

Teaching Source Credibility Evaluation to Undergraduates: A Reflective Dialogue

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Abstract:

This article illuminates the collaborative process between a librarian and an instructor as they developed learning activities to encourage students to evaluate information sources as part of the research process. The article is written as a reflective dialogue, outlining the original workshops, lessons learned, and changes made. At each step, the instructor and librarian reflected on both the student learning process, and the integration of the outcomes into student work. Changes based on those reflections have improved the sessions and student learning. The article presents a model for interdisciplinary collaboration in teaching that may benefit readers, and provides a method for introducing students to a vital academic skill.

Key Words:

collaboration, interdisciplinary, information literacy, evaluation, student learning, library, general education.

Introduction

This article chronicles the collaboration between a course instructor and a librarian as they sought to develop an effective method of teaching students to evaluate internet sources, and understand the differences between popular and scholarly materials. The authors present their work as a dialogue, alternating voices as each describes the challenges and responses that flowed between classroom and library settings.

Dialogue

Instructor: The greatest challenge facing first year university students is not access to information but rather the deluge of information they have at their fingertips through the internet. High school graduates arriving at university encounter a new world of research and reflective thinking, but few are equipped to evaluate the validity and biases of internet-retrieved information, and are prone to accept written sources uncritically. This problem is particularly evident in first-year term papers, but is not confined to academe. The ability to independently evaluate the veracity and utility of information is essential for success not only at university, but throughout life.

Among the objectives of a liberal education are breadth and depth of knowledge in the humanities and sciences, the ability to think critically, and the capacity to communicate effectively. At Mount Royal University (an undergraduate institution in Calgary, Alberta) these traditional attributes are addressed by the Department of General Education in the Faculty of Teaching and Learning. Among the offerings is a first-year course entitled *Communities and Societies*, which takes a multidisciplinary approach to enriching students' awareness of the communities in which they live (moving from the family to voluntary associations, the university community, the city, the province, the state, and Canada's place in the global community). This foundation-level course also develops transferable skills, such as critical thinking, ethical reasoning, research effectiveness, and communicative abilities.

Branching out from my home department of Sociology and Anthropology, I began teaching *Communities and Societies* when it was first offered in the fall of 2008. Since I was accustomed to teaching content-heavy courses in my own specialties, with little time for topics such as researching and writing term papers, which I was sure was someone else's job, I regarded *Communities and Societies* both as a change of pace and an opportunity to teach basic transferable skills to incoming students. Among the skills I chose to address was information evaluation. Most first-year students are computer literate and readily adapt to using search engines. However, many accept whatever pops up, failing to distinguish between information derived from the popular press, agenda-driven websites, and academic journals. In fact, new students do not understand academic journals as collections of scholarly articles because they are encountered a page at a time online. Since locating information is a traditional library skill, I took my concerns to a senior librarian. The task was to develop a single, 80-minute library workshop that would resolve these points of confusion.

Librarian: The evaluation of sources is a key aspect of information literacy. Mount Royal University has a long history of developing course-integrated workshops on various aspects of finding, assessing and using information sources, generally closely linked to assignments. The opportunity to develop a new session on source evaluation for a new course was the beginning of an interesting and effective partnership.

Students have a number of difficulties in evaluating information that are not always considered by instructors. In the first place, students often lack background knowledge against which new sources can be tested, and this applies to what most of us would consider basic knowledge of the world, including major historical events, and aspects of right and left wing bias. While students are aware of and can easily distinguish product

advertisements from other web content, they are perhaps less accustomed to handling information that seeks to change their opinions. Finally, as Perry's stages of student development suggest (<http://www.cse.buffalo.edu/~rapaport/perry.positions.html>), students, particularly first-year students, will determine the credibility of information based on how closely it agrees with their existing beliefs, without using more objective criteria. This definition of 'credible' may explain why so many studies indicate students feel very confident evaluating information, while librarians feel this confidence is misplaced.

Scholarly articles present further challenges for students. The language is unfamiliar, the format is foreign and purpose is unclear. If first-year students are acquainted at all with periodicals, they are generally ones with more entertainment value. Students are often told to use articles from scholarly journals without understanding why they are preferred to websites and other more easily available and comprehensible information. Another complicating factor is that in the age of electronic information, proprietary databases and Google scholar, students often have difficulty differentiating scholarly articles from other web pages when viewing them on the screen.

With all these factors taken into account, developing a session that would deal with source evaluation, scholarly articles, AND locating information in one 80-minute period was challenging. In the end, I drew up a worksheet with links and instructions specific to the instructor's essay assignment but developed the class presentation to focus on evaluation. In such a brief time, the class had more demonstration and discussion than activities, and there was little opportunity for students to practice evaluation skills, or gain more than a brief introduction to the world of academic journals.

Instructor: Feedback on the source credibility workshop indicated most students thought it was useful; however, while marking the term papers it became evident that many did not absorb or apply what they learned. In the rush to get their papers done, they reverted to using anything their search engines spat out. Students either failed to comprehend or did not utilize what they were taught. It was time to rethink our approach.

Instructor and Librarian: After consultation on the preceding results, three points became clear: a) we were trying to cover too much in a single 80-minute session; b) students need practice with evaluative skills in order to assimilate them; c) students require hands on experience with hard-copy periodicals. For the winter term of 2009, we elected to divide content between two-80 minute workshops: 1) popular media sources, opinion pieces, and websites, followed by a take home assignment to practice evaluative skills; 2) scholarly books and journals, including hard copy examples of academic journals and popular magazines for comparison.

Librarian: By splitting the class into two sessions, we were able to make both much more active learning experiences for the students. In the first session we used a think-pair-share activity to engage students in articulating the 'hallmarks of quality' and 'symptoms of shame' for determining the credibility and suitability of websites for academic purposes. At the outset, I remarked to the class that they already use subconscious criteria to determine the usefulness of websites, and the objective now was to make these criteria conscious and explicit. This activity acknowledged students'

experience of the web and gave a clear purpose to the exercise. After a few minutes to consider their own practices, students were encouraged to work with a partner to further develop lists of criteria, writing down points on a worksheet set up as an advanced organizer with headings Hallmarks of Quality and Symptoms of Shame, each with subheadings for content and appearance. A few minutes later the students were asked to bring their chairs to the front of the room, ostensibly to be closer to the blackboard, but really to move them away from the computers, as the session takes place in a computer lab. Experience shows that students often find the screens in front of them more fascinating than the class discussion, so separating the two tends to increase participation.

In the discussion that followed, students then volunteered points relating to page content and appearance, highlighting aspects such as advertising, credible authors, grammar, images, currency and bias. I transcribed the answers on the board and asked two volunteers to take notes so I could post their responses on the web, where the students could refer to them while completing the take-home assignment. As necessary in the discussion, I probed for more depth and examples, and sometimes explained aspects of web pages and technology in response to students' questions.

Students were then asked to determine how to tell if web sites met the criteria by filling in the evidence column of a chart. We then discussed their responses as a group and filled in a 'master' chart they could use later. The example below is based on the contributions of several classes.

| Question | Evidence |
|---|--|
| <p>Who wrote it? Whether a person or an organization, or a government department – do they have appropriate qualifications to write on the subject? (not all PhD's write only on subjects they're experts in!)</p> | <ul style="list-style-type: none"> • "About this site" sections • Look at top or bottom of the page • Google them to find out more |
| <p>Who was it written for? Elementary school students? PhD's? Members of particular groups?</p> | <ul style="list-style-type: none"> • Language • Level of detail • Pictures: will be cartoony, colourful if for kids |
| <p>When was it written? How current does the info need to be? – Genetics: really current; Shakespeare: maybe not so much.</p> | <ul style="list-style-type: none"> • Date at bottom – but often, that's an automatically generated 'today's date' that doesn't reflect freshness of the content • Tell by the events it describes, anachronistic - talks about President Bush as if he's still pres., etc. • In Firefox, check Tools- then page info, but if it gives today's date, that's probably not 'true'. |
| <p>Why was it written To inform? To persuade? To advertise?</p> | <ul style="list-style-type: none"> • Sometimes stated in 'About this site' section • If written to inform: clear, academic language, objective tone. • If written to persuade: loaded terms, emotional language • If written to advertise: lots of advertising content, pretty prominent on site |

| Question | Evidence |
|---|--|
| What's behind it? Fact? Opinion? Rumour? | <ul style="list-style-type: none"> • Appropriate citations or links to appropriate sites – generally indicate fact based content • Opinion based content – lots of I, me, mine, rant • Kind of site can indicate what's behind it - .edu sites, .gov/gc.ca sites often less opinion-based than .com sites |
| What steps did it go through before being made public? Spell check? An editor? Peer review? | <ul style="list-style-type: none"> • If the site is peer reviewed: it will likely state that up front • If it's from an organization like CBC: it has usually been checked by an editor. Material on organization and government websites are also often checked by someone in the organization before going live. • Some sites, sadly don't even go past a spell checker |

To close the workshop and provide more practice, students were then asked to review three websites, determine what kind of sites they were and whether they were suitable for academic use. They were also required to determine for each site what kind of a resource it would be if it were in print, such as a pamphlet, a diary or an academic paper. Each website was discussed in turn with the class to reinforce the established evaluation criteria. Students were then given the instructions for the take-home assignment which they had a week to complete. Throughout the exercises, most students remained attentive and participated actively in the discussion. They enjoyed seeing their 'points' added to the lists and master chart, and I think that sense of contribution – that it's their criteria, not mine – contributes to the success of the class..

Instructor: The purpose of the take-home exercise was to help students assimilate their evaluative skills by practical application. They were assigned four internet sources to review according to the criteria identified in the workshop. These were articles and reports dealing with aspects of student experience at university: a) an opinion piece from a trade magazine; b) a government report from Human Resources and Skills Development Canada; c) a scholarly research article from a biomedical journal; d) a nonsense piece from the Annals of Improbable Research. At a glance, all of these sources appear credible, but students had to discern which would be suitable for a university research paper. The assignment allowed 80-160 words for each critique to answer the following questions:

1. If this were a print source, what kind of source would it be?
2. Would it be good enough to use as a primary source in an academic paper?
3. What are the signs of good quality, and/or, what makes you suspicious?
4. How does this site stand up to the questions – who, when, why?

Librarian: In the second workshop, we focused on differentiating academic and popular journals. Again, the extra time meant we could include an activity and tie the workshop more closely to the major essay assignment which required the use of at least

four scholarly articles. Students formed groups of three, and each group was given a hard copy academic journal and a popular magazine to compare. They had 15 minutes to fill in a chart similar to the one used for website evaluation to determine criteria and evidence that could help them differentiate scholarly and popular journals. As with the previous session, students then came together to develop a master list of criteria for determining whether an article was scholarly. I took notes and posted this information on the web as well. A chart based on material from several classes is reproduced below. The discussion also provided the opportunity for us to describe the peer review process, using examples from our own experience with publishing.

| | Scholarly | Evidence (how can you tell) | Non - Scholarly | Evidence (how can you tell) |
|---|--|---|---|---|
| Who wrote it? Professional? Student? Researcher? | <ul style="list-style-type: none"> Academics Scholars Profs Researchers | <ul style="list-style-type: none"> Credentials listed Publisher often academic as well | <ul style="list-style-type: none"> Journalists Anyone with a pen Paparazzi | <ul style="list-style-type: none"> Unsigned Journalists' names, sometimes Writing level |
| Who was it written for? Elementary school students? PhD's? Members of particular groups? | <ul style="list-style-type: none"> Other people in the specific scholarly community Researchers Students? – not generally meant for first-year students | <ul style="list-style-type: none"> Assumes prior knowledge Jargon/Language Kinds of illustrations Requires concentration to read | <ul style="list-style-type: none"> General audience | <ul style="list-style-type: none"> Language Illustrations Read/scanned easily |
| When was it written? | <ul style="list-style-type: none"> Within 24 months Usually takes at least a year | <ul style="list-style-type: none"> Dates on the article | <ul style="list-style-type: none"> Within about a week to a month | <ul style="list-style-type: none"> Current material |
| Why was it written? To inform? To persuade? To advertise? | <ul style="list-style-type: none"> Add to the info in their field Extend knowledge in the field | <ul style="list-style-type: none"> If it's in a scholarly journal most accept new information, original work, of significance to the field. Informative Lack of ads Objective language – not trying to persuade | <ul style="list-style-type: none"> Entertainment Advertisements | <ul style="list-style-type: none"> Pictures Meant for short attention span Focus often on less weighty matters |
| What's behind it? Fact? Opinion? Rumour? | <ul style="list-style-type: none"> Fact Tests/experiments Often statistics Research Other articles | <ul style="list-style-type: none"> Lots of citations Charts/graphs Proofs Indications of statistical analysis – formulae etc. | <ul style="list-style-type: none"> Opinion, Rumour Reporting News (fact) | <ul style="list-style-type: none"> "he said/she said" No citations |

| | Scholarly | Evidence (how can you tell) | Non - Scholarly | Evidence (how can you tell) |
|---|---|--|--|---|
| What steps did it go through before being made public? Spell check? An editor? Peer review? | <ul style="list-style-type: none"> • Peer review | <ul style="list-style-type: none"> • Says so • Has an editorial board • May have to check the journal's website/instructions to authors | <ul style="list-style-type: none"> • Editor/spell check • Lawyer (sometimes) • Copy editors | <ul style="list-style-type: none"> • Spelling should be ok • No peer reviewers mentioned • Editors may be listed |

I then walked students through a database search to parallel the steps they would take in their research, and used on-screen examples to show how and where to find evaluation criteria in the electronic versions of periodicals. Practice with on-screen examples was important because many field marks (e.g. use of colour, advertising, 'serious' appearance) that help students differentiate between printed scholarly and popular journals often disappear when those same journals are accessed through library databases. Giving students the time to work with both print and electronic materials, allows them to see the links between the two, and to better understand what they're seeing when they use articles from a database. That and the lively discussion about criteria, particularly the peer review process, were key factors in the success of the workshop.

I use this course as a base for Student Evaluation of Instruction (All Mount Royal faculty must have at least one course evaluated per semester.) Ratings are generally very high, and the comments often indicate that these sessions provide a different learning experience than other information literacy workshops. Students appreciate the depth and focus of these sessions and the time and opportunity to develop more concrete understanding of source credibility and scholarly communication. While some of the processes from both sessions could be adapted for online instruction (indeed there are many online tutorials available on these topics), it would be difficult to replicate the activities with print journals and the learning that occurred in the discussions in a virtual environment.

Instructor: The effectiveness of these workshops was demonstrated in the term paper bibliographies. First, there was an overall improvement in the selection and use of sources from the internet. This held both for websites and online scholarly journals. Secondly, in-text citations were presented more self-consciously, with students often commenting on the strengths and weaknesses of a given source. This outcome is especially gratifying, as it clearly demonstrates critical thinking and awareness of biases and shortcomings.

A key aspect in the improvement of the sessions was including more assessment tied to the objectives of learning how to evaluate websites and how to use scholarly journals. The take-home source credibility assignment forced students to practice their evaluation skills immediately, and the stipulation for scholarly articles in the term paper required students to use these resources. Students were also cautioned that questions derived from these workshops would appear on the final exam. This inspired additional student attentiveness during the sessions and later review of notes to assimilate

information for recall. Short answer questions on the final exam pertaining to criteria for website and journal evaluation, and the purpose and publication steps for peer-reviewed journals, earned high marks for a majority of students.

Concluding Remarks

Librarian and Instructor: This essay illustrates the benefits of collaboration in developing student skills along with their content knowledge. Developing assessments that align with instructor goals help focus student learning and provide information that feeds the curriculum development process. Refinements based on this evidence led to improvements in the course, and a more useful experience for the students. Students not only perceive the workshops as being beneficial, but also their work demonstrates the impact these sessions have on their research and, in particular, their evaluation skills.