

Footnoting Edward Jenner: Using Textual Editing to Teach Information Literacy

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Information literacy has become one of the most important skills we teach undergraduates. Noting its importance to lifelong learning, the Association of College and Research Libraries (ACRL) argues, “Information literacy competency extends learning beyond formal classroom settings and provides practice with self-directed investigations as individuals move into internships, first professional positions, and increasing responsibilities in all arenas of life” (*Information Literacy Competency Standards*). Indeed, employers report that they want employees who not only know how to find and use information but who are also able to “find patterns and make connections” and “apply knowledge to real-world contexts” (Raish and Rimland 99). Moreover, from a political perspective, critical thinking and media literacy have quickly become indispensable to an informed citizenry. With so much riding on this skill, teachers of English and composition may want to look beyond the traditional research paper, which typically asks students to search in scholarly databases, identify peer-reviewed sources, and quote those sources to support an argument. While this process is vital for developing skills in argument and critical dialogue, the traditional research paper can lead students to view texts as stable entities, that is, as either a good source or a bad source. Even the word “source”

emphasizes the text as a container of information we simply draw from, when in fact most texts are better understood as rhetorical performances. Information literacy requires a more nuanced approach that asks whether a source is effective for a particular purpose or audience. Indeed, the ACRL emphasizes these contextual matters in its revised definition of information literacy as a “set of integrated abilities encompassing the reflective discovery of information, the understanding of how information is produced and valued, and the use of information in creating new knowledge and participating ethically in communities of learning” (*Framework*). The *Framework for Information Literacy for Higher Education* (2015) highlights these skills in several of its key concepts, which remind us that authority is constructed and contextual, information creation is a process, and scholarship is a conversation. These changes acknowledge that, to achieve the skills necessary for lifelong learning, students must become adept at recognizing how information is mediated.

One highly effective way of teaching this skill is to put students in the active role of the mediator by asking them to produce a critical edition of an existing, open-access text. The process of inserting explanatory footnotes, writing a critical introduction, or curating an appendix of cultural contexts requires savvy research skills for interacting with a wide range of primary and secondary texts. Furthermore, the editing process foregrounds questions of audience and purpose that are essential to metaliteracy, which “expands the scope of traditional information skills (determine, access, locate, understand, produce, and use information) to include the collaborative production and sharing of information in participatory digital environments”

(*Framework*). To teach this kind of information literacy, I developed a footnoting assignment for an undergraduate humanities course in which I taught Edward Jenner's 1798 pamphlet on vaccination against smallpox, *An Inquiry into the Causes and Effects of the Variolae Vaccinae*.

Jenner's text anchored the science module of Temple University's "Mosaic: Humanities Seminar," a required course designed to teach critical reading skills and help students make connections across texts, time periods, and disciplines. Getting students to read this text critically was especially challenging, not only because much of Jenner's vocabulary is antiquated or highly specialized but also because his twenty-three cases report procedures and results without arguing for their significance. While students were often perplexed by Jenner's minute descriptions of how he extracted or inserted "morbid matter of various kinds" into his test subjects' skin, many instructors struggled to present the text as anything more than an illustration of the scientific method (Jenner 6). Jenner's pamphlet left us with the same questions our students were asking: why should we read it? What's the point? What might a humanities scholar have to say about an eighteenth-century medical treatise?

To make matters worse—or so it seemed at first—we used a facsimile edition that had no introduction, notes, or supporting materials of any kind. This book had not been written for students, but I realized that it offered a unique opportunity for active learning. If we began by identifying what the twenty-first-century undergraduate might need help understanding, we could build our own critical apparatus. Of course, I could have simply given a lecture that covered that material, and it would have taken perhaps just one or two class sessions instead of

three weeks. But I was drawn to methods of engaged learning because I was less concerned that students master the content of Jenner's work than that they should acquire the tools to interpret and analyze all kinds of texts. Knowing that my students would learn more from the experience of posing questions and seeking answers for themselves, I developed a sequence of three research assignments that asked students to use online annotation software to create an edited version of Jenner's text aimed at other Mosaic students. In the first assignment, they worked in groups to define key terms, identify the main points of Jenner's argument, and pose critical questions about the text. In the next two assignments, students conducted independent research in nineteenth-century periodicals to discover popular debates surrounding smallpox and vaccination and then used their research to insert explanatory footnotes into Jenner's text.

Annotating the Text

We used a service called A.nnotate.com, which allowed me to upload a limited number of pages for free and invite others to annotate the document. Newer open-access platforms now offer more bells and whistles, especially for use in online courses. For example, Meegan Kennedy describes an annotation assignment using Hypothes.is to "help students gain the habit of turning to specific moments in the text for their examples" (551), and Laura Rotunno uses the annotation tools in COVE Studio to promote "scholarly interaction" among her students in a British survey course. But A.nnotate.com worked well for my relatively humble plan of collaboratively annotating a short pamphlet. This was a face-to-face class of twenty-five

students, so we were not relying on the software for all our discussions and interactions.

Furthermore, I was not looking to create a public-facing project. I simply uploaded the text of Jenner's original pamphlet obtained from Project Gutenberg (one could also use a PDF from Google Books) and shared the link with my students, who began by working in small groups on a limited range of pages. We devoted some class time to get the groups up and running, but students mostly collaborated outside of class (via email, courseware, or in person) so that we could discuss their annotations during class sessions.

In the first assignment, each group was responsible for defining vocabulary in their assigned section and summarizing the main point of two case studies:

FOOTNOTING JENNER—GROUP WORK

- **Vocabulary:** Each group will be responsible for defining key terms in the assigned cases. Identify the terms you think are most confusing for Mosaic students and most important for understanding Jenner's argument. Define the terms and add the appropriate notes to our text online.
- **Case Studies:** For each of your group's assigned cases, create a brief annotation explaining why the case is significant (i.e., what does it prove for Jenner's thesis?).

Of course, asking students to look up unfamiliar vocabulary is hardly revolutionary; instructors regularly encourage students to mark up their books, write in the margins, and make the text their own. But in this case, I wanted students to think about what it means to mark the text for

someone else and to recognize the difference in these rhetorical situations. Angelika Zirker and Matthias Bauer suggest that even scholarly editors could stand to think more about this, noting that “printed editions of all kinds of texts, from Shakespeare to contemporary poetry, are usually philologically sound but also often hermeneutically weak as the editors frequently do not have any systematic approach to the kind of knowledge they presuppose or wish to provide in their annotations” (146). Given the increased use of explanatory annotation made possible by digital platforms, Zirker and Bauer argue that a theory of annotation should ask, “What kind of reader is presupposed by an explanatory annotation? Which aspects of the text are being taken for granted, which ones are actually being explained? What are the choices made manifest by the set of annotations concerning a specific text?” (145). I wanted my students to develop these kinds of metaliteracy skills, so I crafted the assignment to keep students focused on how their definitions would serve their intended audience and purpose.

This seemingly rudimentary exercise lays the groundwork for more complex annotations, as I will demonstrate, but even at this early stage the vocabulary assignment develops key practices and dispositions for information literacy, including selection and evaluation. Student editors who chose to define every unfamiliar word soon found the page unhelpfully overcrowded with notes. And while indiscriminate marking might go unchecked in one’s personal copy of the text (we have all seen used books with virtually every section covered in neon highlighter), other students were quick to point out unnecessary notes in the online edition. Furthermore, our class discussions often focused on these crowded areas with good results, for as Kennedy observes,

such “hot spots” in the text can also alert readers to “interesting or controversial material” (553). The question of defining vocabulary turned out to be more controversial than I anticipated, as students debated how much an editor should explain and how much the reader should be expected to look up on his or her own. Student editors often consulted other members of the class to gauge a term’s relative difficulty, but even more crucially they had to consider whether the term was integral to Jenner’s argument. In this way, the vocabulary assignment encouraged students to “critically evaluate contributions made by others in participatory information environments [and] see themselves as contributors to scholarship rather than only consumers of it” (*Framework*). This first task familiarized students with the annotation software and the exigencies of creating texts for other readers, but it also encouraged them to think about how language and ideas function in particular contexts. In the next two assignments, I wanted students to learn how to contextualize Jenner’s work within its historical moment.

Discovering Cultural Contexts

Our facsimile edition of Jenner’s 1798 text gave students the feeling of reading the original, but in fact it was completely removed from the network of ideas and attitudes that gave it meaning. Though eighteenth- and nineteenth-century readers might have encountered the same page layout, their reading of those pages would have been influenced by other print media, including books, periodicals, and newspapers. Considering the “dynamism of print culture and its relation to multiple audiences,” Linda K. Hughes advocates for reading “sideways,” which, as

she explains, includes “analysis across genres; texts opening out onto each other dialogically in and out of periodicals; . . . and spatio-temporal convergences in print culture” (5, 1–2). To understand how Jenner’s text functioned for different communities of readers in his own time, we needed to engage in some of the “lateral moves” described by Hughes and pay attention to the contemporary discourses that overlapped with and responded to Jenner’s ideas (Hughes 2). More than a simple history lesson, my students needed some evidence of the culture that produced and received this pamphlet. So in the second assignment, we consulted digital archives of eighteenth- and nineteenth-century periodicals and newspapers to learn more about how smallpox affected people in Jenner’s time and how the press reacted to his vaccine ([Appendix A](#)). I asked students to choose two articles and write a bibliographic citation and brief summary for each, and we devoted a class period to discussing their findings.

I should note that we had access to a wide range of digital resources through the university’s subscription databases, including *C19: The Nineteenth Century Index*; *British Newspapers 1600–1900*; Proquest *Historical Newspapers*; *London Times (1785–1985)*; and *New York Times Full-Text/Full-Image (1851–2007)*. These expensive institutional resources collect periodicals high and low, specialized and popular, so that students get mixed results that they must then sift through, evaluate, and compare. But the assignment can be easily adapted for open-access archives. Indeed, though I no longer teach Jenner’s treatise on vaccination, I have developed similar assignments for my literature courses. For example, in a course on Victorian supernatural fiction, my students explore nineteenth-century periodicals digitized in *Dickens*

Journals Online and *HathiTrust Digital Library* to choose a ghost story and create a critical companion website that includes an introduction and biographical statement on the author, discussion questions, a collection of themed critical essays, and a bibliography of selected criticism. In each version of this assignment, I ask students to grapple with the difficult elements of a text and make them responsible for finding and communicating answers.

One of my goals for teaching historical research in primary texts is for students to practice using search terms, and the Jenner assignment offered fruitful challenges. Despite the myth that these digital natives have natural affinities for online research, most students need help developing effective search terms and sifting beyond the first page of results. In “Digitization in Teaching and Learning: The Publisher’s View,” Seth Cayley highlights the central difference between digital archives and Google by asking a simple question: “Does *anyone* use the advanced search page on Google?” (212, emphasis in original). Of course, most of us never need to. But as he points out, “To get the most out of a digital archive, students will need to master Boolean searching and wildcard operators—essential information and communication technology skills rarely developed without guidance” (Cayley 212). This sort of nuts-and-bolts tech savvy is fundamental to information literacy, but it also relates to higher-order thinking. For example, some of my students simply entered Jenner’s name into the search field and began combing through hundreds of hits. Others began with more specific research questions about Jenner’s views on nature, the ethics of testing on children, whether Jenner made any money from his work, and why exactly anyone would object to this procedure. These kinds of questions

offered a better starting point, but students were still surprised when a search for “Jenner AND money” did not yield the results they hoped for. I encouraged them to think about how and why nineteenth-century journalists would have covered this story, and eventually students suggested we search for words like “fortune,” “award,” “prize,” and even “honorarium.” This process taught them how to navigate untagged information, and it also made them more conscious of how their searching mediated the kinds of articles we would later read together as a class.

Another goal for conducting historical research was to widen student perspectives on what counts as an authoritative source. Overall, the best critical thinking happened when students engaged in questions about audience because such questions require students to think about how a text is presented (whether it is a pamphlet, an article, an entire issue of a periodical, or an annotated edition the teacher is making them create) and how that presentation shapes the meaning of the text. In summarizing their chosen articles, students had to figure out what kind of rhetorical work these texts were performing. This meant asking questions about a periodical’s target readership, the types of content surrounding their selection, and the tone of the article itself. We devoted a class to sharing their findings, and as we went around the room students started to make connections between their own articles and the information others had presented. For example, one exciting instance of collaborative learning happened when one of my students found an article titled simply, “A Biographical Sketch of the Life of Dr. Jenner,” which turned out to be more of an encomium. My student accepted this information as fact rather than an assertion to be treated with skepticism, so when she presented her research she told us that

Jenner was a humble man (rather than that the article presented him as such). But some of her classmates were wary of this claim—especially those whose research presented Jenner in a less favorable light—so I asked them to consider why a magazine called the *Weekly Visitor, or Ladies' Miscellany* would run a blatant puff piece about how careful and altruistic Jenner was. Another student was able to suggest, based on his research, that maybe the article was designed to quell mothers' fears of having their children vaccinated. He had found an unsigned article on compulsory vaccination entitled "A Mother's Rebellion," which argued that "if every individual mother is called on to pass her child through an ordeal out of which it may come disfigured and diseased, the private danger will outweigh the public benefit, and the instinct of mothers will defeat the law" (596). Since this article appeared in September 1869, the student surmised that the need to persuade mothers would have been even greater when the *Weekly Visitor* ran its glowing profile in 1805, just a few years after Jenner had first published his results.

Hughes argues that reading sideways "undermines tendencies to see canonical literature as a unitary or unilateral form of cultural authority and invites students to consider a phenomenon similar to some of their own experiences of mass culture," and this was certainly the case with my humanities seminar (6). Reading journalistic accounts of smallpox and vaccination made students more aware of differences in attitude and tone, and as a result they interpreted Jenner's assertions in a new light. Where they initially found his descriptions bland and scientific, some students began to read his prose as intentionally calm and reassuring in contrast to the sensational accounts they found in contemporary magazines. Others became

frustrated by Jenner’s failure to overtly address those worries, noting how easy it would be for opponents to resist what seemed like a rather cold argument. Furthermore, although students were already aware of the more recent anti-vaccination movement, encountering this historical debate helped them see more clearly that “research in scholarly and professional fields is a discursive practice in which ideas are formulated, debated, and weighed against one another over extended periods of time” (*Framework*). The comparison provoked an interesting discussion of how twenty-first-century anxieties about vaccination might be approached as a problem of information literacy, where ordinary citizens needed skills to judge the validity and authority of information.

Becoming Conscious Mediators

In the third assignment, students put their historical research into conversation with Jenner’s text to create more substantial editorial footnotes ([Appendix B](#)). This final stage of the project gets to the heart of metaliteracy skills by positioning students as both “consumers and creators of information who can participate successfully in collaborative spaces” (*Framework*). The goal of footnoting Jenner was for students to practice critical thinking and gain insight to how texts are produced for particular audiences. Not only would they have to make their research speak back to the course text, but they also had to think about what purpose their footnotes would serve for other readers. Essentially, I wanted them to become conscious mediators of the text for other Mosaic students. As James Mussell argues, “Teaching materials have always

mediated whatever they describe, whether these are textbooks or teaching editions, and an important part of fostering independent learning is drawing the attention of students to this mediation” (150–51). Overall, this assignment not only helped students understand the diverse audiences Jenner’s pamphlet had to address, but it also gave them an opportunity to think about how their footnotes could influence other readers’ reception of the text.

The footnotes were most successful when students embraced their editorial role and tried to meet a specific need for the reader. Some chose to supply additional historical information that amplified Jenner’s claims. For example, one editor created a footnote to explain some of the anti-vaccination propaganda that Jenner’s pamphlets had to debunk. Another student offered a back story for Jenner’s hypothesis that “what renders the Cow-pox virus so extremely singular, is, that the person who has been thus affected is for ever after secure from the infection of the Small Pox” (Jenner 6). Citing an 1846 article from *Chambers’s Edinburgh Journal*, “Resistance to the Great Truths,” this student’s footnote highlighted the collaborative nature of knowledge production by recounting the history of local farmers who first observed this phenomenon and shared their folk belief with Jenner. Other student editors raised questions for their intended readers—and in some cases, they even ventured interpretive answers. For example, several editors were anxious to draw attention to Jenner’s testing on children. But one student, whose footnote cited estimated numbers of deaths related to smallpox, went further to suggest that parents might have gladly faced the risk of vaccination to avoid a worse fate. Knowing that smallpox was not eradicated until 1980, another student wondered just how soon Jenner’s

contemporaries began to see results. Citing an article from 1813 on the dramatic decrease of smallpox cases in London following the introduction of vaccination, the student's footnote assured readers that Jenner's claims were not at all hyperbolic and had been quickly confirmed in the press.

By emphasizing audience and context, these assignments directly promote the elements of metaliteracy that inform the ACRL's revised approach to information literacy. While the older guidelines asked students to "determine the extent of information needed," that task only becomes concrete when students begin to think about who their readers are and what those readers need. Likewise, students are more likely to "use information effectively to accomplish a specific purpose" if they have developed that purpose for a specific audience (*Information Literacy Competency Standards*). Encouraging students to think about their annotations as contributions to an ongoing discussion—whether they were clarifying terminology or providing historical context likely to be unfamiliar to today's reader—helped them to see research as a dynamic and creative act rather than a mere binning of good and bad sources. I also found that narrowly defining the audience heightened students' self-reflection as they compared their personal reading practices to the intended audience's and tried to anticipate readers' skepticism about sources and interpretations. Erick Kelemen argues, "In some ways the tools of textual criticism may be more empowering for the student than traditional close reading, since a fundamental principle in textual criticism is that no text is ever truly final, so that each reader can participate in creating (or recovering) it" (9). Making a critical edition offers a novel and exciting

way for students to participate in the production and consumption of information. By considering how, why, and for whom the text should be presented, student editors find motivation for their critical inquiry and gain invaluable experience as active collaborators in the production of knowledge.

Appendix A

Assignment #2: Find and Summarize Two Articles

Jenner's work on vaccination prompted a wide range of responses from professionals as well as the general reading public. To help us better understand the larger cultural conversation surrounding smallpox, vaccination, and scientific experimentation in Jenner's time, you will conduct research in eighteenth- and nineteenth-century periodicals, select and summarize two articles, and use your research to create scholarly annotations to Jenner's text.

This assignment gives you practice in asking critical questions while also introducing methods for finding your own answers. You will learn how to use the library's subscription databases, construct MLA-style bibliographies, and conduct historical research. You will also develop your understanding of how scholarly texts work.

Selecting articles: Using our library's subscription databases, you will search for eighteenth- or nineteenth-century magazine or newspaper articles about your chosen topic. You can search any of the following:

- C19: The Nineteenth Century Index
- British Newspapers 1600–1900
- Proquest Historical Newspapers
- London Times (1785–1985)
- New York Times Full-Text/Full-Image (1851–2007)

Try a variety of **search terms**. You can start by searching for “Edward Jenner,” “smallpox,” “cowpox,” or “vaccination” to see what turns up. As you browse results, you might encounter other search terms to help you narrow it down. For example, you might combine “vaccination” with another search term like “safety,” “compulsory,” “anti,” “opinion,” “debate,” “bill,” “law,” “child,” or “death.”

Most databases offer a quick view option (sometimes labeled “Article” or “View Article” as opposed to viewing an entire newspaper page) to help you determine whether the article is useful. Keep in mind that you will probably have to skim multiple items before finding something you want to work on. Once you've selected an article, download the PDF file and read it carefully.

NOTE: You will probably encounter reviews of Jenner's book (or reviews of other books on smallpox or vaccination). Reviews can be enlightening because they often express a clear opinion about the work or the controversy surrounding

it. But beware of notices and short reviews that merely summarize the text—these won't be useful.

Write a bibliographic citation for each article using MLA style.

Write a summary of approximately 100–200 words for each article. Your summary does not need to treat every part of the article; you should decide which ideas and details are most interesting and arrange them according to your order of importance. You may include direct quotations, but make sure they don't dominate your summary.

Submit your summary and PDF files of your sources to SafeAssign; bring hard copies with you to class on Friday, February 8.

Appendix B

Assignment #3: Research-Based Annotation

Using your research from Assignment #2, you will write an annotation of 200+ words to elucidate a passage from Jenner's text. Rather than simply defining vocabulary or summarizing a case, this note should provide background information, examples, opposing points of view, historical or cultural context, or a critical reading about the selected passage. (For example, you could add a footnote to explain how the smallpox epidemic was treated by the press before or after the publication of Jenner's pamphlet, or how Jenner's contemporaries reacted to one of his claims. Or you could draw the reader's attention to one of Jenner's rhetorical devices and explain his target audience.)

Review the articles you researched for Assignment #2 and consider what kind of information they provide. What question does your research answer? What questions does it raise? What does this knowledge add to your understanding of Jenner's text? How might this information help other readers? Once you know why we need this information, you can decide how to annotate the text.

Choose a passage in Jenner's pamphlet **where you will anchor your footnote**. You should already have some ideas of where your footnote belongs based on your initial research question, but spend some time thinking about the best placement. Sometimes research turns up unexpected things, and your information might be more effective or relevant to a different part of the text. **NOTE:** Don't just drop the footnote randomly into Jenner's text. If readers don't see any value in the information at that moment, the footnote becomes a distraction rather than a help. Your note should begin with a clear transition from Jenner's text.

Cite your source. Try to credit your source directly within your sentence (e.g. According to the reviewer for the *Philosophical Quarterly* in 1799...). Either way, be sure to include the bibliographic citation at the end of your note.

Insert your annotation to our online text by Monday, February 18.

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