

Information Literacy Report for Spring 2021
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Hist 250: History of Science and Society

My class, *History of Science and Society*, aimed to examine the historical relationship between trust, authority and scientific knowledge. I began by taking students through a history of how scientific practices and disciplines developed in the Americas, East Asia, India and Europe. Through discussion of primary and secondary texts, we then examined how scientists worked to develop trusted methods of studying nature. Finally, my class asked students to apply these theoretical approaches to write a well-researched and fully-referenced article for an online University of Scranton History of Science Encyclopedia that we developed together as a class.

To help students gain the skills to accomplish this, Professor George Aulisio visited our class and facilitated a discussion of how to identify a credible academic source. He also demonstrated several useful tools to help students find sources online and in the library's catalog and databases.

IL Framework: Authority is Constructed and Contextual ***Assessment: In-class Discussions of Primary Sources***

This course invites students to examine science as a process of how scientific knowledge and authority is *constructed* through embodied practices like laboratory experimentation and *contextual* in that scientific interests frequently reflect pressing social, political and religious priorities within the broader society. To highlight this point, I began by taking students through a history of how scientific practices and disciplines developed differently in the Americas, East Asia, India and Europe.

Along the way, we discussed primary sources including an Aztec guide to medicinal herbs, a Japanese account of European science, and a beautifully illustrated album of Indian plants. We asked how science become such a powerful and important part of Western society in particular, why "modern" science is so strongly associated with Western Europe, and what the historical relationship has been between science and religious beliefs.

IL Framework: Information Creation as a Process ***Assessment: Short Reflection Paper***

At its heart, the History of Science requires thinking about information creation as a process. To do so, we began the course by discussing philosopher Thomas Kuhn's idea that scientific work develops within "paradigms" – frameworks of knowledge that determine scientific practice. We also discussed Bruno Latour's concept of knowledge "networks" – the idea that linking people and objects across space enables the aggregation of knowledge to certain "metropolises," or knowledge centers.

I then asked students to use these approaches as a framework to write a short reflection paper on one of the primary sources that we had discussed in class. This allowed students to reflect on how scientific work is, in the words of historian Steven Shapin, a “heterogenous, historically situated, embodied, and thoroughly human set of practices.”¹

IL Framework: Scholarship as Conversation
Assessment: Encyclopedia Research Article

To draw these ideas together and help foster the framework of scholarship as a conversation, our cumulative assignment required students to use the library’s resources to research and write an encyclopedia article for a University of Scranton History of Science Encyclopedia. This assignment asked students to 1) apply the theoretical approaches we had learned in class and 2) synthesize a variety of academic sources in order to write a well-researched paper about a famous scientific figure, event or idea.

To help students gain the skills to accomplish this, Professor George Aulisio of the library visited our class and facilitated a discussion of how to identify a credible academic source. He also demonstrated several useful tools to help students find sources online and in the library’s catalog and databases. Professor Aulisio’s presentation had a strong impact on the students’ ability to identify and find credible sources during the challenges of the COVID-19 pandemic, and several students were able to successfully complete research on topics that are not well-covered in the historiography of science, including African American chemical pioneer Percy Lavon Julian and founder of Occupational Therapy founder Eleanor Clarke Slagle. With the help of the library’s resources and Professor Aulisio’s guidance, students became more thoughtful in how they consider scientific knowledge and more capable in their research.

Student Reflection

Student feedback from their end-of-the-semester reflections was extremely positive. They enjoyed the de-constructive approach towards scientific knowledge and practice and many students majoring in scientific and professional disciplines found that the course helped them to appreciate the value of history and humanities in general.

Steps for Future Improvement

I will be teaching History of Medicine for the first time in Fall of 2021, and I will be applying many similar approaches to that course as well – focusing on knowledge construction and the embodied nature of medical work.

With regards to improvements, many of my students struggled to narrow down their encyclopedia topics and to find focused academic sources. To help with this, I will be spending more time training students how to distinguish scholarly from non-academic resources and giving them the means to find credible sources. Specifically, I will spend more time introducing them to the library’s resources and databases (especially those highlighted by Professor Aulisio)

¹ Steven Shapin, “Lowering the Tone in the History of Science: A Noble Calling,” in *Never Pure: Historical Studies of Science as If It Was Produced by People with Bodies, Situated in Time, Space, Culture, and Society, and Struggling for Credibility and Authority* (Chicago: University of Chicago Press, 2010) 14.

and encouraging them to use specifically science and medicine-based resources like ISISCB and the National Library of Medicine.

In conclusion, I believe that information literacy – the ability to find information, evaluate a source and contextualize it within a broader frame of knowledge – is the most valuable transportable skill that students learn in history classes. I remain committed to fostering information literacy in every class I teach at the University of Scranton.