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Teaching and Un-Teaching Source Evaluation: Questioning Authority in Information Literacy Instruction

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Teaching and Un-Teaching Source Evaluation: Questioning Authority in Information Literacy Instruction

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Abstract

This study details the design of library instruction sessions for undergraduate students that intended to encourage critical source evaluation and the questioning of established authorities, and appraises these instructional aims through a thematic analysis of 148 artifacts containing student responses to group and individual activities. The authors found a widespread reliance on traditional indicators of academic and scholarly authority, though some students expressed more personal or complex understandings of source evaluation, trustworthiness, and authorship. Based on the findings, recommendations are made for academic librarians interested in promoting learners' senses of agency and authority.

Keywords: Information literacy instruction; critical information literacy; authority; resource evaluation

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[ARTICLE]

Angell & Tewell
Teaching & Un-Teaching Source Evaluation

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Introduction

Twenty-five years ago, noted librarian and scholar Patrick Wilson inquired, “Authority is desirable; how does one get it? And, in particular, is there any way in which bibliographic instruction can play a role in getting it?” (1991, p. 259). These questions, among others related to the concept of authority in academic libraries, are being more frequently explored. What dynamics are at play in terms of authority and students’ evaluation of sources? How does the exercise of authority by a teacher shape a learning environment, particularly in the academic library setting, where the content and methods a librarian teaches may be determined by a course instructor’s requests? How are larger systems of authority and dominant knowledge enacted within higher education, and how can teaching and library instruction question and interrupt them? The fields of critical pedagogy and critical information literacy investigate these questions of power and disenfranchisement within teaching, and act as a foundation for the authors’ research into student authority and source evaluation that is the focus of this study.

This project began with the authors’ interest in exploring notions of authority within library instruction sessions at a mid-sized urban university in the United States, including how authority is used by teachers to the benefit or detriment of learners, and how learners might begin to reclaim their own authority. While it is not necessarily desirable nor even possible for teachers to reduce or eliminate their authority within a classroom, it is important to understand how one’s authority and associated institutional power is exerted so that it is not wielded to the detriment of learners. In rethinking their instructional efforts, the authors sought to begin with students’ experiences, promote students’ sense of personal empowerment, and encourage learners to consider the complexities of source evaluation. This study seeks to better understand student conceptions of source evaluation and associated ideas of trustworthiness, credibility, and authority, while simultaneously evaluating our endeavors as teachers attempting to engage students in the reevaluation of common sources and their positions as learners with valuable knowledge and experiences to contribute. If, as Wilson argues, “Authority is a social phenomenon through and through”

(1991, p. 261), how might librarians investigate this socially-constructed act in information literacy instruction? This study describes an attempt to do so, and hypothesizes that changing one's teaching approach has potential to encourage learners' sense of agency as information creators and promote the questioning of established authorities.

The authors developed two lesson plans based on how student authority might be amplified and various sources critically evaluated, which were implemented in library instruction sessions for primarily first year and sophomore students enrolled in interdisciplinary writing-intensive courses. The authors' goals were twofold: 1) For both the teacher and students, to consider how authority operates in the classroom, and, 2) For students, to reflect on the role of authority in common information sources. The activities enacted to promote student authority and the critical evaluation of sources included small group discussion coupled with student presentations and an activity addressing authorship and trustworthiness, and are described in the Materials and Procedures section.

By discussing information sources students were likely to use and prompting reflection on a resource of their choosing, the authors' intent was to promote student agency while accounting for learners' short term academic needs and the constraints of the library classroom. Additionally, opportunities for learners to both present to their classmates in a position of authority and to share their knowledge in small groups were created to reduce the presence of the teacher as an authority who overly controls and establishes classroom dynamics. Student responses to the two activities were examined in light of the authors' aims, and a number of themes shared across the responses were found. Were the exercises used in these classes successful in centering student interests and the critical evaluation of sources? If not, what could be changed to make them so? A review of the literature provides the context necessary to place this study within scholarly discussions of critical pedagogy and library instruction, authority among learners, and student evaluation of sources.

Literature Review

Critical Pedagogy

Within the information literacy classroom there are two primary functions of authority: the power ascribed to the librarian as the teacher and a focus on authoritative information sources. Critical information literacy (critical IL) can be used to by librarians to democratize

classroom dynamics and teach students to critique and recognize their own authority as information creators and consumers. Authority is defined by the ABC-CLIO Online Dictionary for Library and Information Science (ODLIS) as “the knowledge and experience that qualifies a person to write or speak as an expert on a given subject” (Reitz, 2014). ODLIS’s indicators of authority include credentials, multiple publications on a topic, awards, and institutional affiliation. Critical IL problematizes these traditional criteria by evaluating authority through a lens that takes into account socio-political factors that prioritize certain voices over others along lines of race, gender, class, and abledness, among others.

Critical IL is often situated within the broader philosophy of critical pedagogy, an educational movement fomented by the publication of Paulo Freire’s seminal text *Pedagogy of the Oppressed* in 1968 (Tewell, 2015). “In addition to encouraging a questioning approach to existing social, political, and cultural institutions,” Beilin and Leonard write, critical pedagogy “also seeks to validate and utilize students’ knowledge and perspectives” (2013, n.p.). This definition reveals the rich potential for critical pedagogy to inspire liberatory critiques and transgressions against the power structures that privilege dominant ways of knowing. For college students the personal impact of these cultural and social power structures can be major, depending on their intersecting identities and experiences. The lesson plans used in this study were inspired by and drew upon a number of critical and feminist pedagogy books and articles, including those by Maria Accardi (2013); bell hooks (1994); Troy Swanson (2004); Maria Accardi, Emily Drabinski, and Alana Kumbier (2010); and Heidi Jacobs (2008).

Notions of Authority

In order for college students to succeed, they must recognize their own agency as critical researchers, writers, and thinkers. Educational research suggests that new college students are especially unlikely to use their own knowledge or experiences to guide their academic or interpersonal actions. One study reported that among 228 first-year college student participants 86% looked exclusively to external authorities (e.g., parents and teachers) to construct their identity, belief systems, and relationships (Magolda, King, Taylor, & Wakefield, 2012). This figure dropped to 57% during the sophomore year, but is still worth noting. Failure to consider their thoughts and feelings can prevent students from developing skills essential to college success, such as critical thinking and building healthy relationships. The incorporation of critical IL into the curriculum may assist students in

reaching the latter goals, as they learn to think and speak for themselves and encourage the same in others.

Prior to college, students may never have been taught by a pedagogy framed by the notion that their personal experience enriches their learning and that of classmates and teachers. Atwood and Crosetto (2009) argue that librarians have a responsibility to help students develop and employ a personal voice in research assignments. When students learn to strike a balance between their opinions and the texts of others, their writing and comprehension of a scholarly discourse improves, and they can begin to establish themselves as authorities. Mack and Delicio (2000) explain the significance of acknowledging multiple types of knowledge, and not promulgating the professional as the only valid option. The concurrent promotion of the authority of experience fosters a learning environment that bridges lived experiences with intellectual and professional endeavors.

Student Evaluation of Sources

Head and Eisenberg (2010) rank 12 criteria used by college students to evaluate Internet sources. The least popular criteria is “mentioned by a librarian,” with only 25% of students indicating this as a criteria for assessing a website (p. 11). Additionally, only 11% of students consult a librarian when they need help evaluating a source (p. 13). These findings suggest librarians need to better promote their ability to help students learn to evaluate sources. Traditionally, librarians provided students with a checklist of indicators common to evaluation, such as accuracy, reliability, and purpose. There has been increased criticism of this method, primarily because it does not authentically address student information needs or encourage a multifaceted retrieval process (Carter & Aldridge, 2016).

Mathson and Lorenzen (2008) devised a unique approach to teaching critical evaluation skills. The researchers present students with detailed but revisionist social sciences and history websites (e.g., Apollo moon landings as a hoax) and challenge them to analyze the content on these sites for authority and credibility. Librarians can assist by providing students with tools of critical evaluation, learning to analyze what they believe makes something reliable or not. McNicol writes, “In contrast to more conventional approaches to resource evaluation, with critical literacy there is no ‘correct’ way to read and respond to a text” (2016, n.p.). Therefore, every learner will construct their own unique meaning from a text, as ways of reading and interpreting are many. Authority is a fluid concept, one with

boundaries students could penetrate more easily than they might expect, learning that they are experts of certain topics in their own right. Relatedly, Sundin and Francke (2009) argue that criteria for source evaluation must stay current as popular information sources change. Their study focuses on how college students evaluate credibility and authority, particularly user-created content such as Wikipedia and blogs. Students applied evaluation criteria historically used to assess printed information to digital sources. This led the authors to call for a new socio-technological paradigm of evaluating sources, “one which considers the interplay between people, tools and activities in a social setting” (2009, n.p.).

In addition to teaching students to evaluate the authority of information sources, the project discussed in this paper also intended to subvert the traditional classroom hierarchy and encourage students to claim authority for themselves and their peers. While little research on this topic exists in the library and information science literature, studies within the broader educational literature consider the dynamics of classroom authority. hooks, for instance, discusses her experiences with professorial authority as a college student: “Most of my professors were not the slightest bit interested in enlightenment. More than anything they seemed enthralled by the exercise of power and authority within their mini-kingdom, the classroom” (1994, p. 17). Brubaker (2012) negotiated authority with his undergraduate education students by inviting them to jointly develop the course curriculum. Reflecting on this experience, Brubaker writes, “Confronting students’ deeply rooted familiarity with authoritarian teaching practices helped create an important foundation for constructing relations of democratic authority in the course” (p. 173). Crabtree and Sapp (2003) discuss their experiences applying feminist pedagogy to the college classroom in an attempt to empower students and disrupt traditional power relations. Their strategies include asking students to co-design a course syllabus, reconfiguring the historical emphasis on letter grades, and teaching feminist content in courses outside of explicitly gender and feminist studies courses.

Methods

Participants

The participants in this study were undergraduate students at Long Island University, Brooklyn, a mid-sized urban university in the Mid-Atlantic region of the United States. All students were enrolled in Core Seminar (COS), a mandatory interdisciplinary course with a

research paper component. Each COS section is required to visit the library for information literacy instruction twice during the semester. The authors did not use the method reported in this study in all COS library sessions taught by them during the study's time frame, as some COS instructors desired a more traditional pedagogy (i.e., lecture and demonstration of the library's electronic resources). The population for this study was students enrolled in COS classes, and the sample was students in COS library sessions taught by the authors. The convenience sampling method was used, as the authors selected COS sections that fit into their work schedule.

The exact number of participants is difficult to report because there were two library sessions for each section and attendance by name was not taken by the authors in order to protect student privacy. Participants ranged in class year from first year to senior, with sophomore being the most prevalent. Tables 1 and 2 indicate participants' academic levels.

Table 1: Activity 1 Participants by Class Year

Academic Level	Frequency	Percentage
First Year	31	20
Sophomore	86	56
Junior	29	19
Senior	8	5
Total	154	100

Table 2: Activity 2 Participants by Class Year

Academic Level	Frequency	Percentage
First Year	14	14
Sophomore	58	59
Junior	17	17
Senior	4	4
No Answer	6	6
Total	98	100

Materials and Procedures

Prior to embarking on the study, the authors applied for permission to conduct this research from the University's Institutional Review Board. Once permission was granted the study commenced in the 2014 fall semester. Library sessions were taught using this method for four semesters, concluding in spring 2016. The authors created tools to evaluate student perceptions of authority in popular sources as well as encourage participants to think critically about their location within information cycles. Three different materials were developed: a group activity for the first session, a brief online survey sent to students after the first session, and an individual activity for the second session. These are available in Appendices A through C.

At the beginning of the first library session the librarian welcomes the students and spends 10-15 minutes introducing the library catalog and the online database ProQuest Research Library. Next, the librarian divides students into groups of four to five people and assigns each group one of four information sources: Wikipedia, Google, the library catalog, or ProQuest. Each group is given the worksheet in Appendix A and spends five minutes deciding upon a topic. The students are encouraged to select any topic of shared interest.

Once a topic is selected the group has 20 minutes to collectively locate a document of their choosing in their assigned source and answer four questions about it. Students collaborate to determine their document's contributors, potential advantages and disadvantages, and whether they would cite it as a source in their own research paper. Next, each group takes a turn sharing their findings with their classmates from the classroom's podium. At this point the librarian sits with the rest of the students and observes the demonstration. Students teach each other how to find information both on the open web as well as within the library's catalog and online databases. The students in the audience are encouraged to ask their peers at the podium questions about their search process or criteria used to assess their chosen document. The librarian also periodically participates, contributing suggestions from their own experiences. The final ten minutes of the session are facilitated by the librarian and are dedicated to discussing additional comments or questions.

Following the first session, students are sent a three-question online survey asking them to report on what they learned during the session and what they would like to learn during their next visit a few weeks later (see Appendix B). Collaboration with COS instructors is integral to the success of this part of the project, as the instructors forward the survey to

students on behalf of the librarians. Survey responses are anonymous in order to respect the privacy of the students. A survey response rate for this study was not tabulated.

The second library session begins by addressing student feedback and questions from the survey. Students are also invited to ask any additional questions that might have come up between sessions. After this debriefing the librarian gives all students an in-class activity (see Appendix C). This activity was designed to be completed by each student individually. Students are asked to locate an article on their research paper topic in ProQuest Research Library and to cite this source in APA or MLA style. They determine whether the source is trustworthy, and reflect on factors that privilege some voices over others in academic publishing.

After spending a half hour on the assignment the remainder of class time is devoted to a group discussion facilitated by the librarian. Students are invited to share their responses to the questions, particularly those focusing on qualifiers of trustworthiness and inclusion or exclusion from scholarly publishing. Their instructors are also invited to contribute their thoughts on issues of authority in information creation and retrieval as well as the nontraditional classroom structure. At the end of the session, the librarian collects the assignments.

Analysis

To analyze the student artifacts (the activity sheets with students' written responses) for the purpose of this study, the authors began by dividing the worksheets into Group One (the first library session) and Group Two (the second library session). Each worksheet was assigned a number for coding purposes. Artifacts in Group One numbered from one to 50 and artifacts in Group Two ranged from one to 98. A spreadsheet was created for each of the two groups based on the activity questions, with separate tabs within each document for the two authors. Spreadsheet one included columns for artifact number, source type, author/title, contributor, advantages of the source, disadvantages of the source, whether it should be included in a works cited page, and major themes of the artifact as determined by the authors. The second spreadsheet included columns for artifact number, class year, source type (e.g., academic journal or newspaper article), trustworthiness, student reflections on who can publish and why, themes determined by the authors, and additional notes.

Initially, the authors separately analyzed the student artifacts. Major themes of the student responses were generated and entered into the spreadsheets individually, and it was only after each author completed data analysis that they learned the other's thematic interpretations of the artifacts. Guidelines regarding the themes were not established before data analysis. Discussions regarding topical interpretations of the findings resulted in the joint creation of the thematic areas listed in the results section.

Results

Through analysis of student artifacts the authors identified several key thematic areas. This qualitative interpretation of the open-ended responses allowed for an understanding of student answers and awarenesses in relation to the authors' goals of encouraging the questioning of established authorities and promoting students' sense of agency as creators of information. Four of the thematic areas were discovered across Activity 1 and Activity 2 responses, while several subthemes were identified as limited to one activity. Participants showed a range of understandings of source evaluation strategies through their written responses. Students tended to rely upon either indicators of quality commonly held in high esteem in academe (for example, that a source underwent peer review or appeared in a scholarly journal) or their perception of authoritative sources on a given topic (typically an expert as designated by disciplinary knowledge or first-hand experience with an issue or subject), but infrequently both. The four major themes shared across both class sessions include the following: 1) Applying conventional evaluative criteria, 2) Questioning Wikipedia, 3) Relying on disciplinary or professional expertise, and 4) Accepting sources as trustworthy. Each thematic area is explained in further detail, with student quotes to illustrate responses. Table 3 indicates the frequency of themes across the two activities.

Table 3: Frequency of Major Themes

Theme	Frequency
Applying Conventional Evaluative Criteria	35
Questioning Wikipedia	19
Relying on Professional or Disciplinary Expertise	31
Accepting Sources as Trustworthy	40
Total	125

Applying Conventional Evaluative Criteria

Many participants appeared to be willing and able to apply widely-held evaluative criteria to their sources across both activities and class sessions. Many of the evaluative means students described were based on the general source they were considering. For example, students noted that government websites are trustworthy, that Wikipedia is unreliable (but, as several groups mentioned, that they still rely heavily upon it), that a source's usefulness can be determined according to whether it contains statistics and "facts" or whether it is "subjective," and that scholarly journal articles or items from a library database are "best." This type of evaluation struck the authors as similar to what students could have heard from a high school or college teacher regarding research, but that students may not have necessarily considered what they themselves thought about a source and instead accepted a teacher's definition.

Questioning Wikipedia

While resources found through the library and on government or educational websites frequently went unquestioned in terms of usefulness or trustworthiness, Wikipedia was the one source repeatedly considered suspect. Wikipedia was referred to as "not credible" because it is a freely available source; students frequently noted that anyone can contribute and/or the authors cannot be identified, and for those reasons it lacks credibility. Only one group of participants claimed they would cite Wikipedia in an assignment, because "you can find a lot of information." Wikipedia contributors and editors were often referred to as "unknown" or "random people." Though students expressed their distrust of Wikipedia as an authoritative source, they also noted its usefulness for gathering information at early stages of the research process and in everyday information seeking. One group offered the following brief summary: "Wikipedia is a very useful website that has helped people gain knowledge on all kinds of subjects for years. Although the information found on Wikipedia seems legit there is no way of verifying it since there is no author." These students note Wikipedia's usefulness in helping people gain knowledge and that the information it provides seems legitimate, but because the contributors cannot be identified, shy away from saying it is verifiable. Many exhibited a strong familiarity with Wikipedia and held strong opinions on when it is appropriate to use.

Relying on Professional or Disciplinary Expertise

Student understandings of inclusion and exclusion in terms of their research topics and the production and distribution of a given resource were largely based upon notions of professional and experiential authority. Possessing subject expertise or knowledge of disciplines relevant to a topic were frequently referred to as key for being able to publish. These responses regarding the attainment and exercise of subject expertise were interpreted by the authors to indicate students becoming increasingly immersed in their field of study while they simultaneously look for distinctions between “experts” and “non-experts.” Still, it is equally and simultaneously possible they are relying on traditional evaluative criteria. Less frequently, but still consistently, participants noted the need for professional or first-hand experience with a topic. One student combined both disciplinary and first-hand experience when asked, “Who can publish on this topic?": “People who are knowledgeable of criminal justice [and] sociology, and testimony from people that were once involved in gangs and drugs.”

Some students did not adhere to common notions of educational and professional authority, and instead provided their own ideas on who *should* be able to publish or not. These responses highlighted the importance of recognizing the contextual nature of an argument: “I think in a topic such as racial profiling, the voices and opinion definitely change depending on who is speaking”; long term participation in a culture as key to voicing one’s thoughts, as well as one of reporters’ roles: “I feel those who are a part of the culture for a long period of time should be the main voice of the topic. Reporters help include other people’s voice”; and an interest in excluding dominant voices from conversations impacting marginalized people, in the case of police brutality: “Families effected by the brutality (lost loved ones due to this violence)...Government officials should be excluded” and the issue of food deserts: “Scientists, nutritionists and geographers might be included and politicians should be excluded.” On the whole, however, students frequently invoked disciplinary expertise and professional experience as prime indicators for an ability to publish, which has the effect of differentiating students (who may feel they cannot publish on a topic) from authors (who are perceived as possessing some type of authority which allows them to publish).

Accepting Sources as Trustworthy

Related to but oftentimes expressed differently by students than the “Applying Conventional Evaluative Criteria” theme, responses to resources in terms of trustworthiness were largely based upon familiar indicators of quality in academe. Being scholarly, peer reviewed, and/or found in a library database were all identified as favorably contributing to a given resource’s trustworthiness. Despite using a variety of sources that included Google, Wikipedia, the library catalog, and a multidisciplinary library database to discover resources representing a variety of mediums that included websites, dissertations, interview transcripts, scholarly articles, book chapters, and government reports, participants overwhelmingly declared their chosen resource to be trustworthy. Only three students indicated the resource they located may not be trustworthy, due to the incorporation of personal opinion in some manner. A selection of responses illustrate a reliance on commonly-accepted indicators of quality not reflected in other themes: “Yes [it is trustworthy], the source was given by the library databases”; but also trustworthiness as a quality only afforded to certain publications: “Everyone could publish on this topic but not all publications will be considered trustworthy”; and affiliation with the university and an intent to investigate a claim: “I believe this site is trustworthy because it’s a site linked to the school’s website to help students exercise the truth of an argument.”

In summary, participants tended to apply evaluative criteria in line with academic conventions and expectations, to question Wikipedia much more frequently than other information sources, to rely heavily upon indicators of subject expertise and professional or first-hand experience when considering who should publish on a topic, and generally accepted the sources they located as being trustworthy. Fewer students supplied their own personal interpretations of trustworthiness and credibility that went against the grain of dominant voices, a strategy much more in keeping with the authors’ goals of encouraging students to question preconceived notions of authorship and authority. Additionally, some participants demonstrated an understanding of credibility being contingent upon where an argument appears and of people who should be able to voice their stance on an issue that affects them not always being able to.

Subthemes Related to Activity 1

The first of two library instruction sessions asked students to organize into small groups, choose a topic of interest, select a source to use for information on this topic (Google, Wikipedia, the library catalog, or a library database), find one resource (such as a website, Wikipedia entry, book, article, film, or any other number of possibilities), and answer a set of questions regarding that resource. Two subthemes were discovered through analysis of participants' written responses to the activity's questions. A sample response is included in Appendix A.

While the major thematic areas indicate a general reliance on commonly-accepted notions of authority in the academic context, some students' criteria for evaluation and understandings of who is able or unable to contribute to scholarly conversations show nuanced comprehensions of authority. Most prominent in students' replies was the recognition of different "contributors" to a single resource. While students often listed the authors of a resource as the contributors, others referred to any one of a number of additional contributors: the works cited page or other authors referenced within a resource, the journal an article appears in, a funding agency or university an author is affiliated with, and even study participants, as in one response: "Children contributed to this source because they were a part of the study." These understandings of the many dimensions that shape a resource's production and dissemination conveyed students' comprehension of how scholarly sources are constructed. Nearly one-third of participants recognized that the primary authors are not the only ones contributing to a source.

Several participants were intrigued by a source because it would help them make a particular claim or argument in relation to their topic, thus bolstering their authority. One student considered a newspaper article they found useful because it "shows the difficulty that women have in the media," and additional students described similar situations of how a resource they located would assist them in making the argument they wished. While this perspective does not give the impression that these students were open to being persuaded by opposing viewpoints, it is encouraging in that they felt strongly about their research topics, and were active in and cognizant of the need to formulate an argument to appear authoritative.

Subthemes Related to Activity 2

The second of two library instruction sessions gave students time to investigate their chosen research topic more closely using library sources, asked them to find a resource of interest, and to answer questions about who has the ability to publish on their subject. Appendix B contains a sample artifact pertaining to this activity. The authors identified two subthemes unique to Activity 2, which follow.

When asked who can publish on their topic and whose voices are included or excluded, “advanced knowledge” and “first hand experience” were prioritized by a considerable number of participants (n=58; 59%). One strand of this understanding was the student as non-authority, particularly concerning their status relative to professors and having not yet received advanced educational credentials. This is reflected in two students’ responses: “Professors['] voice[s] may be included and students['] voice[s] excluded,” and, “A current student’s voice might be excluded because they do not have enough credentials.” Another participant drew attention to degrees as an indicator of one’s ability to publish on a topic: “Voices that would be included would be anyone with a degree, but those that don’t have a degree will be ignored.” The authors interpreted these responses as revealing there is still much work to be done to promote students’ agency in terms of contributing to scholarly discussions.

Fourteen students (14%) mentioned a source being trustworthy because it was retrieved from or associated with a library database, regardless of the publication or content. For these students, credibility was determined in part by a source’s container and its affiliation with the library instead of other contextual clues. Other times a publication or source type itself equaled reputability, such as a newspaper like the *New York Times*, a scholarly journal, or another publication name or type. Participants’ reliance on these indicators of authority occasionally revealed misunderstandings about journals or library collections. One student seemed confused with the difference between a scholarly journal and a newspaper, although an easy mistake to make considering the newspaper in question has “journal” in its title: “This is a trustworthy source because it’s a scholarly journal from the *Wall Street Journal*.” When asked whether the scholarly journal article they found was trustworthy, one student wrote, “Yes I think so, because it is from the school library, and I think it has been reviewed by the library.” This reply signals that they, and possibly other students, think the library reviews all resources it offers.

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Teaching & Un-Teaching Source Evaluation

Discussion

These findings suggest a number of implications for information literacy efforts, and in particular for instruction librarians interested in problematizing notions of authority and conventional approaches to source evaluation. These implications are framed primarily as possibilities for library instruction, and are based upon the research findings and the authors' reflections upon their attempt to place authority and source evaluation front and center.

Students' reliance on commonly-held notions in regards to the authority of certain sources suggests that the authors' instructional efforts did not push far enough in this direction, and points to the need for information literacy instruction that delves deeper into gray areas (Atwood & Crosetto 2009; Mark, 2011a; Swanson, 2004). When might a government website not be reliable? When might Wikipedia be appropriate to cite? When would a library database not be a useful source? Finding ways to complicate source evaluation and bolster students' own unique conceptions of authority, instead of relying on simplistic prevailing notions, could be a fruitful avenue for librarians to explore.

Wikipedia arose as one salient theme across the many class sessions that were taught, both as a resource likely to be criticized by students and something they relied upon and exhibited a familiarity with. Teaching specifically about or by using Wikipedia may be a productive approach to take, and can show students that information use is never as clear-cut as it appears. The authors' experiences and findings are similar to those of Jacobs, who notes the dual nature of Wikipedia's status as a source in academe: "Students have learned—presumably from those of us who teach them—that Wikipedia is a resource that should not be trusted or used. Nevertheless, when I ask students how many of them have consulted Wikipedia in the past 24 hours, invariably 85-95% of them raise their hands" (2010, p. 184). As a controversial resource in the academy, the use of Wikipedia can be a means to raise important questions about why we value or trust the information that we do. Library instructors might discuss with students how numerous contributors, even if anonymous, can be highly beneficial to the quality of a resource, as well as the immense gender imbalance among Wikipedia contributors—according to one study conducted by Wikipedia, only 8.5% of its editors are women (2011).

Further involving students in reflections upon their choice of sources, beyond what this study undertook, is another approach that the findings suggest would be useful. Two

questions this research project brought to the fore are: 1) What is a useful or trustworthy source? 2) Who makes that determination? Addressing the question of what makes a source “right,” whether through discussion, activities, or other means, could draw out the contextual nature of information seeking and use and highlight the exercise of and reliance upon authority. This was successful for the authors on a small scale by asking students these types of questions through an activity, but focusing an entire session upon these questions could be even more useful in encouraging students to critically evaluate the information they encounter. Additionally, focusing on the ways that information is surfaced in a variety of sources is another aspect of the project that worked well and could usefully be expanded upon. For instance, Google, Wikipedia, and library databases all rely on keywords for searching, but each have decidedly different purposes, motives, and end goals. Information could be addressed in terms of how students are likely to access it in common practices—surfaced through proprietary search algorithms and in the form of advertisements (King, 2016)—and how they might access useful and reliable information after they graduate and are likely to no longer have similar access to subscription databases.

A vast majority of participants felt that the resources they discovered, many of which were located through a library catalog or database, were trustworthy. In the authors’ estimation this signals a need to question scholarly information more in library instruction. More broadly, there is a need to reorient library instruction sessions from “peer reviewed article instruction” to what could more accurately be considered “information literacy instruction”; that is, considering information beyond what is available in scholarly journals. Based on students’ acceptance of many articles’ and books’ truthfulness and quality, pointing out examples of where fake papers have been published or findings falsified in major reputable journals (Ferguson, Marcus, & Oransky, 2014), or the ways in which major scholarly publishers rely on the free contributions of academics while repackaging and reselling these works for exorbitant prices, are two options for reexamining the expectation that scholarly articles are without controversies and contention.

Finally, the authors found that by focusing on topics and problems that are relevant to students’ lives and expressed interests, they were more successful in engaging students than in previous classes that did not use these methods. Beyond immediate engagement, the authors hoped that finding ways to bring student experiences into the classroom would encourage learners to recognize their own sense of authority in relation to these subjects,

and also allow the authors to learn from the students. While this goal is not recognizable within the constraints of two class sessions it remains one important to work toward. Given the levels of student interest when given the opportunity to investigate issues that matter to them, the authors anticipate building upon this method to meaningfully embolden students to be involved in their learning. This will be pursued through other methods that will build student interests and expertise into library instruction, such as beginning a class with a five-minute free write or drawing session on how they find information for everyday topics, such as finding directions or locating an article.

Limitations and Future Research

Future research should address the limitations of the current study. First, very little demographic information was collected about the participants. Students were encouraged to write their class year on their worksheets but not everyone did so, and no correlations between educational level and student responses to the critical thinking questions were sought. In a future study it could be worthwhile to collect additional data from students, such as previous library instruction, ethnic identity, and/or gender identity. The same demographic criteria would be collected and reported for the instructors as well, as the latter are not exempt from the negotiation of authority and power dynamics. This information could be particularly valuable for exploring authority in teaching and learning from both student and instructor perspectives.

In terms of instructors, it is worth noting that teaching faculty were given a choice between the pedagogy described in this study or traditional lecture-focused instruction. Although a majority was willing to try this new approach in their classes, a handful of instructors opted for a traditional session. This is noteworthy because instructors open to active learning methods in library instruction might very well take a student-centered approach in their teaching. In contrast, instructors preferring a demonstration of resources may be more likely to teach in this manner. Therefore, students in the former group might be more familiar with active or critical pedagogies than students in the latter classes, potentially introducing bias into the findings of this study.

Another limitation was the use of a convenience sample of students. This method is a cost-effective and relatively simple process, as researchers can self-select participants that fit the parameters of their study's methodology. This technique has some notable flaws, as it can

result in participants being either under- or overrepresented in specific groups (Laerd, 2012). In the present study, the convenience method did not provide a balanced group of participants in terms of class year, as evidenced by the high number of sophomores. Additionally, some aspects of the instruction are difficult to evaluate in its goal of promoting student authority. One question that has not yet been answered is: How might we assess if having students present their knowledge to their classmates has an impact on their sense of authority in the long-term? The authors see each class for two sessions, and are unlikely to have contact with the same students again. Observing the effect of pedagogies over time would be a valuable opportunity.

One possibility for future research is a longitudinal study that could track students over the course of their time at Long Island University, Brooklyn. Ideally, students would begin participation during their first or second year of college. They would meet with a librarian investigator once individually and once in a set group every year until graduation. During these meetings participants would complete additional critical thinking activities intended to examine the evolution of their authority as learners as well as within a source evaluation context. Librarians would pay special attention to intellectual discoveries arrived at by the students, and can help them brainstorm means of practically applying these new ideas to better their career trajectory and community relationships. For example, students could select a local community organization and work together to evaluate power relations between the organization, local government, and its user groups, potentially even sharing their findings with the organization's stakeholders.

Lastly, "Authority is Constructed and Contextual" is only one of six frames in the ACRL Framework, and not the only frame to consider issues related to authority in instruction literacy. Additional research within this topical area could be centered on examining authority from the perspective of other frames. For example, part of the description of the "Scholarship as Conversation" frame reads, "While novice learners and experts at all levels can take part in the conversation, established power and authority structures may influence their ability to participate and can privilege certain voices and information. Developing familiarity with the sources of evidence, methods, and modes of discourse in the field assists novice learners to enter the conversation" (ACRL, 2016). Although the current project champions the belief that people of all educational levels and backgrounds deserve their voices to be heard but are often prevented by many socio-cultural factors, it did not delve

deeply into providing learners with concrete methods and established “modes of discourse” needed to join the scholarly conversation. Librarians can work in conjunction with teaching faculty to identify these tools and tailor them to the unique needs of students in their day to day lives. A related study could expand the objectives of the present project by using the “Scholarship as Conversation” frame as the groundwork for further exploration of the authorities faced, created, and critiqued by students.

Conclusion

This study of authority and source evaluation in information literacy instruction has generated a number of findings and implications. The participants generally expressed widely-accepted notions of source evaluation in academe, as they applied conventional evaluative criteria, questioned Wikipedia’s reliability, relied on disciplinary or professional expertise as indicators of a source’s quality, and accepted the wide variety of resources that they found as trustworthy. To a lesser but still notable extent, students conveyed strong opinions regarding who should publish on a topic, recognized a wide variety of contributors to a given resource, were interested in sources that would help them make a particular argument, noted the exclusion of student voices from scholarly discourse, and believed in some cases the people most impacted by an issue are unlikely to be able to publish on it.

Based on these findings, several implications for information literacy instruction are presented, including teaching specifically about or with Wikipedia to show the complexity of information’s creation and evaluation, involving students in reflection upon the sources they use and investigating their different purposes and intents, questioning the privileging of peer reviewed articles and the assumption that scholarly publications are ideal sources, and focusing or structuring one’s teaching activities upon students’ experiences and voices in order to meaningfully invite them to be part of the classroom conversation. Ideally these strategies will lead to students’ participation in other conversations they may otherwise feel they do not have to authority to join but lend a valuable perspective to, scholarly and otherwise. More broadly, the findings serve as a reminder that students already come to academic libraries and higher education with complex understandings of information. Librarians must recognize that students already have information literacy practices and understandings, and find ways to act upon these understandings along with learners to co-investigate information’s production and use.

In considering the findings as a whole, it appears the classes did not go far enough in questioning the concept of authority. This was due to a host of factors, from having too much to address across two class sessions, to course instructors wanting to emphasize information not in the authors' lesson plans, to the need to balance what students must know to meet the requirements of their classes with investigating larger questions and issues (Beilin, 2016). There are many constraints library educators must and do consider, but the authors feel this project was a worthwhile experiment worth pursuing further. The authors concur with Maria Accardi's assertion that as library educators we can, "in our own ways, however small, clear out space for creative disruption, for thoughtful experimentation, and for subtle but satisfying interruptions of the structures that govern us, and, ultimately, contribute to student learning in a positive and long-lasting way" (2010, p. 262). Librarians should continue to experiment in their work as they provide new and meaningful ways for their patrons to learn, to become involved in the decisions that impact them, and to explore the issues that they care about.

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Appendix A: Sample Artifact for Activity 1

1. Please circle where you found this source:

GOOGLE

LIBRARY CATALOG

LIBRARY DATABASE

WIKIPEDIA

2. Please write down the author(s) and title of your source.

- social Norms
German Kathleen M; Drushel Bruce
The ethics of emerging Media:
Information, social Norms, + New
Media technology

3. Who wrote or contributed to this source? How can you tell?

More than one author contributed to this source based on the information included in table of contents under each category, listed that is associated with social norms.

4. How might this particular source be useful to you? What are its disadvantages?

This topic can be useful because it includes in depth information, it is helpful, but the disadvantage is that some of the context is too broad in the article, needs to be narrowed down more.

5. Would you include this source in your works cited/references page? Why or why not?

We ~~we~~ would include this source in works cited because it is relevant and informative and it is a credible source.

Appendix B: Survey Sent to Students Between Library Sessions

COS Library Instruction Survey

* Required

What is one thing you remember from the first library session? *

What questions about library research do you have that you would like answered in the next library session? *

Is there anything from the first session that you found confusing? *

Submit

Never submit passwords through Google Forms.

100%: You made it.

Appendix C: Sample Artifact for Activity 2

1. Find one article relevant to your paper topic in **ProQuest Databases**. Please email the article to yourself and to me (Katelyn.Angell@liu.edu).

"Genetic and Environmental Influences on Psychopathy
trait Dimensions on a community sample of
Male Twins"

2. Using **APA or MLA** style, write down the citation for the article you found. See your citation handout or the Purdue Online Writing Lab webpage to create your citation:

<https://owl.english.purdue.edu/owl/resource/560/07/>

<https://owl.english.purdue.edu/owl/resource/747/07/>

MLA:

Taylor Jeanette, et al. "Genetic and Environmental Influences on Psychopathy Trait Dimensions in a Community Sample of Male Twins I." Journal of abnormal child psychology 31.6 (2003): 633-45. ProQuest. Web. 1 Nov. 2014.

3. Do you think this is a trustworthy source? Why or why not?

Yes, because it relates to my topic and shows proof of ~~whether~~ whether or not its genetic or environmental. It also studied on real male twins and it comes from an online database that contains citations

4. Who can publish on this specific topic? Whose voice might be included or excluded?

I think researchers because they are the ones who actually work and test on real people to get an answer.

Someone without background of studying and researching on psychopathology would not be able to publish. *with no profession.

[ARTICLE]

Angell & Tewell
Teaching & Un-Teaching Source Evaluation