Framework for Information Literacy for Higher Education

The task of reading a given paper provided students an opportunity to learn how to locate full text using a reference. While the library’s catalogue, discovery tools, databases, and Google provided a range of possibilities to access the full text. Students still needed an understanding of these resources are structure and how they complement each other in searching for a specific reference. This presented an instruction need for the library workshop. Using bibliographic search tools to find recent publications that cite a given paper was new to many students of this level. Since searching is a “strategic exploration” (Association of College and Research Libraries, 2015), it is a librarian’s responsibility to equip students with a variety of searching strategies so that they may choose the most appropriate ones to find information needed. The Précis Plus assignment generated a need for such library instructions. Furthermore, the process of reading scientific papers on a topic and
examining the evolvement of the legacy from each article would teach them examples to develop their own inquiry — a meaningful research question.

To provide students with sufficient knowledge and skills to complete the Précis Plus assignment, the librarian delivered an 80-minute library workshop to the class with the following instructions and activities (Figure 3):

<table>
<thead>
<tr>
<th>Part</th>
<th>Length (minutes)</th>
<th>Instructions</th>
<th>Delivered by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part A</td>
<td>10</td>
<td>Requirements of the assignment</td>
<td>Instructor</td>
</tr>
<tr>
<td>Part B</td>
<td>20</td>
<td>Use library resources to locate the full text for a known reference</td>
<td>Librarian A</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>Activity #1: Find the full text of a journal article</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>Trace articles that cite a selected paper</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>Activity #2: Compare the number of cites to an article between SCOPUS, Web of Science, and Google Scholar</td>
<td></td>
</tr>
<tr>
<td></td>
<td>20</td>
<td>Organize references using EndNote</td>
<td>Librarian B</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>Activity #3: Add a reference to EndNote</td>
<td></td>
</tr>
</tbody>
</table>

Figure 3. Library Workshop

Assessment

In order to assess the efficacy of the Précis Plus assignment and the in-class library workshop, the librarians and the instructor prepared a survey questionnaire that contained both multiple choice and open-ended questions. The instructor distributed the questionnaire to each student and suggested that they complete it after finishing the Précis Plus assignment. The completion of the questionnaire was voluntary and anonymous. Most students submitted the completed questionnaire when handing in their assignment.

Assessment results

Among the 68 students enrolled in this course in 2016, 38 students completed the assessment (a response rate of 55.9%). Questions included in the questionnaire covered: (1) students’ perceptions on a research paper assignment, (2) techniques that they had used in searching for scholarly articles prior to this assignment, (3) students’ evaluation of the efficacy of the library workshop, (4) students’ evaluation of the efficacy of the Précis Plus assignment, and (5) suggestions on the library workshop and the Précis Plus assignment. Each area consisted of one to several questions. The following section reports on these responses.

(1) Students’ perceptions on a research paper assignment

Among the students who submitted the questionnaire, seven students (18.4%) reported that they had not written a research paper. Among the other 31 students who had previously written a research paper of at least 4 pages in length, 11 students reported that it was either very or somewhat challenging for them to complete. In total, 18 students (47.4%) either had not encountered a research paper or were challenged with it.

The specific challenges were also reported by the students (Figure 4). The main challenge was how to interpret important findings reported in academic articles. While this may be associated with students’ subject knowledge, i.e. what they have learned in the class, it also indicates that students need more exercises to develop the confidence to interpret what is significant. The second
challenge was how to use ideas expressed in the literature to develop and support an argument. This is an essential step in critical thinking and conducting scientific research in the future. In comparison, searching for articles, locating full text, and organizing references were less challenging but still significant for approximately 25% of the students.

Figure 4. Challenges Encountered in Completion of Your Previous Research Paper

(2) Techniques that they had used in searching for scholarly articles prior to this assignment

Techniques that students had used to search for scholarly articles varied (Figure 5). 37 of the 38 respondents reported that they had previously used keyword searching. More than a half of all the respondents had applied limits to refine search results, used bibliographies to find articles an author has cited, and used subject headings (or controlled terms) in their searches. Searching for articles that cite a given paper were used by only 10 students (26.3%). This was surprisingly low given that getting students to see a paper’s legacy was one of the goals of this assignment.

Figure 5. Techniques Students Used to Search for Scholarly Articles

(3) Students’ evaluation of the efficacy of the library workshop
The survey had a question, “What did you learn from the in-class library workshop that you had not known before?” to measure what students took away from the library instruction. Responses show that many students (between 21 and 22 out of the total 38 responses) learned finding articles that cite a given paper and using EndNote to create a bibliography, organize references, and make notes (Figure 6), attesting the achievement of the library workshop’s learning objectives.

![Figure 6. What You Learned From The In-class Library Workshop That You Had Not Known Before](chart.png)

Regarding another question, “Would you consider using EndNote in your future assignments?” 27 students (71.1%) reported that they would, while 10 (26.3%) were not convinced and one student said “don’t know”.

(4) Students’ evaluation of the efficacy of the Précis Plus assignment

The survey also included an open-ended question, “What was the most valuable thing you learned from the completion of this Précis Plus assignment?” Many responses valued the experience of learning topical knowledge by looking at and assessing a continuum of scientific articles on the topic:

“Understanding how influential certain papers are for contemporary research. It was interesting to locate articles for the annotated citation that used the original paper in a new and unexpected field i.e. related to humans & not just physical processes.”

“It really helped me to fully understand the process going on for my topic of study.”

“Learning how to ‘read’ scientific papers & summarizing information”

“In general, it was interesting to learn about how scientific papers use and pass on information from other resources. It was also an excellent exercise in concise summarizing and writing –this could sometimes be difficult!”

About a similar number of responses recognized the value of learning how to summarize information in a concise way. In addition to the examples cited above, other examples included:

“How to concisely present a paper’s findings.”

“How to really synthesize an article.”
“How to decrease my word count while still getting my points across and really focusing on the important concepts.”

“Way of summarizing in only 100 words… It helps to focus on some ideas and not take too many ideas into account even if they are interesting.”

Regarding the library workshop, many reported that they learned how to search for papers that cite a selected paper. For example,

“How to find articles that your paper is cited in. Very cool”

“How to look for articles that have cited my main article.”

“How to find articles that cite a given paper. I didn’t even know that was possible! Think it might be very useful in the future!”

“How to search for papers that cite the author’s original work.”

Another good number of responses were about the opportunity to learn EndNote. These answers are cited as follows:

“Learning to use EndNote to manage references and generate a bibliography.”

“EndNote is so useful for importing, organization, and generation of bibliographies.”

Several other comments were on having learned new knowledge, such as “I also didn’t know Google Scholar existed.” Students who had not have a library workshop also appreciated the chance to receive the knowledge. For example, “I hadn’t used the library resources before and probably would not have known how/what to use prior to the library instruction.”

(5) Suggestions on the library workshop and Précis Plus assignment

The questionnaire also included an open-ended question to seek students’ suggestions on the library workshop. While many students gave a positive comment on the library instruction, for example, “No, it was of good quality”, some wished to have had a longer period with EndNote, for instance, “Double instruction period – spend much more time teaching EndNote.” One student suggested to have “more [library] workshops”.

Students’ suggestion on the Précis Plus assignment were interesting and constructive too. One student suggested to include a section of discussion in the assignment for expressing his or her thoughts “on the links between the papers”. Another student recommended adding a peer review component so that he or she “could learn a bit more on some of the other covered topics completed by other students in their assignments,

Discussion

The survey assessment revealed that students were largely receptive to the Précis Plus assignment. They appreciated the opportunity to reinforce the subject knowledge taught in class and learn how to read and understand scientific papers through a well-designed assignment. They also recognized the value of concisely summarizing information and synthesizing information to form an argument despite the challenges of doing so. The faculty instructor who ran the Précis Plus assignment saw a quality improvement in student assignments in comparison with the previous research paper assignments. These findings supported the effectiveness of Précis Plus in achieving
its learning objectives. It successfully transformed an overwhelming research paper into a rewarding and workable learning experience.

The students also expressed their appreciation on the library workshop. They reported their learning of new knowledge—finding articles that cite a given paper and using EndNote to organize references in the research process and that they would continue using EndNote in their future research assignments. While this workshop effectively helped students complete the Précis Plus assignment, it built on students’ existing knowledge of database searching and taught them how to search for articles that cite a selected paper, a new search technique that is aligned with the ACRL’s information literacy concept of “searching as strategic exploration” (Association of College and Research Libraries, 2015). Furthermore, this search technique directly enabled them to discover the evolution of a scientific idea over the years so that they could learn how to ask their own research inquiry with examples of published research works on their topic. Therefore, the library instruction helped the students to develop another two ACRL’s information literacy concepts – “research as inquiry” and “scholarship as conversation” among the students (2015).

Challenges of running the Précis Plus assignment remain. First of all, students need to understand the importance of reading primary literature. It is where the new knowledge is reported, but even more importantly it is where researchers reveal their ignorance. Science is not only about answering question but about the creativity of asking good questions that are useful to answer. A good paper attains its objectives and contributes to new knowledge, but a great paper reveals things we do not know and provides some ideas on what the answers might be. Students need to become comfortable with the open-ended nature of scientific papers. Once students appreciate the value of the primary literature, they will gain their inner power to conduct research in spite of challenges.

Secondly, it was important to help students understand the assignment’s requirements. While a separate assignment sheet was distributed to students, the instructor used the beginning 10 minutes of the library workshop to explain the assignment and its components and to answer student questions, which ensured each student fully understand how to complete the assignment. Thirdly, students need to understand why it is important to write concisely and practice how to do so. The strict limits of the number of words required for each component of the Précis Plus provided students such an opportunity to exercise. The research publications that they read also served as concrete examples of good writing.

Conclusion

Making library workshops relevant to student needs has been a challenge. The information literacy training practice reported in this paper provides an example of targeting a specific assignment, which was attested effective to achieve that relevance. The Précis Plus assignment helped to raise student interest in acquiring the library instructions. The knowledge of finding articles that cite a given paper and using EndNote to organize and manipulate references engaged students in the workshop and helped them in completing their assignment.

In the future, we will consider lengthening the instruction time on EndNote and creating additional instruction material, for example, tutorial videos, online guides, and handouts, to extend the information literacy learning beyond the class. In addition, supporting research activities of students and faculty remains essential for librarians. Working closely with instructors is one way to implement information literacy training. It is our hope that this collaborative approach will inspire the interest on exploring and practising information literacy training in higher education within the context of the ACRL’s Framework for Information Literacy for Higher Education and other guiding documentation related to information literacy.
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