2024. *Proc Ling Soc Amer* 9(3). 5848. https://doi.org/10.3765/plsa.v9i3.5848.

Narrating a path: Digital humanities tools in the linguistics classroom

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Abstract. This paper embraces the premise in Mehl (2021: 331) that "linguists should care about the digital humanities … because collaborations between … linguistics and DH will be fruitful for all of us." I discuss my incorporation of a selection of DH tools and practices into my teaching of three undergraduate linguistics courses, where in lieu of the traditional "research paper", students learn about free web-based tools to create interactive exhibits and digitally edited volumes. These tools make multimodal writing and data presentation easy, and they are ideal for interactive presentation of ideas. They also allow students to weave concepts in linguistics with ways in which linguistics, usually more embedded in the social sciences, finds footing in the humanities, including language and identity, language endangerment and revitalization, or specific languages that they speak or are spoken in their worlds. These initiatives address justice, equity, diversity, and inclusion (JEDI) initiatives promoting cross-linguistic and cross-cultural understanding. They also allow students to actively interrogate the ways in which the discipline may perpetuate or challenge existing power structures and their biases.

Keywords. digital humanities; linguistics; multimedia projects; undergraduate teaching; positionality

1. Introduction and context. This paper illustrates the ways that tools used in digital humanities initiatives may empower students to learn about and frame their own research in linguistics. I begin with some information and context about my institution of higher education. I am a professor at Southern Illinois University Edwardsville, a four-year and Masters intensive state (public) university. Linguistics courses are housed primarily in the Department of English Language and Literature but are occasionally offered in other departments such as Foreign Languages and Literature, Anthropology, and in the School of Education, Health, and Human Behavior. The English Department at SIUE offers a minor in linguistics, as well as an ESL endorsement certificate.

Most of my teaching for this minor, and many of these students major in fields such as anthropology, English, foreign languages, speech pathology, early childhood education, and computer science. This means that I teach my courses to a diverse group, many of whom will only ever take one linguistics course. The courses and digital tools illustrated in this paper represent requirements and electives for our linguistics minor and for the English degree more generally.

Because of the limited scope of linguistics in an otherwise humanities-centric environment, I am interested in incorporating different pedagogical tools towards introducing students to fundamental linguistics concepts and methods of data organization and analysis. I have also been interested in finding ways for students to interrogate the traditional power asymmetries and knowledge silos that have been present in a field which has historically privileged methods of

* I am grateful to my colleagues in the IRIS Digital Humanities Center at SIUE for their guidance and support as I integrate new tools and methods into my teaching. I am also grateful to my students for their patience and creative approaches to using these tools, as they are always teaching me something new. Any errors are my own. Kristine Hildebrandt, Southern Illinois University Edwardsville (khildeb@siue.edu).

research and resulting theories on selected languages. One area that has offered a rich array of resources has been the field of digital humanities.

2. The digital humanities and social sciences. The digital humanities (DH) comprises an intersection of computational tools, technologies, and disciplines that have traditionally fallen within the humanities. They include literature and language arts, history, philosophy, classics, cultural studies, foreign languages, archaeology, and performing and visual arts. Well-known examples of DH projects found online include The Walt Whitman Archive (https://whitmanarchive.org/) and the Civil War Washington project (https://civilwardc.org/).

There has been a rising awareness that the tools and the projects built with these have perpetuated or replicated bias and exclusion by focusing on peoples, times, and places in often white, male, and western-centered contexts, a.k.a. WEIRD-centric research (Henrich et al. 2010). Indeed, as noted by Rambsy (2016), many DH scholars and practitioners have worked to develop a greater sense of self-awareness about the ways that their practices may process privilege and restrict other perspectives. This is echoed in Mehl (2021), where DH methods and tools can address complex challenges in the humanities and social sciences, including inquiries into power struggles, how ethnicities (and language practices as an embodiment of these) are counted and categorized, how communities and their signifiers change through time (diachronic processes), and theoretically informed responses to emerging technologies and the ethical challenges that big data present. Additionally, when used with attention to promoting equity, such tools can bridge gaps between quantitative methods usually found in corpus linguistics and qualitative methods found in close reading. As such, they can facilitate a "mediating the corpus" approach as described by Holton (2014); in other words, digging into materials and tinkering with analytical approaches. Furthermore, such tools can help "narrate a path", as discussed by Woodbury (2014), opening up new directions, new paths of inquiry, and new applications in different contexts. This paper documents the mediating, the tinkering, the narrating and the discoveries made by three cohorts of linguistics students at SIUE. It illustrates their work and the tools that they used to create their outputs. The paper closes with some takeaways, some challenges, and ideas for other applications.

3. Case study: Omeka. The first case study is my use of the Omeka platform in two courses that I teach as electives for the linguistics minor: Language Endangerment and Death,[1] and Language and Ethnicity.[2] Despite its alarmist name (which does serve to recruit interested students), Language Endangerment and Death also focuses on responses to endangerment, including language documentation and description, language preservation (archiving) and maintenance, and also language revitalization and reclamation. Language and Ethnicity had its origins as exploring the histories of African American and Latinx varieties of English, but it has become more about language and identity, incorporating topics on LGBTQ+, diaspora communities, and pidgin and creole studies. These courses focus on extralinguistic factors with opportunities for applied research, so they are good candidates for student work on a digital platform that is available to broader audiences.

Omeka (https://omeka.org) is an open-access web-publishing platform for multimedia digital exhibits. It can be self-hosted or hosted on a university server. It is used to build digital exhibits or digital archives that curate collections of materials from different original formats. One example of an Omeka project is the Anishinaabe Plants collection at the University of

[1] https://iris.siue.edu/eng-318/

[2] https://iris.siue.edu/eng-417/

Michigan, which shares the context and history of information from a 1933 Great Lakes textile collection project (https://museumcollab.anthro.lsa.umich.edu/s/Anishinaabe/page/welcome).

I have found that "traditional" research report/essay writing in domains such as Microsoft Word or Google Docs lack the ability to easily capture the multi-modal potential of topics explored in my courses. Additionally, in these domains, students are writing for an audience of one (me), which can undermine the impact potential of their ideas, and which also excludes them from the academic and social responsibilities in other more public domains (see Schulten 2018 for discussion on student writing for broader audiences). Because Omeka is an online platform, students can integrate a wider range of source types, and they are held to a higher standard of the presentation of their work that is not driven only by the desire for a higher grade.

Students were given administrator-level access to Omeka and engaged in a brief training. Omeka uses a what-you-see-is-what-you-get (WYSIWYG) interface of buttons and drop-down menus, and they familiarized themselves with about one hour of guided exploration. Their individual projects are hosted on Omeka as an individual exhibit, and with student ability to see each other's exhibits, illustrated in Figure 1. This means that students could work together to troubleshoot and share tips.

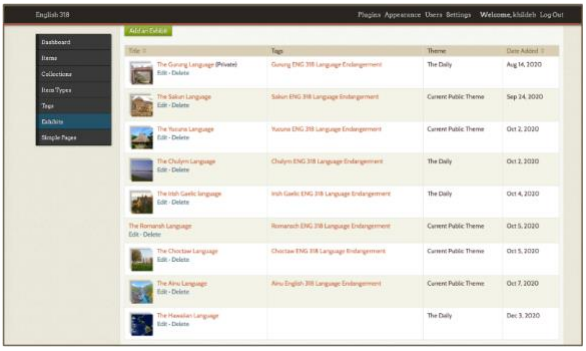

Figure 1. Omeka dashboard with student exhibits

I provided the students with prompts, and I had an organizational template. In Language Endangerment and Death, the students profiled a language, chosen from a list from which I knew that adequate sources could be found. They researched their "chosen" language's history, using assigned readings and discussions. They built this exhibit throughout the term, culminating in a final product. They were asked to include content on sections (manifested as different pages) on an overview of the language (location, genealogical affiliation, speaker population, etc.), the endangerment context and history, responses at community and higher organizational or administrative levels, and their best assessment of the prospects for revitalization and/or maintenance. They also included a page focusing on an aspect of the grammar or lexicon. Figure 2 illustrates an example of this for an exhibit on Choctaw (Muskogean) and Figure 3 illustrates a focus on Choctaw "water words" in that exhibit.

Figure 2. Organization of Choctaw exhibit

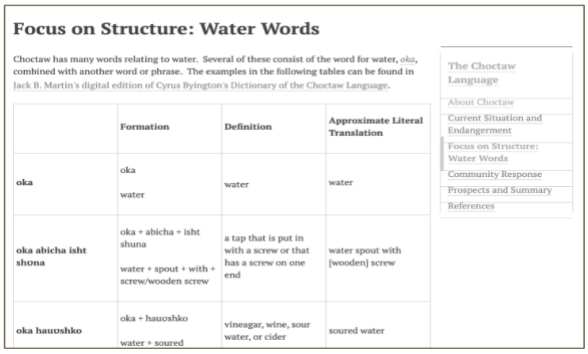

Figure 3. Focus on Choctaw "water words" page

In the Language and Ethnicity course, students were likewise provided with an organizational template. They chose a language variety, genre, or linguistic repertoire from a particular artist to feature, along with their research on extralinguistic contexts connected to these properties. Figure 4 illustrates one student's exhibit analyzing the linguistic repertoires of Ball Culture, an African American and Latinx underground LGBTQ+ subculture with several distinct language practices including naming, ritualistic insults (shading, reading), and phonological patterns.

Figure 4. Ball Culture exhibit for Language and Ethnicity

The Omeka environment was conducive to incorporating different multi-media sources into exhibits, including audio-video and still images. Students had to cite all of their sources, and their references were one of the required pages. However, one challenge of Omeka (Classic) was the inability to group the exhibits together in an attractive home page. The landing page for the ENG 318 exhibits is rather generic, and without customized web design (beyond my skill set), it

does not represent the exhibits as the product of a community effort. The next section describes my work with Scalar, which does address this challenge.

4. Case study: Scalar. Scalar (https://scalar.me/anvc/scalar/) is a multi-institutional platform which enables authors to create projects that make use of different media resources. Scalar is like Omeka in that it facilitates multimodal writing. However, one benefit of Scalar is that it facilitates long-form essay-style writing, while also incorporating multi-modal elements and being hosted on a publicly viewable platform. Also, for the purposes of my third case study course, Phonetics and Phonology, it allows for individual essays to be pulled together into an edited volume.

In Phonetics and Phonology,[3] students survey the methods and analytical frameworks related to the study of speech sound production, sound patterns, and structures. I have students profile a chosen language (steering them towards languages spoken beyond western European, Indo-European families and regions when possible) and describe the sound inventories and patterns in relation to the concepts covered throughout the term. In this way, the students are strengthening their understanding of terminology, and they are applying topics to a specific language. They also come to a deeper understanding of the ways in which speech sounds contribute to dialect varieties and how computer tools can aid in the description of phonetic properties and phonological contrasts.

As Figures 5 and 6 illustrate, I established this edited volume with an introduction authored by me, and then list each student as the author of a "chapter" contribution, as in the table of contents.

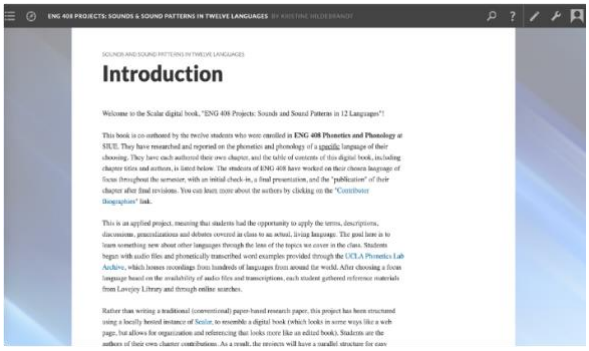

Figure 5. Introduction to edited volume

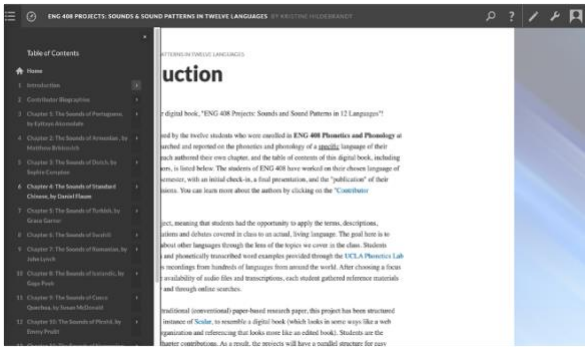

Figure 6. Table of contents

[3] https://iris.siue.edu/scalar/eng-408-projects/index

The students worked with some pre-defined organization, but they also focused on topics specific to their chosen language. In the case of the chapter on Standard Chinese, the topic was tone, in Icelandic, it was preaspiration, and in Cusco Quechua, it was ejectives.

Similarly to Omeka, the incorporation of audio files is straightforward in Scalar, and students included these as phonetic "evidence" of their descriptions and analyses. In Figure 7, the author of the Icelandic analysis includes a spectrogram from Praat (https://www.fon.hum.uva.nl/praat/) and an accompanying embedded sound file to illustrate the preaspiration found in the Icelandic word *sökk* [sœhkː] 'sank'.

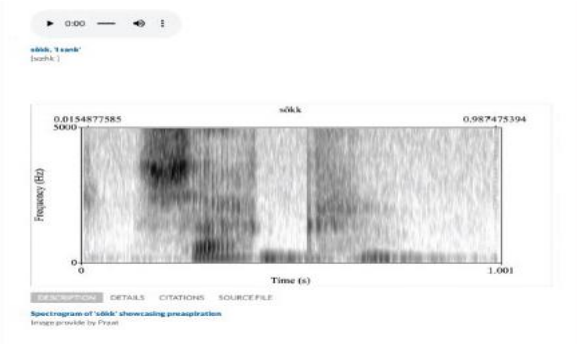

Figure 7. Illustration of preaspiration in Icelandic

5. Highlights and challenges. There were several highlights to using these tools. In their Student Evaluations of Teaching surveys, students noted that they appreciate learning to use new modalities for their research (In Language Endangerment and Death, "I also enjoyed creating the Omeka exhibit, and I think learning Omeka is a great skill to have…"). This is an example of "mediating the tool", where students came to appreciate a different way of framing their analyses. They also were able to "narrate" principles and concepts of the courses by considering them in an applied digital format and by focusing on a single language or a single genre or community of practice. A student in Language Endangerment and Death noted that "I took this class with no knowledge of linguistics, and I have enough knowledge to hold an academic conversation about language endangerment." From Language and Ethnicity, a student mentioned that "The Omeka project was a fun way to apply course concepts to a topic we found interesting."

Students also recognized the need to critically evaluate the references that they used and follow to appropriate citation conventions. For example, students incorporated sounds from the UCLA Phonetics Database (http://archive.phonetics.ucla.edu/). However, these files are not organized other than by SWADESH entries, forcing students to do a phonetic analysis of the IPA transcriptions to identify useful examples. For the Language Endangerment and Death project, students couldn't rely on any video, as some were not appropriate or relevant. They also had to be aware of resources that might fetishize a narrative of the language as lost to history. Additionally, and from a practical perspective, both of these tools can be hosted on a university's server, which provides the .edu extension and lends institutional representation to the project. This adds to a sense of ownership and responsibility. In two of these classes, students received honors awards at SIUE for their projects.

As for challenges, some students felt intimidated by a platform shift, although I did remind them that there was a time when word processing itself was a challenging new platform! There is also still the issue of plagiarism and/or over-reliance on AI-generated information. I addressed this by introducing these platforms in piecemeal and allowing for multiple check-ins. And

finally, despite all of the scaffolding and supervision, there are sometimes projects that do not meet minimum expectations. They may contain factual errors or may lack proper citation. This happened only occasionally, with students who were struggling in other ways in the course.

6. Ideas for the future. This paper illustrates only two DH tools in the goal of "mediating" and "narrating" connections between linguistics concepts and larger cultural, temporal, and societal topics, bridging social sciences disciplines like linguistics with humanities disciplines. There are other tools, including Northwestern University's Knight Lab (https://knightlab.northwestern.edu/projects/) for multimedia timelines and geospatial visualization tools, and these can be directly incorporated into platforms like Omeka and Scalar.

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