THE PROCEEDINGS OF THE ANNUAL COMPUTERS AND WRITING CONFERENCE 2023

Edited by Christopher D. M. Andrews Chen Chen and Lydia Wilkes

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Digitizing Student Work: Access and Engagement in a Tech Comm Digital Archive

Mo Baldwin, Mercer University Bremen Vance, Mercer University

Digital archives of student work have substantial value for students and instructors in the technical and professional communication (TPC) field; however, developing a usable archive comes with several challenges. This case study reports on the development of a digital archive that began as a library of physical projects that could act as a useful model for others. We explain the process of justifying and developing an archival plan, digitizing media, and developing a user-friendly interface. We explain the goals and benefits of building a student digital archive as well as how to make it accessible, discoverable, and searchable. During the creation of this archive, we built a system of metadata to facilitate discovery and searchability. We also developed a database that feeds a web interface to ensure the archive is scalable and usable. This project's development is meant to help promote student success, digital literacy, and an increase in access to local resources that have not previously been available.

Student digital archives provide students with several opportunities, not only as platforms for showcasing work but also as tools that help students connect with writing in several ways. Digital archives come in many forms, but an archive is more than a collection of digitized files. Archives are designed to ensure users can effectively engage with the content through the use of planned organizational patterns and methods of engaging with the material. Archives of student work can have several additional benefits for classes and programs related to peer learning, digital literacies, and program assessment.

In the writing classroom, the value of writing assignments is significantly enhanced when students perceive real-world relevance in their tasks. Projects that resonate with real-world goals and offer authentic, context-based constraints—such as client-based projects or community engagement tasks underscore the importance of the work, boosting student motivation and engagement. The knowledge that their work might have an impact beyond the classroom can inspire students to produce higher-quality and more authentic projects. In this chapter, we present a case study detailing the development of a student project archive in a department of technical communication. We explain our motivations, process, and lessons we learned as our project developed.

Why a Digital Archive?

In our technical communication department, a collection of projects has accumulated over a couple of decades. The student projects are physical copies, stored in binders on bookshelves in a locked room. The binders contain samples of student work and reflections that are sometimes used as examples for current students. The archive of physical projects has been a useful resource, but it is underutilized and takes up several bookshelves. As a department, we have been working to use space more economically, so we developed a plan to remove the bookshelves containing the physical projects. As part of the discussion, we decided we did not want to lose the projects because they have been valuable. While discussing our plans for removing the physical archive, we began exploring the possibility of digitizing the collection.

As the discussion progressed, we realized that additional problems could be solved through a digitization effort if we could take advantage of their digital format. We determined that the existing conditions limit access and the usefulness of the physical collection when compared to the possibilities of a digital collection. The room with the bookshelves is a lab that is locked with a code, and it houses classes throughout the week. The binder setup also makes it difficult for students to find relevant information; students have to sift through outdated and irrelevant information to try and find what they need. In their physical form, the projects are poorly organized, can only be viewed by one person at a time, and require users to access the space. We realized that each of these challenges could be eliminated with a digital collection. To effectively use the project archive in the way we want, we must grant students access, and a digital collection makes this a more manageable task. Based on our situation, we determined that a digital archive could help us open valuable space while improving access and usability of the student projects. This project was largely driven by the participation of students but was initiated and sponsored by faculty; through the input of student experiences many of our goals were established and defined.

The Uses of Digital Archives in Writing and Communication

Before deciding to digitize the projects and develop an archive interface, we set out to analyze and evaluate the benefits of building a digital archive, the

goals the archive would serve, and the design features that would be most important for ensuring the archive is usable. We quickly found several uses for digital archives that are worth consideration for TPC and writing studies. We also found that the uses of digital archives, like the one we were building, create several opportunities we had not previously considered. In the body of scholarship about digital archives and writing instruction, scholars and educators have argued that digital archives improve engagement and student confidence, improve accessibility and inclusion, create new opportunities, and improve digital literacy for both students and faculty.

Digital archives help develop digital literacy

A goal outlined for some archive projects is to improve students' digital literacy and the competencies that come from working with digital content. Using an experiential design, Chen and Chen (2010), showed that having students engage with specialized digital collections instead of using search engines had positive outcomes. Their research concluded that digital archival-based research yielded better learning experiences than open digital resources such as search engines. This is largely because open resources provide more irrelevant or distracting content and impose a higher cognitive load due to the sheer amount of information that users must engage.

Benefits for digital literacy and the use of a digital archive are also described by Comer and Harker (2015) who discuss the *Digital Archives of Literacy Narratives* (DALN). DALN, while not primarily used as a teaching tool, led to students being able to compare research, opinions, and stories more cohesively due to the information existing in the same space. The focused nature of the platform creates conditions for students to deepen their understanding and make strong connections.

Another platform that takes a different approach is described by Burnham and Tham (2021). They explain how instructors have used the *Fabric of Digital Life* project and that the archive of technologies is used as part of several pedagogical approaches. Burnham and Tham found that there are several strategies for using digital collections as a teaching and learning resource, and that there are numerous skills that can be developed through engagement with the platform.

Working with digital information is a necessary skillset in modern information contexts, and giving our students opportunities to use a wider range of tools and interfaces is a valuable learning activity. Rosinbum (2017) found that students who engage with archives are not only building their communication skills and digital literacy but also their overall understanding of digital platforms. Like all of us, students are likely to turn to the most used and flexible digital tools when working. Search engines may have their uses, but some types of information are stored in more specialized systems, and students can and should develop an awareness and familiarity with a wider range of digital tools for finding and engaging with information. Specialized databases, digital archives, and other platforms provide a layer of learning that can add additional opportunities for students to develop valuable skills and critical awareness during their writing and research activities.

Authentic Context Builds Confidence and Investment

Digital archives that are well-designed and align with the content of a course can improve the learning process of students. When students have the opportunity to engage with material that more closely represents the work they are practicing in the classroom, there are several benefits. For example, Jackson et al. (2019) discussed the improvements in student motivation that can occur when students anticipate that their work will be added to an archive. They explain that having a sense of real future readers encourages students to produce engaging and meaningful work as it helps them to see that they can contribute to the scholarly communication cycle. Jackson' et al.'s argument aligns with the prevailing understanding in writing studies disciplines that our ideas must be understood in context—the archive can provide contexts.

Developing authentic context for students can take other forms, as shown by Nardone et al. (2020) who discussed the motivational benefits and contextual awareness that come from providing a focused and authentic space for technical and professional communication (TPC) students. According to Nardone et al., when students are able to contribute to a space that is user-friendly, student-led, and allows for creativity, it leads to students producing more creative solutions, engaging in collaboration, and doing more thoughtful research. When it comes to student engagement and learning, these studies indicate that when students can connect writing tasks to work beyond the borders of the classroom, they are given the conditions to become invested in their work. A student digital archive not only provides a space for students to contribute their own work but also allows them to make connections between their efforts and the work of others.

Authentic context and thinking beyond the immediate evaluation encourage students to take the reins and work as producers in a space that has work that is especially relevant to them. Bruff (2019) used this idea, positioning students as producers instead of passive receptors of knowledge. Bruff explained that positioning students as producers means engaging them in open-ended problems, providing authentic audiences, and supporting student autonomy. The key to this model, like many student-centered learning theories, is providing students with authentic and meaningful contexts, exigencies, and opportunities that are not limited to evaluation exercises. We see specialized digital archives as an opportunity to implement many of the ideas described by Bruff and student-centered theories of teaching and learning.

Developing a New, Local, Student-Focused Archive

Since our program has already been collecting student projects for many years, we saw an opportunity to improve the ways students and faculty access the materials. While a digital collection should provide benefits, a poorly organized collection of computer files may be even less visible and useful than the physical form. In developing this project, we recognized that building a digital archive requires an approach and design to maximize the value for its student and faculty users. The archive needed to include features like searching and filtering that help students access and engage with the material, and the archive infrastructure needs to be maintainable and scalable to ensure sustainability.

The Design Plan

As an academic program, developing a digital archive presents several challenges related to resources, time, collaborators, and skillsets. Thinking strategically, however, it becomes clear that the process of designing a digital archive is itself an excellent learning opportunity. We identified several facets of this project where both students and faculty could use this process to practice or develop relevant skills. We began with digitizing physical content, cleaning and processing files, creating information taxonomies, and designing an interface.

As we developed a workflow for the project, we also considered the design features that were most important for our users and use case. We spent time reading about other archives and discussing the archive with students and faculty, ultimately determining that information in our archive needed to have three characteristics to be successful. Projects in the archive needed to be: searchable, discoverable, and accessible. That is to say that users needed to be able to find what they are looking for, they needed to be able to discover relevant information that they did not know to look for, and the interface and contents needed to meet accessibility guidelines. Our design priorities were shaped by a combination of the resources and problem that started the project, user feedback, best practices from existing archives, and a commitment to inclusivity and user-friendliness. In short, we aimed to create an archive that was functional and user centered.

Knowing that the digitization process would take time and that there may be unexpected challenges along the way, we began by digitizing a smaller sample of projects. We began with twenty projects that were randomly selected to be scanned and inventoried. The initial sample helped us finalize our design process, which we describe below.

Digitizing

For digitizing our physical projects, we used a book scanner. The projects are primarily paper-based projects, so scanning files into a document format is the primary task. The book scanner has dedicated overhead cameras to ensure consistency, quality, and speed during the scanning process. We set up a dedicated computer with the scanner in our lab, which establishes a workflow for digitizing content for the archive, but it also establishes a new resource for students and faculty that has additional applications beyond this project.

Cleaning and Processing Files

Digital scans of documents start as images. Effectively, a digital scan is a photograph that needs to be cleaned and processed before sharing. While the initial scans can be immediately saved in a document format (i.e., a PDF), doing so is not advisable. First, scans sometimes include distortions due to wrinkles or folds in the page, the angle of the scan may mean that text is poorly aligned, and the scan may pick up on unintended content like the table or fingers. Some scans may need to be rotated, cropped, or edited in some way to improve the quality. Then the image needs to be processed using optical character recognition (OCR) to convert the image to a text format. Scanned documents that have not been converted are significantly more limited because visual text cannot automatically be understood as text by the computer, which means that search functions and text-to-speech functions are not possible. This step is essential to improving the quality, usefulness, and accessibility of the files.

Developing a Metadata Schema

To maintain information about the projects, we developed a project inventory sheet. The inventory helped us keep track of the projects during the digitization process, but we also developed the inventory sheet knowing that the categories in the inventory would be input into a searchable database. The information in the spreadsheet functions as the metadata for each project, providing robust and detailed descriptions about each project that makes it easier to find projects relevant to specific search parameters. The categories included in our schema are:

- Project ID (Unique number)
- Project Title
- Author
- Author Role
- Supervisor
- Project Type
- Client
- Completion Date
- Content List
- Access Permissions

These categories can be updated as project guidelines change throughout the following years of this project, but recording this information for each project is necessary for the functionality and responsible use of the archive. The search and filter system relies on this data as users look through the archive. The last item, access permissions, allows us to manage projects based on the consent of authors by allowing students to choose who can view their work. We decided to allow students to submit their work to the archive for use by faculty, faculty and students, or the public.

Building an Interface

The final challenge for development was determining how the information should be stored, accessed, and managed. While a file repository could be acceptable in some situations, we have endeavored to develop a web application. Developing the interface created another opportunity to collaborate as we worked with two students studying computer science. The web application contains a folder with all of the project files and a database containing the metadata for each project. The interface for the website allows users to find projects in the collection using their web browser. To develop the user interface, we first built an interactive prototype in Figma, which we used for an initial round of user testing.

After incorporating feedback into the design, we developed a working version of the archive that has the basic features needed. The archive was developed with the FastAPI framework, which will allow us to continue to develop and refine the interface and the archive architecture going forward.

Baldwin and Vance



Figure 1-1. The prototype interface developed in Figma showing a search, browse, view, and upload screen with different states.

Discussion

Digitizing a collection of projects and building a digital archive has been an excellent opportunity to consider new possibilities, collaborate, and learn new skills. The archive is in an early development phase; however, as it takes shape, we are building an easily accessible repository of knowledge for current and future students. The archive will serve as an excellent resource for our students and faculty. Below, we discuss the ways our archive project illustrates a process and way of thinking that other programs can consider for their own contexts. It is important within the context of our own archival development to know that this project was aided through the support of our university. Programs considering the implementation of an archive should consider the time, resources, and labor needed before taking on a similar project. In our case, the support for student research was a key motivation for the project. to develop the platform, research, and content going into the archive itself.

Authentic Contexts and Students' Motivation

While researching we wanted to determine the value of digital archives by looking to the existing scholarship, and we found that this type of resource creates several pedagogical opportunities and benefits. Perhaps most importantly, we can foster student investment by adding some authentic context for the work in the classroom. Students who use archives are more likely to build their knowledge and understand their research (Chen & Chen, 2010). Students given the opportunity to publish works within an archive are also more likely to work in a "producer" mindset, meaning that they will be more inclined to produce content of a higher quality. Making similar observations, Biswas et al. (2019) found that having students contribute to an undergraduate journal provided students with a sense of authenticity and added confidence. Inviting students to see themselves as part of an active community, one in which they can see the ways their work relates to an existing set of practices, adds clarity and significance to the goals of writing in the classroom.

Process, Product, and Feasibility of Building an Archive

In retrospect, there appears to be a clear roadmap for building the archive. However, this was not quite the case in the beginning. When designing this archive, we went through several iterations as we mapped out the steps and design priorities along the way. While scholarly research was helpful in establishing a rationale for using a digital archive, there was less guidance available on how to successfully build an archive that would meet our needs. This case study helps fill that gap by providing a breakdown of the necessary steps.

After determining that we wanted to build an archive of student projects, the tasks for developing the initial working version of the archive were to create an inventory of projects with a metadata schema, digitize the projects, develop an interface prototype to test with faculty and students, and build a web interface for the projects. When gathering the content for the archive, we streamlined our process to make it as easy as possible to convert the physical projects into useful contributions for the archive. The project inventory helped us establish the information that we could use to describe the projects and make a more searchable interface. The digitization process not only helped us create digital files, but also manage the quality, searchability, and accessibility of the files. After each file was scanned it underwent light cosmetic retouches to make scans cleaner and cohesive. After this, they were uploaded into Adobe Acrobat and turned into readable text. This was a critical step in building accessibility for students with disabilities into our platform. Fully describing the projects helps ensure that users will be able to find the most relevant projects when looking through the archive, and once they open a project, users will be able to engage with the files effectively.

Guiding Design Principles When Building a Student Archive

It was important to us that our archive met three basic principles: accessibility, searchability, and discoverability. Accessibility is the idea of being able to readily and easily access information. For us, this meant two different things: making the archive visually accessible to students who are disabled and making the information easier to gain access to throughout the year. Accessibility ensures that faculty will be able to see student input on their courses and thus be able to design and implement courses that are challenging but beneficial to students.

Discoverability allows students to find relevant information in the archive. Users should be able to learn about the range of topics and opportunities they could have within our department. The archive is meant to help students see and understand the types of work they are capable of. This allows students to find both the positives and negatives of each individual student's experience with certain projects and companies. The archive allows faculty to see recommendations for the department at a glance. Having easy access to these recommendations means the department can accommodate future students' needs as well as update the program accordingly to the ever-changing TPC industry.

Searchability looks at how easily students can skim through the information within our archive. Currently, our collection of projects is only skimmable by title and student at most. The archive will serve as a platform to allow students to browse more easily by refining their search. It's important that information is skimmable so students don't become stressed or lose motivation while doing their own research.

Limitations, Challenges, and Opportunities

Building this digital archive came with its share of challenges and limitations due to the size of the project. As a student-driven project, both in terms of research and platform development, the project must be ready to pass to new hands as the team graduates. While this was a challenge it opened the door to learning opportunities for students and faculty involved. It helped students create the proper documentation and prototypes to have the project effectively passed down year after year, skills that are especially important for students to develop.

The archive also generated major opportunities for collaboration not just within the TPC major but across programs, which helps to show our administration that there is high value to this project. Our current archive platform was designed by a team of senior students in the computer science department, allowing us to help stretch this project beyond just our department's needs. This project encourages reflection and discussion of our department's potential need for new classes and teaching material. Since the archive will need to be monitored to track our success or failure, students and faculty will need the skills to understand content management, SEO, and analytics. With analytic tracking, we will be able to see the overall traffic flow going to the archive. Currently, we know the physical projects in the lab are seldom used, so within the first year of the archive being launched any major increase in viewership could be viewed as a success. Additionally, we will consider it a success if the platform continues to offer students opportunities to engage in development, content management, and design work. As a program, we also look forward to the possibilities the archive brings for programmatic assessment as we will have an established data set for analysis.

The current stage is our prototype and, as we refine the design, we hope to strategically expand the variety of topics, courses, and projects represented in the archive. We believe that a well-constructed collection of locally developed projects will provide substantial value for students and faculty as our program continues to prepare students in an ever-changing field of study and practice. These extra materials are invaluable resources for students, allowing them access to old student work to build a complex understanding of the projects they are assigned; however, it is only valuable in the event students are able to readily access it. While we are starting with a single course and group of projects, as it has the most immediate need, providing students with past work examples from all courses from the TPC department would allow access for students to further their learning experience and also set the bar for standards within the department. This part of development won't happen immediately; however, it is being taken into consideration as we build the archival metadata as well as the general archive interface.

As the development of our archive continues, we hope to improve the value of this department resource. Though the creation of a project this size presents challenges, there is evidence that archives encourage learning. Student archives extend student project potential beyond the classroom and put these projects into the hands of future readers. They provide students early ideas of what students need in their education year-to-year. The archive builds a setting outside of the typical classroom for projects to live and is where we will be able to find student improvement and development.

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Bringing AI to the Center: What Historical Writing Center Software Discourse Can Teach Us about Responses to Artificial Intelligence-Based Writing Tools

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With generative artificial intelligence (AI)-based writing tools anticipated to reshape writing practices and instruction in the coming years, writing centers are poised to become sites of negotiation around questions of ownership of AI-(co)authored texts and the value of AI-supported pedagogies. This paper historicizes the current technological disruption by reviewing writing center practitioners' responses to previous changes to their practices enabled by software. A systematic review of writing center studies literature reveals an extensive history of practitioners' and researchers' engagement with software, one that current researchers can draw on to anticipate possible directions for further inquiry, needed education, and reactions to AI-based writing tools.

The recent high-profile releases of several applications associated with large language models (LLMs)—such as OpenAI's ChatGPT and Dall-E as well as efforts by Google, Microsoft, and others—have intensified popular interest in generative artificial intelligence (genAI). ChatGPT has experienced one of the fastest growths in user base for any software application (Hu, 2023), leading to rampant speculation about the continued impacts of AI on nearly every sector of society and the economy, including higher education. One consequence has been renewed interest in the conception and value of writing itself (e.g., Chiang, 2023). A few minutes experimenting with any of these tools, after all, demonstrates their capabilities at creating volumes of readable, human-sounding text, seemingly on demand.

Amidst this excitement, it can be tempting to imagine these tools as altogether new and unprecedented developments in the history of composing text, a sense that the companies promoting their software are no doubt happy to encourage. However, genAI tools and chatbots have already previously emerged as subjects of study in technical and professional communication (McKee & Porter, 2019) and in journals such as *Computers and Composition* (Crider et al., 2020; Eatman, 2020), among others. My own interest in this subject arose in October 2022, when a writer brought annotations generated by QuillBot, a machine learning-powered paraphraser tool owned by Course Hero, into the writing center where I serve as assistant director. The writer did not try to hide they were using this software, nor did they seem to think anything of it. "Is your professor okay with you using this?" the tutor asked. After the session concluded, the tutor and I spent some time looking into QuillBot, which includes a summarizer that promises to "condense articles, papers, or documents down to the key points instantly, [using] natural language processing to locate critical information while maintaining the original context" ("Summarizer," 2022). It joins a host of other applications and ethically questionable websites that are marketed to students and purport to streamline the writing process, and which have proliferated since the release of ChatGPT. Whether or not such applications are endorsed by faculty or institutions is, to some extent, beside the point: students are well-aware of them and will continue to bring their experiences with them to writing centers. As William Hart-Davidson (2018) argued, "The robots are already here. And more are coming. And by and large, it will not be folks with training in writing and rhetoric studies who create or use them. But we can perhaps be among those who influence both how they work and how they are incorporated into the writing practices of people and institutions" (p. 254).

As genAI writing tools continue to grow in both popularity and sophistication, writing centers can expect to become sites of negotiation around questions of ownership of AI-(co)authored texts and the value of AI-supported pedagogies on college and university campuses. This paper seeks to localize Hart-Davidson's call to writing centers by reviewing centers' historical responses to previous software-based technological changes as a means of anticipating possible directions for further inquiry, needed education, and reactions to genAI writing tools. I argue that the decades-long history of writing center discourse around software-mediated writing and tutoring practices can and should inform these considerations.

Writing Centers as Sites of Technological Experimentation and Change

The histories of writing centers as both institutional sites and coherent sets of pedagogical practices have been well-documented (Boquet, 1999; Lerner, 2009; North, 1984) and productively problematized (Condon & Faison, 2022; Greenfield, 2019; Grutsch McKinney, 2013). While Neal Lerner (2009) pointed to antecedents in lab models from earlier in the 20th century, writing centers as recognizable campus units are generally considered to have developed in the United States beginning in the late 1960s and early 1970s.

Writing center studies became most recognizable as a distinct research area with the initial publication of the field's oldest, still-active venue, the *Writing Lab Newsletter*, in 1977, and continuing through with the release of *Writing Center Journal* starting in 1980 and a range of publications for writing center tutors, administrators, and researchers that exist today.

Throughout this five decades of history, experiments with computers and technology have long played a central role. Discussions of computer-aided instruction (CAI) in writing centers appear in Writing Lab Newsletter as early as the fourth issue (Mason, 1977), and earlier accounts of centers frequently comment on subjects such as computer hardware purchases (Reimer, 1984) and sharing space with or even functioning as de facto computer labs (Wright, 1993). What Stuart Blythe (1997) characterized as a tension between instrumentalist and more critical approaches to technology can be seen running through even these early conversations. Some writing center practitioners wholeheartedly embraced writing centers as sites of pedagogical innovation with computer technology-even pointing to the presence of computers as "bait" to get students in the door (Slattery, 1987, p. 7)—while others evinced skepticism that could at times border on Luddism (Veit, 1979). Lerner (1998) noted that experimentation with technology was present in writing lab models from the very start, as programs and administrators sought "technological solutions" to persistent "problems of under-prepared students, crises in 'standards,' and definable 'outcomes'" (p. 120), echoing much of the discourse around writing and higher education to this day.

The late 1990s saw the publication of several key works in this area that review the history of such experimentation in writing centers while anticipating future directions. These include Eric H. Hobson's (1998) edited collection *Wiring the Writing Center*, David Coogan's (1999) *Electronic Writing Centers: Computing the Field of Composition*, and James A. Inman and Donna N. Sewell's (2000) edited collection *Taking Flight with OWLs: Examining Electronic Writing Center Work*. Mike Palmquist's (2003) overview of the use of computers in both writing centers and writing-across-the-curriculum (WAC) programs highlighted the near-constant flux of technologies appearing in these programs since the 1970s, with Palmquist noting that "instructional goals do not exist in a vacuum. New technologies have created new possibilities, including new teaching and learning goals" (p. 408).

Re-examining Writing Center Software Discourse

What I have sketched here is a truncated outline of writing centers' engagement with computer-based technology, a subject explored in greater detail in the histories I have referenced. My specific interest in this chapter is the history Bryan

of software in writing centers. A subset of the broader discussions of computers and information technology, historical discourse around writing center software offers the most direct precedent for current discussions about genAI writing tools, one that I argue has to this point been underexamined in writing center literature. Writing center practitioners have at times been rightfully skeptical of scholarship that overemphasizes the role of individual software packages as standalone solutions to pedagogical challenges (Grutsch McKinney, 2009; Spitzer, 1984). These sentiments align with concerns raised in computers and writing scholarship from the same period that suggest the insufficiency of curricular approaches that solely support what Stuart Selber (2004) and others have characterized as "functional literacy," or the ability to use a computer to complete a particular task, rather than critical and rhetorical literacies of computer use. These latter, importantly, support what Lee-Ann Kastman Breuch (2004) considered the broader quality of "technological flexibility," which "implies autonomy and critical thinking with regard to technological choices" (p. 111). More recently, Elizabeth Losh (2014) demonstrated that software can serve as important sites for helping students to develop critical literacies in the context of computational media. Practitioners, administrators, and researchers can benefit from paying closer attention to software as well. Such a move recognizes the centrality of what Lev Manovich (2013) described as "softwarization," an understanding that contemporary software acts "as a layer that permeates all areas of contemporary societies" (p. 15), mediating experiences with all texts-written, visual, auditory, interactional—and technologies. Software can often seem to only function as background, supporting the file formats, operating systems, exchanges of information, and interfaces that make contemporary work and learning possible. Examining software becomes a way of looking more closely at the affordances and constraints made possible by the institutions, designers, corporations, and programmers building this software and how these, in turn, shape educational practices and possibilities.

In this chapter, I survey writing center software discourse over the past 46 years with the aim of answering two questions:

- 1. Where and when have discussions of software in the context of writing centers appeared?
- 2. How does this earlier writing center software discourse resonate with current questions about genAI writing tools?

Method

In order to answer these questions, I conducted a systematic review of several writing center studies publications. These include the following forums,

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which I examined over the time and issue ranges indicated below. For each, past issues were accessed through the publication's website:

- Writing Lab Newsletter (retitled WLN: A Journal of Writing Center Scholarship since issue 40.1): Issue 1.1 (1977)-47.4 (2023)
- Writing Center Journal: Issue 1.1 (1980)-41.1 (2023)
- Praxis: A Writing Center Journal: Issue 1.1 (2003)-20.2 (2023)
- *The Peer Review*: Issue 0 (2015)–7.2 (2023)
- The Dangling Modifier: Issue 1.1 (1994)–27.2 (2021)¹

This selection represents a range of publications, with some (*Writing Center Journal, Praxis*) featuring research, while others (*Writing Lab Newsletter, The Dangling Modifier*) include a broader range of articles that highlight practical matters and opinion pieces in addition to more formal scholarship. Given the prominence of student perspectives in writing center discourse (Ervin, 2016), I wanted to be sure to include publications such as *The Dangling Modifier* and *The Peer Review*, which have explicitly sought and promoted contributions from high school, undergraduate, and graduate student practitioners; *Writing Lab Newsletter* has featured a tutor's column since 1984 as well. While limiting my review to these publications meant I missed important conversations appearing in other, more broadly themed journals that include discussions of writing centers alongside other writing programs and research (e.g., *Computers and Composition* or *College English*) as well as monographs and edited collections, such a focus served my purpose of building an understanding of software discourse specifically within writing center studies.

To begin mapping the history of software discourse across these publications, I searched for every instance of the word "software" in titles, keywords, abstracts, and the full texts of articles. For *Writing Center Journal*, I used the searchable archive of issues on the journal's website for this. For the other publications, I manually searched through PDFs of each issue using Google Chrome. Several volumes of *Writing Lab Newsletter* (1.1–13.1 and 15.3–20.10) had not been scanned for optical character recognition (OCR) at the time of writing; for these, I used Adobe Acrobat's OCR tools to scan these issues in order to make them searchable. Whether located through database search or searching within individual issues, I then manually reviewed each instance of "software" to determine whether the reference was relevant for my purposes. For example, references in an author bio to someone previously working in "the software industry" or quotations from student writing that mention

¹ Several issues were unavailable for this review, due to either broken or incorrect links at the time of research, or gaps in publishing. These include *Dangling Modifier* issues 5.1, 6.1, 6.2, 22.1, 22.2, and 24.2 as well as *Writing Lab Newsletter* issues 10.6, 11.6, 16.4, 16.5, 16.9, 16.10, 21.9, and 28.6.

"software" in articles that otherwise do not consider software in the context of writing centers were removed. I also coded each instance to determine whether or not software was a central object of discussion in the particular article in which it was found, which I will discuss below. I further limited my search to actual articles (including editorial introductions) published in each forum, ignoring advertisements, announcements, letters to the editor, and other material not otherwise included in tables of contents.

Originally, I planned to organize this review chronologically around what seemed to me a few key moments in writing centers' histories with software: the introduction of computer-assisted instructional software, the proliferation of online writing labs (or OWLs), and the continued development of remote tutoring practices. However, once I began my research, I quickly realized that my imagined historical "eras" of software discourse would have to be imposed on what turned to be out a much less neatly bounded history. For instance, a piece such as Rick Marshall's (1987) "Word Processing and More: The Joys and Chores of a Writing Lab Computer" seems to be in conversation—albeit indirectly with Amber M. Buck's (2008) "The Invisible Interface: MS Word in the Writing Center," despite more than twenty years separating them. Instead of limiting my search to a chronological or topical review, then, I decided to catalog all instances of "software" from the beginning of each publication to the present, which allowed me to construct a sense of trends, themes, and the overall landscape of published conversations about software in writing center studies.

This approach is not without its limitations. For instance, restricting the search to "software" meant I may have missed results that used exclusively other terms, such as "program" or "application." Ultimately, "software" may be the most distinct term to capture what I was interested in, which proved help-ful in filtering the corpus of texts for my review, but it is not all-encompass-ing. Also, given I relied on OCR/text recognition for much of my research, a method as fallible as the quality of the original document scans, I may have missed instances that were not picked up by text recognition software. Finally, it is worth noting that the publications I have reviewed are all based in the United States and published in English. While these occasionally have published work from international researchers or writing centers on other continents, their focus builds primarily out of a U.S. context.

Survey of Software Discourse in Writing Center Studies, 1977–2023

In this section, I present the findings of my systematic review of five writing center studies publications, covering the period from 1977 to the present.

My initial review across all five publications—totaling 4,034 articles over 576 issues—resulted in locating 313 articles in which the term "software" appears at least once. After removing instances where the reference was irrelevant to the article (e.g., in author bios, or in quoted material where the subject of the quote was immaterial to the discussion), I identified a corpus of 295 articles that became the focus of my review. The breakdown of references by publication can be found in Table 2-1.

Publication	Range	Issues	Articles	Articles Referenc- ing "Software"	Percentage of Total Articles that Reference Software
Writing Lab Newsletter	1977–2023	388	2,343	147	6.27%
Writing Center Journal	1980-2023	81	625	77	12.32%
Dangling Modifier	1994–2021	46	417	8	1.92%
Praxis	2003-2023	46	500	58	9.60%
The Peer Review	2015-2023	15	149	15	10.07%
Totals	1977-2023	576	4,034	295	7.31%

Table 2-1. Summary of review of publications for references to "software," 1977–2023

All of the reviewed venues featured at least some explicit discussion of software, with *Writing Center Journal* including the highest percentage of articles referencing software (12.32%) as a portion of their total publications. Across the entire body of reviewed literature, 7.31% of articles made at least one explicit reference to software.

Next, I looked at when these references appeared. While reviewing the literature, I suspected earlier decades would feature the most frequent references to software. This seemed logical given the centrality, at the time, of decision-making about software and hardware products in designing and coordinating new writing centers. Also, software may have at that point seemed more novel and noteworthy to practitioners. Table 2-2 includes a listing of the ten years in which references to software appeared most frequently in the writing center literature I reviewed (note that 2023 is excluded here, as publications from this year are still forthcoming at the time of writing).

Year	Articles Referencing "Software"
2021	14
1987	13
2005	13
2020	13
1989	12
1990	12
2015	11
2017	11
2022	10
2008	9

Table 2-2. Top 10 years by frequency of articles referencing "software," 1977–2022

To my surprise, the review did not indicate an obvious trend in frequency of references to software. Perhaps 2020 and 2021 appearing near the top of this frequency list is not surprising, given the rapid shift to near-universal remote tutoring for writing centers across the U.S. in response to the onset of the Covid-19 pandemic. However, closer examination reveals that in 2021 exactly half of these references were to software used in the analysis of data collected in writing centers (e.g., researchers explaining their use of NVivo to code and analyze interview or session transcripts). This, combined with the relatively flat frequencies across most years, complicates attempts to draw conclusions about patterns in *when* references to software appeared in writing center literature (see Figure 2-1 for counts of articles referencing "software" across all years between 1977–2022).



Figure 2-1. Frequency of articles referencing "software," 1977–2022

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Finally, I coded each article in the corpus to determine whether software appeared as a central object of discussion. This is, admittedly, a subjective determination. However, I wanted to begin distinguishing those pieces where software received extended discussion from those where it was acknowledged only in passing. In total, this resulted in the identification of 85 articles that include at least some extended discussion of software, comprising just 2.11% of the total corpus of articles published in these journals during this time. These are broken down by publication venue in Table 2-3.

Publication	Articles Including Extended Discussion of Software
Writing Lab Newsletter	43
Writing Center Journal	20
Dangling Modifier	3
Praxis	14
The Peer Review	5
Total	85

Table 2-3. Articles including extended discussion of software, 1977–2023

Looking Back to Look Forward: Drawing on the History of Writing Center Software Discourse

This review has revealed a rich and extended history of software discourse in writing center studies. The form of this discourse varies: the earliest reference I identified is Gaylene Rosaschi's (1978) "Computer Assisted Instruction" in *Writing Lab Newsletter*, a mostly technical description of how English faculty at Brigham Young used software developed for the TIC-CIT—"Time shared, Interactive, Computer-Controlled Television"—system to supplement class lectures. Many others function essentially as product reviews or endorsements (Adams, 1985; Sunstein & Dunfey, 1987), serving as snapshots of the field's values and practices as computer use became normalized in writing pedagogies. This history demonstrates how practitioners grappled with the role of software and computers in defining identities for their centers and themselves, including experiments in programming their own writing exercises (Greene & Sadler, 1986).

These earlier conversations offer current practitioners and researchers considerable opportunity to assess the present moment within the larger history of writing center discourse. Software, too often unacknowledged in day-to-day practice and too infrequently taken up as a central object of study and critical analysis in writing center scholarship, is less infrastructural than hardware and Bryan

more immediately legible than code, making it an ideal space for just such reflections. For beginning tutors, pointing to this history during training is a way of acknowledging the evolution of writing center practices over time, demonstrating how they are, to some extent, always in flux and under construction. Such a stance helpfully positions newcomers to writing centers—including students—as valued collaborators who can continue this tradition of inquiry into everyday center workings and technologies. For administrators, accounting for how earlier incarnations of centers navigated the decisions of when to take up and when to resist particular uses of software may offer inspiration and guidance. While CAI, for instance, has long since fallen out of fashion-becoming emblematic of the "skill and drill" approach to writing instruction that practitioners defined themselves against in even the earliest foundational work in writing center scholarship (Kelly, 1980; North, 1984)—revisiting these debates provides one potential context from which to respond to current questions about genAI. For researchers, seeing how earlier investigators sought to understand the impact of software on writing processes (Holmes, 1985; Posey, 1990) can inspire questions about current software—including genAI—that may otherwise become overlooked, especially once they transition from new and novel to potentially embedded in daily activities.

Writing centers thrive when positioned as sites of inquiry, where tutors, administrators, and researchers collaborate to learn more about both day-today practices and writing itself (Hall, 2017). Where I see the most potential in bringing genAI to the writing center, then, is less what genAI can add to writing center practices and more how writing centers and their staffs can help to shape how colleges, universities, and writing programs think about genAI. Returning to the long history of discourse about software in writing centers offers one quite generative way to begin that process.

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Flexible Conversations: One Writing Program's Experience Implementing Flipped, Hybrid First-Year Writing Courses

Elkie Burnside, Nicole O'Connell, and Aaron Tillman, University of Massachusetts Amherst

There are multiple approaches to hybrid instruction, and in the post emergency remote teaching educational landscape, many institutions are reconsidering how to best meet the evolving needs of students who request more flexibility in their educational process. University of Massachusetts Amherst (UMass) is no exception. UMass has developed a program, called UMass Flex, which was established to allow individual programs and departments to implement flexible instructional models that best suit the needs of their students, often called a hy-flex model and encouraged through a grant program for early adopter departments. The Writing Program (WP) Flex Fellows Grant and pilot courses ended at the close of the spring 2023 semester, and this roundtable shares experiences from three perspectives: Co-creators of the flex learning program for the WP, Dr. Aaron Tillman (full time lecturer) and Dr. Elkie Burnside (Writing Program Administrator); as well as graduate teaching associate instructor Nicole O'Connell, one of four participants in the training and pilot cohort.

There are multiple approaches to hybrid instruction, and in the post emergency remote teaching educational landscape many institutions are reconsidering how to best meet the evolving needs of students who request more flexibility in their educational process. University of Massachusetts Amherst (UMass) is no exception. UMass has developed a program, called UMass Flex, which was established to allow individual programs and departments to implement flexible instructional models that best suit the needs of their students, often called a hy-flex model (Columbia CTL, n.d.; Georgetown University, n.d.; Margulieux et al., 2014). Because the Writing Program (WP) serves the entire undergraduate student body through the ENGLWRIT 112: College Writing class (the one required freshman level general education course at UMass), we were excited to be a part of the initial cohort for this initiative and will be sharing our process with others who may be seeking to implement this style of instruction in their own programs. This chapter includes distinct discussions of approaches, practices, and lessons learned from each coauthor: Dr. Elkie Burnside (Writing Program Associate Director), Dr. Aaron Tillman (full time Writing Program Lecturer), and instructor Nicole O'Connell (Graduate Teaching Associate). The authors have compiled advice, activities, and other artifacts from their experiences in the publicly-available Google Drive shared resource folder.

College Writing and Flex Fellows Grant

At <u>University of Massachusetts Amherst</u> (UMass), the <u>Writing Program</u> (WP) is an independent academic unit that is responsible for teaching and supporting all <u>College Writing classes (ENGLWRIT 112/112H)</u> and <u>Writing</u>, <u>Identity, & Power classes (ENGLWRIT 111)</u>, which provides intensive reading and writing preparation for opt-in students before they take ENGLWRIT 112. Both of these courses have an enrollment cap of 15 students. Because the WP serves the entire campus—encompassing all students required to take these General Education classes—we understand the importance of providing quality instruction that is flexible enough to meet the diverse needs and varied circumstances of our students.

When the opportunity to create a proposal for the Flex Learning Fellows (Flex Fellows) internal grant project was presented through the Center for Teaching and Learning (CTL), we secured a grant which would allow the WP to offer 112 courses using a flipped/hybrid schedule. In the proposed model, student participants would attend one synchronous class session a week (either in person or virtually) and then work on asynchronous course projects in a self-paced model to complete course requirements. The goal of the two-year grant was to enable the WP to acquire and deploy the technology, training, and staffing necessary to increase student access to flexible learning courses and to provide an infrastructure that would help to sustain these options beyond the grant term.

Application Development Overview

The Flex Fellows Grant was offered in a university-wide grant call and administered by CTL. The information we provided for the grant was largely prescribed by the request for proposals (see <u>shared resources folder</u> for the final grant application). The details considered during this process were as follows:

• Who would be the departmental experts to develop and then train others on the flex teaching method developed (IF the program decided to continue with the program)?

- What course(s) could be offered in whatever format the program selected to pilot?
- How would this instructional approach align with goals for the program and larger university?
- What goals, objectives, and sustainability markers would the program use to monitor progress and success of the project?
- What technology (hardware) would fit with existing program resources to support this teaching style?
- How will participants be compensated for time and effort at developing and delivering courses in this method?

Budget considerations were developed in consultation with the CTL's designated budgetary advisor and the WP's general office manager to help address UMass Amherst specific limitations. For example, compensation for pilot participation had to meet minimum hourly stipend requirements enforced by the graduate labor union on campus.

Comparing the original grant application with the final technology used will demonstrate how the shape of the project and concept of what flex learning would be like for the WP's UMass Flex course offerings changed through the implementation and piloting stages. In particular we shifted from a significant investment in stationary, classroom based hardware (cameras and microphones) to more mobile teaching kits as a way to increase the amount of sections offered in this style. This approach was selected because classroom scheduling is often not something controlled at the program level, but mobile kits could allow instructors to customize teaching to whatever classroom spaces they were assigned. Another significant change was in the use of personnel compensation. Two pilot instructor participants withdrew from the program after our initial training meeting because the program did not appeal to them after they understood the structure more specifically. This allowed an increase in all pilot participant stipends, as well as providing for participation in the Computers and Writing conference.

Implementation and Piloting

Once the grant was awarded, in the implementation phase Elkie and Aaron participated in bi-weekly seminars with our flexible learning cohort, which included faculty teams from a range of disciplines across the university and led by participants from both the CTL and Instructional Design, Engagement, and Support (IDEAS) teams. In these sessions we focused on multimodal communication and accessible hybrid engagement. We also explored ways to create a diverse set of activities using Universal Design for Learning (UDL)

concepts—such as considering ways to make materials available in multiple formats, provide options for student responses, and encourage a range of perspectives—all while preparing for the flexible learning classes we went on to pilot in the spring 2022 semester (three sections total). In the piloting phase of the grant, four additional instructors (one full time lecturer, one part time lecturer, and two graduate instructors) were trained in flipped, hybrid writing instruction and then all participants used flex 112 course delivery in the spring 2023 semester (nine sections total).

Elkie Burnside, Writing Program Administrator, Design and Training

As Associate Director of Curriculum & Assessment, I co-developed the WP Flex Program with Aaron. After securing the grant, we met with the 2021-2022 Flex Learning Fellows cohort (an interdisciplinary, cross campus group of fellows) through the fall 2021 semester to discuss strategies for designing flex courses and sharing strategies used by instructors in the grant cohort. Then, Aaron and I both piloted flex courses in the spring 2022 semester and met regularly to discuss how our courses were progressing. During the fall 2022 semester, I coordinated the WP Flex Pilot bi-weekly training with the four instructors participating in the program and continued with monthly check-ins to gather feedback on the training, while continuing to teach one flex 112 course each semester as well.

Flex and Tech Approach

We were tasked with selecting and defining the Writing Program's flex approach while working with the Flex Learning Fellows cohort guided by members of the CTL and the IDEAS teams. Drawing on the best practices established in the <u>Online Writing Instruction (OWI)</u> Community and other areas of expertise in designing and delivering online instruction, we decided to use a hybrid, flipped classroom approach. This approach was selected because we were able to provide instructors with three options to choose from when delivering the course and within these options allow students to select some of their participation and engagement methods as well.

The flipped classroom aspect is explained to instructor participants as providing materials and content for students to interact with to prepare for class sessions prior to attending class so that students can practice the skills needed in workshop style in-class sessions (TeachThought Staff, 2014).

The hybrid classroom aspect is explained to instructor participants as giving students the option to participate in class sessions as they choose after week three of the semester (the end of the Add/Drop period at UMass). Details of these options are provided in the Hybrid Models document found in the <u>shared resources folder</u>.

As part of the proposal process, we were also tasked with considering what technology options would suit the needs of the WP, which is primarily delivered by non-tenure track faculty, part time lecturers, and graduate teaching associates. For physical spaces, we have two classrooms scheduled by WP that are well-suited for flexible learning classes. These have two large screens, a workstation with a classroom computer and audio system, a locked box with four laptops for any student who might not have access to a portable device, and a central area that allows for some flexibility in the physical space. Future plans include modifying the physical space even more to bring in mobile/ portable tables that can be separated for small pods/groups or combined for larger class discussions. However, scheduling in these classrooms is limited due to other program constraints (use for other courses, sharing with other instructional departments, etc.).

Another resource we also have is university wide Zoom accounts, which allow us to hold classes and record videos for sharing with asynchronous participants.

Ultimately, with grant funds, we purchased two <u>OWL meeting cameras</u> and nine remote teaching kits which include Bluetooth speakers, a web camera and stand, and a USB hub connector, all of which is contained in a portable box and labeled requesting return to the WP if found. This allows instructors to teach flex courses in a variety of classroom spaces, even those not optimally designed for this method. See the <u>shared resources folder</u> for details on each kit item and the process for check-out and use of each type of hybrid kit option.

Sustaining Flex Practices

Part of the grant process was to compensate early adopters and participants as they worked through developing a new instructional approach and course content. Aaron and I were paid a development stipend in year one of the grant and an on-going pilot training stipend to help other pilot participants in year two of the grant. Four WP instructors elected to participate in the pilot and each was paid a stipend for completing the training in the fall semester and giving feedback during monthly check-ins in the spring semester. See the <u>shared resources folder</u> for details on the stipends, training, and feedback meetings.

In collaboration with pilot participants, we are still currently considering options for how to continue to encourage participation in this teaching method when the grant funds are gone. The IDEAS staff provide a self-paced Introduction to Teaching Online at UMass course, which we used as the basis for the WP Flex Instructor training. From that I have developed WP course content specific strategies and policies to use as instructors consider how they will change their current 112 instructional approach. See the <u>shared resources</u> <u>folder</u> for details on the training course.

Currently we are providing this training as a self-paced option for instructors to use as optional professional development. There are some early discussions about ways to incorporate the training as a part of the existing practicum structure used for second year instructors, but the WP administrative team is still exploring what the best way to encourage participation would be. We believe this training has not only added resources and further developed an infrastructure that can be used moving forward, but it has provided opportunities for other WP instructors to learn about and receive support to teach flexible classes, all helping to sustain flex practices.

On the university level, the initial Flexible Learning Fellowship group that Aaron and I were part of has continued, so more instructors across the campus are using flexible learning practices. The more this happens, the greater the incentive for the university to invest in classrooms that are equipped/suited to accommodate flexible learning.

Lessons Learned

Developing this approach for use in the WP 112 classroom (with potential bridges into other courses supported by the WP) provided several opportunities for learning along the way. Most specifically the structure and training allowed instructor participants to consider how this hybrid, flipped instructional model promotes student access and equity at a programmatic level. Pilot instructor training feedback sessions focused on what is going well and the trend in these conversations showed how instructors were considering a wider variety of options for student engagement and access to content. For example, instructors noted the ability to check in with students more one-one in this style of instruction; but also noted that the level of management and planning was significantly higher for these courses to provide that access.

Another lesson gleaned from the pilot feedback sessions followed the trend of the level of planning needed for instructors to provide for hybrid engagement with students. Some comments focused on the commitment teachers would need to make to become familiar with the classroom set up (which for most instructors will change each semester). Other feedback from the pilot group also noted the need for more scenario-based training and preparation to help address student connection access, to understand what students are doing to prepare for class sessions, and ways to incorporate Zoom and physical classroom synchronous participants in workshop and peer review activities. See the <u>shared resources folder</u> for details on ways this feedback and that from student perception surveys have been incorporated into self-paced instructor training.

Aaron Tillman, Full Time Lecturer, Flexible Thursdays

In the fall of 2019, I joined the UMass Writing Program as a full-time lecturer. I had some experience with online and hybrid teaching, and I wanted to broaden that part of my pedagogical practice. I joined the Multimodal Community of Practice—a partnership between CTL and the Department of Online Education—to share ideas about multimodal course design and explore ways to expand learning opportunities for students. Although the pandemic impeded our work, our discussions and community resources provided a foundation for the curricular changes made during the pandemic year of online instruction and led to my collaboration with Elkie on our Flexible Learning Fellowship. Since spring 2022, I have taught two flex sections of 112 every semester.

Flex and Tech Approach

After brainstorming various ways to implement hybrid teaching methods into my flex sections of 112, I settled on a "Flexible Thursday" option that has worked well–see our <u>shared resources folder</u> for my syllabus and course outline details (as well as the other resources noted below). By meeting one day a week in the physical classroom (Tuesday) and providing options for the other day (Thursday), I have been able to establish and maintain class community (one of my concerns going into this process) and provide flexibility and choice for my students.

As noted on my course calendar, "Flexible Thursday" classes begin after the Add/Drop period, and students choose whether they want to participate synchronously in-person, synchronously over Zoom, or asynchronously using our Learning Management System (Moodle). After three semesters and six flex sections, I've found that most students opt for in-person or asynchronous participation (about an even split), with a few students choosing to participate via Zoom.

With the exception of Peer Review days when I ask students to rank participation preferences in advance, students do not have to tell me prior to class how they plan to participate. I run through the roster at the beginning of class, and those not in the room or on Zoom are expected to complete the asynchronous work for that day: labor-based assignments that are factored into their "Writing Community Participation" (WCP) grade. Once again, the only exception is for Peer Review, which is a labor-based grade that not only counts for WCP but comprises 30% of the grade for each Unit assignment.

For my Flexible Thursday classes, I use a classroom desktop as well as my laptop. This enables me to project a shared screen in the classroom and on Zoom, while keeping the Zoom participants and the Zoom chat in sight on the other screen. I also use our remote teaching kit, placing the audio device in the middle of the room and plugging the camera into the classroom desktop. The Zoom view for my classroom computer shows everyone in the physical classroom; Zoom's gallery view shows each student zooming in, as well as a box with the students in the room.

Prior to all Flexible Thursday classes, I use the Checklist feature on Moodle to post a list of activities that we'll be completing during our class meeting; those participating asynchronously must complete the activities/assignments before the end of the day (by 11:59 pm). Prior to *most* Flexible Thursday classes, I record a video on Zoom and post it to our Moodle site. These videos provide class overviews, share learning goals, introduce key ideas/concepts, and set up the activities for that day's class. Although the videos are required viewing for asynchronous participants, they live on our LMS and serve as resources for anyone who wants to review course content. Along with my video, there are often links to outside videos or readings with discussion questions. Those participating asynchronously submit their responses in a forum; students participating synchronously engage in small group and full class discussions and are not required to post to asynchronous discussion forums.

Sustaining Flex Practices

From an instructor/teaching standpoint, sustaining flexible learning practices makes good pedagogical sense and is consistent with WP philosophy. Because every student learns and communicates differently, we want to make our materials as accessible as possible—posting documents, links, and essential course content in multiple formats and locations—and provide student choice to encourage thoughtful responses and elicit a diversity of perspectives. The more flexible we can be with our teaching practices/approaches, the richer the class experience.

With a diverse, flexible, and accessible class experience in mind, it's important to provide opportunities for student input through surveys, forum reflections, and conferencing. Providing safe spaces to elicit student responses allows instructors to become aware of and work to implement the practices that best suit our students. That flexibility, and the willingness to modify and adjust our practices, all help to enhance the learning experience. It's also important to make flexible learning part of the conversation on a program level. Encouraging faculty, administrators, and graduate student instructors to stay aware of new approaches, share resources and effective practices, and discuss strategies that are effective for our students all help to sustain flexible learning practices.

Lessons Learned

As much as possible, we should work to develop connections that bridge on-campus and online interactions between and among students. For synchronous groups, I've found that mixing in-person and Zoom groups works well and helps broaden participation. Initially, when creating small discussion groups, I put in-person participants with other in-person participants and Zoom participants with others on Zoom. This can work, but I found that the Zoom participants felt less engaged, and it was easy to overlook those on screen when students in the classroom were volunteering. However, when groups have participants in the physical classroom and on Zoom, it's easier to get participation across platforms since students will reference and advocate for their group mates. It's also beneficial to ask or nominate students to help monitor the Zoom chat and note any efforts by Zoom participants to contribute. Instructors have a lot to think about, and it's not uncommon to lose sight of the students on screen. Students are willing and even excited to help out (see <u>shared resources folder</u> for suggestions)!

Ultimately, we've found that students value and appreciate flexibility and choice, and they are largely receptive to and comfortable with (what some might consider) "non-traditional" methods of learning, community-build-ing, and engagement.

Nicole O'Connell, Graduate Instructor, Flex Assigned Groups

As a graduate student, I joined the Flex pilot program in fall 2022 for training and taught my first Flex class in spring 2023. I applied to the Flex program because of the valuable professional development it offered for graduate students. I was especially interested in the ways that a hybrid class could provide a more accessible classroom experience for students, and I was also intrigued about learning new technology.

Flex and Tech Approach

In the fall semester training, the pilot cohort, along with Elkie and Aaron, discussed approaches to "flexing" the course, including ways of designing the hybrid aspects. I decided to use the hybrid/flex groups approach for my

own class. My class met twice a week; the first day was always in-person, and the second day was the designated "flex" day. The class was split into two flex groups which, on alternating flex days, met with me for one-on-one conferences. Alongside these conferences, students would also complete a class activity on flex days; see the <u>shared resources folder</u> for examples. When a flex group was scheduled for conferences, they could attend in-person or synchronously online. When a flex group was not scheduled for conferences, they could attend in-person, synchronously online, or complete the activity work asynchronously online. Since I always included the in-class information in detail on our course LMS, students felt confident that they would not miss out by attending in various ways.

Sustaining Flex Practices

I will not be teaching in the WP next semester, though I will still work in the WP as a graduate assistant director of technology. In this role, I hope to support new instructors in the Flex program while they learn about teaching in this format and the different points of flexibility they have available to them.

One point of concern about the Flex program's sustainability in the WP that often arose in the pilot training was the question of extra labor. In orientation and continuing professional development within the WP, the focus is on fully in-person learning. Instructors teaching a Flex class must put in extra time and labor in order to plan and teach a Flex class. Instructors in the pilot training received stipends, but with the grant running out, we questioned: would instructors agree to go through Flex training and teach a Flex class if they were not receiving compensation for the increased labor? I believe that going through the training and teaching a hybrid class is a valuable experience for graduate students, but I am also aware of the labor disparities graduate students often face (Osorio et al., 2021; Wright, 2017). UMass has a strong graduate union, and the WP must work towards avoiding violation of union regulations as well as striving to create equitable working conditions for graduate student instructors. Because of the positive student response to the flex courses and the added accessibility flex courses bring, flex courses are certainly something the WP should continue offering, but questions still remain over what the flex course training and teaching will look like for graduate students.

Lessons Learned

Due to the pilot training, I felt confident that I had everything well planned beforehand. I had the flex day activities figured out, students understood their

options of attending, I knew how to use the Owl camera technology, and my students and I even spent a class period discussing hybrid interactions in the classroom (see <u>shared resources folder</u>).

However, my flex days did not turn out as expected. On weeks when Flex Group 1 was scheduled for conferences, Flex Group 1 students always all came in person, and everyone from Flex Group 2 attended asynchronously. Thus, since no one ever came synchronously online for Flex Group 1 days, I did not have to use the webcam setup.

On weeks when Flex Group 2 was scheduled, everyone in Flex Group 1 attended asynchronously and Flex Group 2 attended almost all online with only one or two students at most physically coming into class. Again, I ended up not using the webcam setup as the occasional one or two students in class felt awkward being the only ones on camera.

The consistency of the flex groups was convenient and made it easier to plan for future flex days, but it felt strange that students in Flex Group 1 had lively in-class collaboration on their scheduled flex days—these days felt like any other non-flex class—while Flex Group 2 mostly stayed quiet on their scheduled flex days, whether synchronously online or in the classroom. I felt that the two groups were getting very different experiences from the course and different understandings of what a flex class could be.

Yet, despite these differences, students of both groups overwhelmingly favored the flex format. Students appreciated having options of attending class, and the synchronous online and asynchronous options were especially helpful to students who were traveling, had family emergencies, had anxiety which made it difficult for them to come to class in person, or just wanted to be outside on a warm spring day.

While the flexible options in attending class are perhaps the most noticeable points of flex of these courses, the additional ways the class flexed also helped students engage and gain control over their learning. For example, students were often able to choose:

- The topics, formats, and audiences of their projects.
- Discussion points during the one-on-one conferences.
- Ways in which they would increase accessibility in their multimodal projects.
- As a class, due dates for peer reviews.

Providing options allowed students to make choices that would be most accessible and beneficial to them. Furthermore, and because some students prefer more structure, the one-on-one conferences helped ensure students stayed on track and were making choices that would lead to their success in the course.

Conclusion: Reflections and Opportunities

Reflecting on the conversations and experiences we've shared-from our initial fellowship proposal to our ongoing teaching practices-we remain committed to the original goal of trying to meet the evolving needs of students who have asked for and benefited from more flexibility in their educational processes. As we have shown, there is not one singular way to implement flipped, hybrid instruction in writing or other academic classes. We hope the differences in approach we've described, as well as the benefits and challenges we've experienced, provide opportunities for valuable reflection; additionally, we hope the commonalities in our pedagogical techniques and the resources that have enabled us to offer flex courses for College Writing students at UMass can aid efforts to implement similar strategies at other institutions. We are grateful for and have benefited from the fellowship grant we received and the dedicated classroom spaces we have that are conducive for hybrid and hyflex instruction; however, we hope the strategies outlined and the technology displayed in our shared resources folder show that running effective hyflex courses does not require extensive resources beyond a campus LMS and video conferencing option; with nominal institutional investment, remote teaching kits can enhance and expand the experience.

The more instructors begin to implement flexible learning practices—reviewing and applying a wider range of options for engagement, access, and equity—the more students benefit and the greater the incentive for institutions to invest in the resources necessary to accommodate flexible learning. From surveys, discussions, and experiences, one conclusion remains clear: students value and appreciate flexibility and choice, and they are largely receptive to and comfortable with flexible methods of learning, community-building, and engagement.

Shared Resources

Teaching and training resources for flex learning can be found in our publicly available <u>shared resources folder</u>.

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Play as Praxis: How Using Video Games in an Online Writing Classroom Encourages Student Engagement

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This paper examines the possibilities of using video games in the online writing classroom as a tool for teaching writing skills. By analyzing current scholarship on both play and writing pedagogy, and by examining video games such as *Among Us* and *Star Wars: The Old Republic*, this chapter discusses how the use of video games encourages students to connect their play to rhetorical writing decisions through the rewards and consequences of gameplay, social engagement, and storytelling. Likewise, this chapter explores possible activities instructors could do to incorporate *Among Us* and *Star Wars: The Old Republic* into their classrooms.

The inclusion of video games in the college writing classroom is nothing new, but the need to keep students engaged is a continuous conversation amongst scholars. The Conference on College Composition & Communication (CCCC) (2015) states that one of the main guiding principles to teaching writing is that it "supports learning, engagement, and critical thinking in courses across the curriculum". When COVID-19 appeared and sent most college institutions online, instructors had to learn to adapt to new technologies and teaching strategies to keep their students engaged. The use of video games in the online writing classroom increased, but video games as a mode of instruction are just as complex as writing pedagogy as a whole. It takes a lot of work to incorporate video games into the classroom successfully. So instructors must think about which games are going to be most beneficial to achieve their course goals. As a writing instructor, I found the use of Among Us—a game that exploded in popularity during COVID-19—and Star Wars: *The Old Republic (SWTOR)* to be particularly inspiring options to engage my writing students.

More than ever, our students are interacting with video games outside of our classes. *Forbes* reported that 93% of people under 18 admitted to gaming regularly (Skwarczek, 2021). They also reported an 83% increase in game-streaming viewership (Skwarczek, 2021). Another study done in March Davis

2020 showed that people playing video games in the United States increased their playtime by 45% during quarantine (Clement, 2021). In the effort of engaging our students, it makes sense to pull from their interests, especially when the modality of those interests matches with the new modality of their classrooms. The Forbes survey showed that "almost half of the teachers in the U.K. and the U.S. have turned to gaming to try to engage their students during periods of virtual learning, with 91% claiming it's helped" (Skwarczek, 2021). As Lisa Murphy made clear in her book on how children learn, though, "interests are where planning and curriculum begin" and just because students are interested in video games, doesn't mean that is where we can stop as instructors (Murphy, 2016, p. 50-51). It's likely we could tell our students to write about or incorporate their interest in video games into our classes and they would, but it would not necessarily create the same transferability of skills that having students playing the same game together would. Among Us and SWTOR give students the opportunity to engage in a fun game together and discuss their experiences in the scholarly setting of the online college writing classroom.

Increasing Engagement through Video Games

In the online college writing classroom, video games can pull on student interest to engage students in scholastic content where readings and discussion boards cannot. In "Digital game-based learning: Towards an experiential gaming model", Kristian Kiili (2005) noted that "[t]he promise of educational games is to engage and motivate players through direct experiences with the game world" (p.14) The act of playing a game voluntarily reflects engagement as the very gameplay motivates students to complete goals and tasks that have been assigned to them, even if they are scholastically motivated. Video games engage students by inviting students to use more of their bodily senses than simply reading and writing would ask of them. In "Game-based pedagogy in the writing classroom," Rebekah Shultz Colby (2017), writing instructor and scholar, pointed out that Games, especially commercial games like Among Us or SWTOR, "provide richly multimodal spaces that incorporate visual, aural, written, spatial, and kinesthetic modes that students can then analyze and explore" (p. 56). While playing video games, online college students interact with several genres of text and rhetoric. Some games have text that share quests or storylines. Others ask students to interact with writing through communication with PCs (player characters) or NPCs (non-player characters) that instructors can ask students to analyze and connect to other ideas and content from the courses they are taking. Even more subtly, video games interject rhetoric through the visuals or the coding that make up the gameplay.

The multifaceted use of rhetoric in video games makes their connection to writing studies worth studying. In the introduction of Rhetoric/Composition/Play through Video Games, Richard Colby, Matthew S.S. Johnson, and Rebekah Shultz Colby (2013) claimed that "video games become exemplar multimodal texts, aligning word, image, and sound with the rules and operations constrained by computer technologies but composed by teams of writers, designers, and artists to persuade and entertain" (p. 4). The very existence of a game depends at least partially on a writer, and as such they make excellent tools to study in a writing course. Likewise, games offer many educational benefits to students that relate to what is often studied within the writing classroom. In the composition classroom, video games are effective teaching tools that teach students how to adapt their learning to different situations, give them a space to explore and express themselves, and, perhaps most importantly, stay engaged and motivated to learn. It is the role of the instructor to help students engage and reflect on the skills playing video games offers them. In this essay I will look at two games that instructors can present to students to support engagement in their online college writing courses: Among Us and Star Wars: The Old Republic (SWTOR).

Among Us

One video game that can be used to help increase student engagement in the college writing classroom is *Among Us*, as it gives students immediate feedback on their use of various written rhetorical techniques while being free-to-play and easy to incorporate into college writing course goals. Innersloth (2020), a small gaming company based in Washington, released *Among Us* in 2018 for both the computer and as a mobile game. The game, a whodunit based in outer space, asks players to deduce through conversation who is the "imposter" (murderer) and asks the "crewmates" (other players) to vote on who they think is guilty. Players work in rooms of four to fifteen players. 2020 saw the game explode in popularity during the COVID-19 pandemic, with streamers playing the game from home and bringing in millions of users by the end of the year. With that popularity came explorations on how it could be used in the college writing classroom to increase engagement.

In one of the more obvious ways, *Among Us* creates engagement in an online classroom by having students interact in smaller groups with other players in a single span of time. The main way students do this is through the chat options in the game itself. However, with the right additions, students can also use voice chat to talk with each other as well, which can add another layer to the rhetorical experience students have. Students do not have the choice to step away from the game for a long period of time and think about

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how they respond to a prompt. Students must act within a short time frame to persuade their peers of their innocence. Since the games are usually completed in relatively short rounds, it also means that they are not a large time commitment for students and instructors can pair a round or two of the game with lectures or other lessons in the same slot of time a normal asynchronous course would take online.

While playing *Among Us*, players also actively engage with rhetorical concepts surrounding propaganda, trust, and elements of persuasion (Matthews, 2020), which make it useful to connect to concepts in the college writing classroom. Players must work through (dis)information from their crewmates in order to survive each round. Instructors who use *Among Us* in the classroom are able to connect the rhetoric they use within the game's conversation with other written communication, such as political discourse, as Alina Kim (2020) noted in her article "Red is lowkey sus: A political reflection on 'Among Us''. Discerning what is legitimate fact from fiction within the game can translate to critical thinking, literacy, and an understanding of the ethical implications of rhetoric. By comparing lessons that use *Among Us* to teach rhetoric and lessons that use a more traditional lecture/discussion format, we can get an idea of how this video game can be used within the classroom.

Among Us in the Classroom

For example, in a more traditional lesson on rhetorical appeals, I tell students that in an academic essay, ethos might look like having reliable sources cited throughout their papers; logos would be giving a reader specific facts and statistics on the topic; and pathos would be the inclusion of personal stories that ask the reader to empathize with the writer. I then pull up an ASPCA commercial about sad animals to give a specific example they could visualize. The techniques are not unsuccessful. My students are usually able to identify the different appeals in a piece of writing through these methods. However, if I have students play *Among Us*, or even watch a streamed game, following that discussion of the appeals, not only do I give students the chance to identify the use of the rhetorical appeals, but my students are actively engaging in the writing techniques in the moment, even if they don't yet realize it.

Through gameplay, and discussion about the game, students are made aware of who has played before and who has not. This experience creates the idea of ethos as students who haven't played before now view experienced players with either more or less trust. Some students might trust the experienced ones more when they call out suspicious behavior because they might have memorized all the tasks that the crew are supposed to complete, where those tasks are meant to be completed, and how long it takes to complete the tasks. All players have a progress bar for tasks so they know when a task has or has not been completed; even if they don't know exactly which one was done. At the same time, experienced players might become less trusted because of this same knowledge. If they have that knowledge, their lies become harder to prove. If they are the imposter on the crew, they would be harder to catch than someone inexperienced.

The use of the progress bars and task lists during the alibi session of proving your innocence or someone else's guilt could be seen as a form of logos. These aspects of gameplay act as observable facts that all students can check for truthfulness. Likewise, students can watch certain spaces on the game map and can occasionally catch imposter players attacking others, or using the vents on the ship, which only imposters can do. These facts help persuade students to vote one way or the other. However, students can lie about seeing things on the cameras as those are not able to be replayed for others, so there is an element of risk for students who use that as their logos.

The pathos aspect of *Among Us* is probably the most enjoyable and the most frustrating part of students. The "meetings" that are called when players want to report suspicious behavior are timed, though that time can be varied by the person who set up the game for the group. Unless you have other technology set up, this is the only time players can communicate with each other, so there might be a lot that people are trying to communicate in a short period of time. When accusations are thrown, and students are forced to defend themselves, emotions can run high. When one player says another one has done something suspicious, other players must now interact with their own emotions to gauge authenticity. They have to think about where they last saw each of their players. Can they refute any of the claims? Do they have any biases towards the other players? Do they know who the imposter is but they want them to win? The more competitive the players, the more heated the rhetoric can get. It is not unheard of for innocent players to accidentally make themselves look guilty because the other players thought they were protesting too much, without anything to back up their claims. Once gameplay has finished I can bring the class back together to discuss their findings or to further connect it to the other topics that might be discussed in class (such as the rhetorical appeals). Through these methods, Among Us makes a valuable tool for quick and immediate engagement from their students.

Star Wars: The Old Republic

Another game that can be a useful tool for college instructors to use to increase student engagement in their writing courses is *Star Wars: The Old Republic (SWTOR)*. Unlike *Among Us, SWTOR* is what is called a massive Davis

multiplayer online roleplaying game (MMORPG) which means that students playing *SWTOR* could engage with hundreds of people in a day, depending on how they play (swtor.com). Unlike other more well-known MMORPGs, though, students can play most of the game for free. Players can complete the entirety of their player class storylines and some of the expansions without having to spend money on it. Students are also not as limited as other freeto-play games in how they can communicate with other players. It is also less demanding of computer's graphics in comparison to other games of the same type.

There are several different ways that students can engage in the game. The game includes a storyline for each class type students can play. These storylines follow the class of their characters, but students can make moral choices that will change the end result of their storyline. Through this storyline, students do not need to interact with other players and will instead work with non-player characters (NPCs). Another option players have is to work through extra gameplay that isn't related to the main story they are following. In these portions of the game, they will have specific objectives they are trying to achieve, such as gathering a certain amount of supplies, or by removing an enemy presence from an area. In these areas of the game, players might encounter other players and can choose to group up with them to accomplish tasks or not. Students can also take a more independent approach to playing the game. Many players create characters with their own backstories and personalities that might not reflect the restrictions of their class or race choices. Players can then interact with other players to build their stories and personalities, create and solve fictionalized conflict, or build relationships with others. However, because this asks players to interact directly with others, it can be the riskiest to use in a classroom setting, unless heavily monitored and controlled.

However, the different options allow students to reflect on rhetorical choices in many different ways. Students can reflect on how their communication choices change the route of the story when they choose light or dark side options. They can analyze how interacting with others helps them achieve their in-game goals or hinders them as other players want to beat them to objectives. Students can also observe how others react to them depending on how they present and write their own character creations. Students can also reflect how different genres within the game itself change how they communicate. For example, if they're using a chat just between guild members, a private message, in-character and out of character chats, trade channels, and more. There are a lot of opportunities for instructors to use *SWTOR* to help students adapt to writing situations, be engaged and explore themselves and other communities.

SWTOR in the Classroom

The following example shows how I, as an instructor of an online Business Writing course could use *SWTOR* to help students understand communication in a professional setting, audience analysis, and different genres. In *SWTOR* I would create a class guild where students create characters to roleplay as members of the Republic Strategic Information Service (SIS), an espionage group working with the Galactic Republic. In this course, the first thing students work on is job application materials. I would have students do research on the SIS, their character and class choices, and create resumes and cover letters that would get them their "job" at the SIS. They would then do an in-character interview with me in the game to show what they should be trying to accomplish as members of this group, what forms of communication they would be expected to use (in-character), and specific jargon that might appear.

I would then start students off with two tasks. The first task, to continue up to the semester's end, is to complete their class story. While completing the class story, students would create character analyses for recurring characters in the story as they would potential audiences. What sort of responses did the NPCs like? What did they not like? How did that change how the student interacted with them in future scenes? I would have students turn these in as short memo reports to me after each of the major storyline chapters and have them reflect on what changes they might make in the future and the rhetorical theory behind those decisions.

The second task I would ask students to complete is a report on a topic of their choice connected to some other aspect of the game, such as the other storylines, lore, history, or other characters of importance. Some NPCs make speeches that students could break down to look at the rhetorical appeals used based on what they knew of the intended audiences. During this process students would have to write a proposal on the topic they are researching and why it would be important for the SIS to investigate it. For a less in-character option, I might invite students to conduct out-of-game research on how it was marketed, updated, built, and more for their reports. Likewise, I might have students connect in-game themes with current or historical events that use similar methods of rhetoric in their actions.

The available options for student engagement with the game and the course content means that *SWTOR* is more friendly than *Among Us* is to both synchronous and asynchronous classes. Students can play alone or with others which means that the instructor does not have to be present to make the connections to content as soon as they occur. Students are given more time to reflect and think about their choices and the impact they had on their game-play. This also means instructors can offer more flexibility on what students

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explore within the game as well since not everyone will be working on exactly the same thing at the same time.

Conclusion

Games like *SWTOR* might ask students to interact with other players in order to achieve their goals. With video games, "[p]layers do not have identical playing experiences, but each player's experience is totally unique. The subjective experiences of players as they play games are the heart of explanations of engagement in games" (Kiili et al, 2012, p. 79). This can be difficult for instructors to control learning, but it can help students find a way to engage in materials in a way that works best for them. For some games, like *Among Us*, students must collaborate to find the imposter, or in the case of some levels, keep their fellow imposter hidden from the other crew members. Likewise, if the student is playing *SWTOR* in a roleplay setting, students must engage with others on an entirely different level that requires students to create and understand game lore, identities, and relationships.

The social aspect of games can also help students feel motivated to learn and contribute. "All users of a virtual space share one key unifying characteristic; they are users of their shared virtual space. As such, there is always a certain level of underlying virtual consubstantiality at play in all virtual environments" (Baron, 2012, p.55). Being part of a virtual community is not enough, though, as any student using Canvas or Blackboard for an online class can tell you. Games, through interactions more complex than a discussion board or a FlipGrid, give students more space in which to interact with each other. Many games create opportunities for collaboration, such as solving puzzles together, or roleplaying. Those interactions allow students to create stronger relationships with each other and with the course content and that motivation can transfer into the regular course activities.

While there are many ways to engage students through video games, there are many challenges as well. Instructors have to be deliberate in their choices and how they scaffold and present games to their students in order to avoid those challenges. They must consider accessibility for the student, whether that is cost, time, or ability. They must consider how progress will be assessed and how they will know when students are meeting learning goals. Instructors must also consider the risks to the student as they interact with an environment that might not be as controllable as a single classroom space. We must incorporate games with purpose and understanding. Video games offer instructors a framework to keep that awareness but by prioritizing the student and their feelings towards the classroom space, instructors are predisposed to looking for some of the challenges of games. In the writing classroom, video games like *Among Us* and *SWTOR* create a space for students that is low-risk, process-oriented, creative, and engaging so that they can explore writing and rhetoric in a way that relates to them. The social aspects help students stay motivated and engaged in the course content. Also, since there is an emphasis on helping students learn intrinsically, there is the hope that students will want to engage in the games and find pleasure from learning about writing. However, until the pairing of games and writing pedagogy are put into practice, more research will still need to be done. The type of game, the classroom setup, the instructor, and the students all have a part to play on whether a game will be a worthwhile teacher tool.

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Hybrid Histories: Blended Archives and Mediated Memory

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As many archives seek to grow their audience and make their collections more accessible, the politics of archival digitization is a growing area of interest both for curators and archival researchers. In this chapter, we suggest a tension between the desire to preserve primary materials and a need to alter them to suit new contexts, audiences, and purposes, and we reflect on the ways this tension has shaped four distinct archival collections. The first two sections address the materiality and accessibility of the Lucille M. Schultz Archive of 19th Century Composition at the University of Cincinnati. The third section turns to the Martha McMillan Journal Collection at Cedarville University to consider the technical and political risks of archival transcription. Finally, the last section compares the Lesbian Herstory Archive and the Museum of Transology to explore how these two queer historical collections enact their missions despite facing unique curatorial challenges. Drawing on our work with these four distinct collections, we ultimately argue for a more courageous and access-focused approach to historical and archival work in the field of rhetoric.

Digitizing primary materials is a key means of preserving and composing community memory. This multimodal enterprise attests to the materiality of historical research while emphasizing the constructive, even intrusive dimensions of building a repository. Mark Garrett Longaker and a team of scholars (2022) have recently undertaken such hybrid work with UT-Austin's Rhetoric and Composition archive, arguing that the discipline "cannot explain itself" to stakeholders "without taking proper control of our past" (p. 77). We reaffirm the desire to preserve that past while noting that "taking control" involves inescapable forms of mediation. Whether the focus is on disciplinary archives or archives where rhetoric is a salient concern, we posit an ironic slippage between safeguarding things and altering them.

With that slippage in mind, we adopt a self-conscious curatorial politics that acknowledges its shaping power while insisting on archival accessibility and inviting participation of marginalized voices. To adopt the language of Maria Novotny and Ames Hawkins (2019), we accentuate how archives and archival curation situate bodies "in relationship with a wide range of artifacts, materials, and texts in order to design, frame, and position engagements and experiences for viewers of an exhibition" (para. 7). Alex Evans and Chris Carter begin this investigation by discussing the Lucille M. Schultz Archive of 19th Century Composition at the University of Cincinnati in the two opening sections, reflecting on the archive's material form, its conditions of fragmentation and decay, and its accessibility challenges. Bethany Hellwig then details her work transcribing the writings of Ohio farmer Martha McMillan, highlighting the tensions between feminist fidelity to McMillan's original text and the need to make informed, if risky, editorial decisions when faced with ambiguous script. Finally, Katie Monthie examines the Lesbian Herstory and Museum of Transology archives, lauding how they record a diversity of queer experiences while also exploring the challenges of cataloging forms of eclectic, vernacular materiality.

Curatorial Presence and Material Disembodiment in the Hybrid 19th Century Composition Archive

When I (Alex Evans) was first introduced to the Schultz Archive of 19th Century Composition, I was a new graduate student at the University of Cincinnati; now-Emeritus Professor Russel Durst came to speak to my class about the department's composition program. He brought with him a weathered volume of grammar instruction that he passed around the room. As he described the archive, made up of texts collected by Lucille Schultz over her 26 years researching the history of writing instruction as a faculty member at UC, I imagined a dimly lit room full of leatherbound volumes and dark wood hidden away somewhere in the building. When I later began volunteering for the archive, I realized that my first impressions could not be further from the truth, though they perhaps reveal something about the way archives live in the contemporary imagination. In reality, the Schultz collection contains no antiquarian books at all and is stored inside a set of unassuming filing cabinets in the English department offices. The archive is made up primarily of facsimiles-xeroxed copies of original texts found in libraries and archives across the country and used by Schultz throughout her career. The facsimile archive has both affordances and limitations for the archival researcher, drawing attention to the materiality of the artifacts (and the original texts they reproduce) as well as the figure of Schultz as the curator and creator of the archive.

In the introduction to *Meetings with Manuscripts*, academic librarian Christopher De Hamel (2016) wrote that "facsimiles are rootless and untied

to any place. No one can properly know or write about a manuscript without having seen it and held it in the hands. No photographic reproduction yet invented has the weight, texture, uneven surface, indented ruling, thickness, smell, the tactile quality and patina of time" (pp. 2-3). Schultz herself was able to have this kind of embodied, tactile experience of the original 19th-century texts during her research trips, but contemporary scholars utilizing her archive can only see this experience reflected through her photocopied reproductions or, more recently, the digitized version of those reproductions. Schultz (2021) noted this evolution in research methods in the Foreword to Composing Legacies, writing that for researchers in the archive, there are "no more dusty jeans. No more jumping up to turn on the light that had gone off at the end of a stack" (p. xii). While Schultz was right to point out that both the facsimile collection and the digitized version of the archive make these texts accessible to researchers in a way that they never previously were, De Hamel's critiques still stand: the Schultz archive presents challenges not only for researchers invested in the material, embodied experience of reading 19th-century texts but also more broadly for researchers who wish to venture beyond Schultz's work to "properly know and write about" the original texts.

As a figure, Schultz looms large over the archive. In both the physical and digital collections, Schultz's choices as a researcher and, ultimately, as the creator of a collection, assert a distinct curatorial presence. Many of the photocopied texts in the archive are incomplete as Schultz chose only to copy certain sections, and the facsimiles often include Schultz's annotations, underlines, and other markings. In some of the copied pages, fingers-presumably Schultz's-are visible holding down the corners of documents. While De Hamel's (2016) description of facsimiles presents reproductions as impersonal, alienated versions of a particular text, Schultz's reproductions feel extremely personal, as if her presence as curator has occupied the space between the reproduction and the original text. Though Schultz's curatorial presence lends a kind of coherence to the whole collection, uniting disparate texts under a single body of research, her reproductions themselves cause problems, particularly as we work to make the archive more accessible. Generating accurate alt text via optical character recognition is already challenging with historic texts, but Schultz's photocopies add another layer of confusion for software readers. To address these accessibility concerns, the current custodians of the archive are faced with a quandary: maintain the integrity of Schultz's facsimile collection as-is and accept its inaccessibility or expand the collection to address its current limitations.

To my mind, the choice is clear: the archive cannot stand still. I believe Schultz would agree with me as she wrote that archives are "far from static," described the collection in its current form as "limited," and celebrated researchers who have "pored over this archive…in their different ways of seeing, making it new" (2021, p. xii). If, as Stephanie Taylor declared in 2017, "the future is hybrid," it is essential that the Schultz archive continue to evolve and expand to meet the needs of a diversity of researchers. To do this, we must increase the accessibility of the digital archive, a task that may also require an expansion of the physical collection. By acquiring original copies of the texts that Schultz reproduced, the archive could not only invite the kind of tactile engagement with texts championed by De Hamel, but it could also have far better source material for creating an accessible digital collection. In this way, one researcher's personal archive could live on to support further generations of scholars.

The Long History of Normativity: Accessing Nineteenth-Century Counter-Literacies

The archive that Alex mentions above, and that he has recently helped to catalog and enrich, speaks powerfully of Lucille Schultz's dedication to her field and her contributions to its self-understanding. Her painstaking assembly of nineteenth-century writing and rhetoric materials from libraries across the country have culminated in an onsite and electronic repository of nearly 350 items. That hybrid trove is, to use the language of Charles E. Morris III (2006), an "inventional" resource for "rhetorical pasts," affording researchers an abundance of overlooked records from which to construct historical narratives (p. 113). Digitization makes the records widely available, though it also clarifies the uncertainties of the storytelling process. Heeding the recommendation of Jennifer Ansley (2020), I (Chris Carter) aim here to "dwell in the uncertainties" of archival investigation, locating instructive contradictions in the artifacts and their mediation (p. 19). The artifacts support histories that associate nineteenth-century pedagogy with grammar drills and social sorting, but they also anticipate multimodal process and critical consciousness. Yet even as those surprising tendencies might appeal to activist researchers, the interface excludes people who are well-positioned to invent novel pasts from the archive's holdings.

Interpreting those holdings requires a tolerance for inconsistency, a patient openness common to what Jessica Enoch and Pamela VanHaitsma (2015) termed "archival literacy." The works often filtered writing lessons through the lenses of White Christianity, with notable instances from Hosea Hildreth in the 1820s, Spencer Smith in the 1850s, and Sarah Annie Frost in the 1870s. Some books mixed racial and religious conditioning with an emphasis on taste, fostering what Thomas Miller (2010) saw as the belletristic pursuit of social distinction (p. 95). Exclusive as those tutorials could be, the inequity long preceded the classroom experience: Schultz (1999) noted poor people's limited access to schooling while lamenting laws against teaching Black people to read (p. 16-19). But the artifacts also proffered innovations that would influence college writing instruction deep into the next century. Elizabeth Mayo fused pictorial, material, and environmental literacies with a respect for democratic dialogue in the 1830s. Thirty years later, Warren Burnton reaffirmed that materialist ethos, arguing for building on students' existing knowledge and having them weigh in on civic deliberations. By the 1890s, William Maxwell incorporated storyboarding into invention exercises while Gertrude Buck and Elisabeth Woodbridge encouraged investigation of audience assumptions when composing. Such contemporary-sounding concerns clarify the contradictory character of the Schultz holdings: the era against which modern composition studies defines its identity also prefigures some of the field's groundbreaking discourses.

The archive thereby gives scholars ways to extend Jason Palmeri's work in Remixing Composition: whereas he tracked multimodal rhetoric from its recent expressions to key moments in Composition's twentieth-century history, the Schultz holdings reveal the prevalence of the visual, aural, and tactile in the pedagogy of the 1800s. A number of the texts also veer from the writing practices Eric Darnell Pritchard (2016) associated with "literacy normativity" (p. 53), encouraging students' resistance to orthodox viewpoints and standardized forms of argument. But even as it permits us to remix composition's history, its inventional resources emerge from conditions of decay. Books contain badly blurred lines; paragraphs and sentences get cut off; engravings lose clarity during reproduction. Some texts come only in segments. Visitors cannot experience the tactile specificity of the entries, as the holdings appear mainly as photocopies and digital facsimiles. UC Libraries rendered the documents internally searchable, but the works still need to be formatted for screen readers in ways that negotiate page damage and make it available for analysis. Without appropriate document modification, screen readers have trouble with headers and page transitions, and they skip the texts' images and instances of cursive handwriting. They also bypass highlighted text while missing Schultz's marginal notations, some of which fueled her arguments in The Young Composers: Composition's Beginning in Nineteenth-Century Schools.

Despite curatorial efforts to open composition history to neglected perspectives, the archive also reifies normative reading practices, reproducing what Chloe Anna Milligan (2019) called "a transcendental version of what 'the body' apparently should (want to) be" (p. 75). That body is, among other things, one that sees the finer details of the textbooks' image-based lessons. To make those lessons accessible, the pictures require written supplements, some of which may expose tensions between imperatives for brevity and accuracy in alt-text. Sometimes the images come in sequences that suggest unfolding action, for example, inviting students not just to decipher the visuals but imagine moments between (see Figure 5-1). Archivists' efforts to describe those sequences with accuracy coexist with the necessity to interpret them; the goal of preserving their uncertainty conflicts with an ethic of clear translation. When we engage in such translation, alt-text guidelines call for careful distinctions between decorative and informational visuals. But such clarity proves elusive as abstract dimensions of otherwise figurative engravings confuse ornament and substance. At these moments, archives of rhetoric demand risky rhetorical choices, some of which extend the long history of normativity while aiming to counter that very thing.



Oral Exercise.

Let us call the boy in the chair Henry, and the boy who is pulling him John.

What are they playing? Which is the horse, and which the driver? How are the reins fixed? What do they call the chair? What are they using for shafts? How do you think John feels about it? How do you think Henry feels about it? Is there any danger, and of what? What makes the chair fall? Where is Henry when the chair falls? Do you think John feels sorry about it? Figure 5-1. From Maxwell's First Book in English, 1894.

A Conversation with the Past: The Interpretive Transcription of a Nineteenth-Century Woman's Journal

Making interpretive choices when preserving texts also poses a risk when analyzing more intimate archives, ones that focus on individual writers while holding wide-ranging lessons in the history of literacy. One such writer is Martha McMillan, a rural Ohio farm woman who kept a daily journal for 46 vears, from the day she was married in 1867 until slightly before her death in 1913, resulting in over 12,000 pages of writing. As part of a 2015 undergraduate American Women Writers class, I (Bethany Hellwig) transcribed five months' worth of McMillan's 1898 Journal for a digital archive (Brock et al., 1898). Other undergraduate students have, in the years since, transcribed much of McMillan's writing, and the journals have been scanned for digital access ("Martha McMillan Journal Collection"). Creating transcripts of the journals is an ongoing project under the direction of Dr. Michelle Wood at Cedarville University in Cedarville, Ohio, close to where Martha McMillan lived and wrote. The collection showcases the voice of a woman whose writings would, without this project, likely be lost to time. It is a feminist research project initiated to preserve the words of a writer who was unremarkable according to many traditional standards.

Gesa Kirsch and Jacqueline Royster (2010) wrote that excellence in feminist rhetorical inquiry "involves an effort to render meaningfully, respectfully, honorably, the words and works of those whom we study" (p. 664). By creating a digital transcript of faded, hard-to-read cursive text, the McMillan journal project shows tension within this standard of excellence. The project's goal is to preserve McMillan's work in a readable format, yet in the transcription process transcribers must, out of necessity, alter McMillan's original writing. Take, as an example, the April 1, 1898 journal entry shown in Figure 5-2.

This is the transcription I wrote in 2015 for this entry:

1 April. Friday. Rather a pleasant day, but by no means warm. Stanley(?) here and finished up his work after dinner. Alex cleaning the yard. Clayton & Jason at Selma School. Paul at our school. Casey busy. Uncle Joe around. I went on a hasty trip to C- on an errand this morning. The men______ the fence along the ditch in the lower meadow. <u>Mr. Mc</u> at Con an errand too. Luella and I busy. A traveling man here to supper and with us to night. His name ______ he was in the rebel army. [editor's note: she leaves a long space for traveling man's name in the journal, but never filled it in.]

64 Dfril. 1898. April. Finday, Rather a fleasanta. govarm. ft. -leg h ashed of his work after - dinner. Aler cle tin & Jason alfeling fel Land, Cle ne at on School, Gasey bring, Inch unde I went on a hast, tri 1 p. Thi I this mor. àn, a fence along the ditch in the meadow, Which at 6-m an enand too? Inelea and & snap . P travelin here to Supper and mite up to might he was in the selvel arm His name

Figure 5-2. Photo of Martha McMillan's journal entry from April 1, 1898

As an undergraduate researcher, my instinct was to avoid authority, decision-making, or anything that could be considered a rhetorical act while transcribing McMillan's work. I privileged McMillan's writing above all, and in a desire to perfectly represent her words, I left question marks, blanks, and a worried-sounding editor's note about a blank space in the text. My lack of decision-making was meant to honor authenticity, but in refusing to make decisions, I ironically obscured the meaning of the text. In the current complete transcript of the journal (edited by an unknown person, but who may have been Dr. Wood), there were some significant changes from my 2015 transcription. "Stanley (?)" has become "Stookey," the blank space where I couldn't decipher the handwriting of a word has been deemed "began," as in, "the men began the fence," and my editor's note has been condensed to a bracket: "His name [Blank space] he was in the rebel army." These edits are decisive and, in their decisiveness, hold potential to be incorrect. However, they ironically insert less of the archivist's presence into the text, allowing McMillan's voice to remain the focus of the transcription.

This evolving entry's journey from handwritten journal to tentative transcription to final transcription shows the inevitable mediation of archivist work. Historicizing written pasts is messy and imprecise, and in the act of preserving it, we inevitably alter it. Sean Zdenek (2015) explored a similar idea about closed captioning as a rhetorical act, showing captioners' influence over perceptions of sound through their word choices. Similarly, transcribers of the McMillan journals make inevitable rhetorical choices, even if, like me, they try to avoid them. Avoiding them is in itself a rhetorical choice. As a burgeoning academic and archivist, transcribing McMillan's journals showed me that Kirch and Royster's standard for meaningful and respectful interaction with original texts can coexist with decisive interpretation. Archivists and transcribers must approach these tasks consciously, with a self-reflective stance toward their own positionality and how it may affect their choices. However, they cannot and should not avoid interpretative moves entirely. Instead, emphasizing rhetorical consciousness in these representative acts provides a way to honor the voices of feminist history even as we mediate them.

Complications with Queer-Countering in the Archives

Honoring critical literacies, such as feminist and queer literacies, through reflective transcription is one of the many crucial, delicate purposes of archival study. Such work underscores the inescapably political nature of history and the necessarily rhetorical character of storytelling. Who has access to those stories, as well as what stories are told, are at the heart of the discipline and can reflect the political interests of the communities archives are made to reflect. Michelle Caswell (2014) noted this explicitly when discussing her work with the South Asian American Digital Archive, asserting throughout the piece that the choice to represent certain narratives by community archivists can operate as a form of social justice. It is therefore no surprise that there are a great many queer and LGBTQ+ archives, like the Lesbian Herstory Archive and the Museum of Transology (MoT), that have developed to convey queer history. Considering the types of stories that are told within these archives, particularly those that are online and most accessible to the public, allows both researchers like myself and public audiences to reckon with a wide variety of queer experiences.

Given that the Lesbian Herstory Archive was established in the 1970s, it has had both a larger amount of time to collect materials and more capability to represent specific moments in queer history. Conversely, the MoT was created to fill a gap in trans representation during 2016 and address transphobia in the UK. Both of these archives work to improve visibility and documentation of differing experiences of queerness, but the Museum of Transology, from its inception, has a more overt political message. Whereas the Lesbian Herstory Archive arose out of a lack of historical visibility, the Museum of Transology has arisen out of a need for positive, everyday representation of trans lives. Thus, it is important to consider that these differing archival missions may shape the distinct approaches to documenting objects and their narratives.

For instance, the Lesbian Herstory Archive's attention to culture and history reflects their focus on documentation and visibility. In contrast, the representation of emotion, body, and style within the MoT is more in line with the political activism associated with work like the AIDS memorial quilt, as the fiber objects aim to increase empathy for trans people through reminding viewers of these individuals' humanity. Given the common thematic categories of "body" and "style" within the archive, it is well set up to converse with queer composition's understandings of embodiment and queerness. It is a premier example of how the queer archive can, as Alexander and Rhodes (2012) explained, offer "us a nearly unprecedented opportunity to think the body in rhetorical practice—and in this case, the queer body in queer rhetorical practice."

Despite how valuable these archives are to exploring queer rhetorical practice, they may not be known or fully accessible to LGBTQ+ communities or other areas of the wider public. While Ann Cvetkovich (2011) made a compelling argument that these kinds of public archival spaces aid in the accessibility of archival material, these stories may not fully reach larger audiences as intended given constraints in building and disseminating collections online. People within the LGBTQ+ community, similar to the South Asian American families in Caswell (2014), may not feel comfortable separating from possessions that reflect their identity, such as flags and clothing. They also may wish to pass objects such as binders to another member of the community to give the object more utility while spreading support.

An additional complication that emerges when working with such data is the difficulty in making and using the metadata, which impacts the searchability of the archives for both researchers and a larger public. Both archives' metadata is incomplete in some areas, which can influence both the nature of a collection's stories and its accessibility. This may be because clothing is harder to date-do we use the year it was made, the years it was worn, or something else? How do we even find such information? Perhaps for this reason, many shirts in the Herstory archives do not have any years attached to them, or they have decades-long ranges. Alternatively, the MoT simply does not collect such data, as using tags to tell stories does not always support the inclusion of baseline information such as "dates." The metadata in these archives, as well as the themes or search terms attributed to them, are informed by both the person who donated and the archivist. The choices of both individuals may mean that information like dates, use, and meaning of a piece can be murky, unclear, or non-existent through no intended fault of the donator or the archivist. This ultimately impacts how researchers and the public interact with and understand a collection, changing the educational value and political impacts of archives. Thus, considering alternative documentation practices that register the unique benefits and challenges of online archiving (Caswell, 2014) is paramount to such archival practice, serving as a successful counter to the traditional political narratives and assumptions made about LGBTQ+ communities and individuals.

Conclusion

Determining appropriate documentation techniques for blended archives is one of many tasks that clarify the rhetorical character of historical stewardship. Not only do archives support the invention of disciplinary and political identities, they are themselves inventions in various stages of evolution and disrepair. In reflecting simultaneously on their production and use, we have underscored the imprecision of the work rather than warding it off. But at the same time, we have encouraged courageous forms of cataloging and interpretation, keeping historically marginalized groups in view even as we contest the marginalization of historical study.

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Countering a Culture of Disengagement: The Role of Dialogical Self Theory in Teaching Podcasting in an Engineering Communication Class

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A culture of student disengagement from concern with public welfare has been identified in engineering education, leading some educators to call for assignments and extra-curricular activities that promote student awareness of the role of engineering in society. This paper reviews a podcast assignment for engineering students, which asks them to create a short demo episode for a podcast called *Engineering Moment* about a topic addressing the social role of engineering. This paper proposes that the assignment fosters students' self-reflexivity and supports a process of identity construction in relationship to others, countering the culture of disengagement. Ninety-two of the engineering majors who completed the podcast assignment took a voluntary anonymous survey that included open-ended questions. This paper discusses the assignment and the survey results in the context of dialogical self theory because the theory addresses identity development as a dynamic process within a social context. Overall, the survey results indicate that in the context of completing the podcast assignment, engineering students expressed valuing the ability to shift perspectives and they conveyed a deepened appreciation for the role of engineering in society. In this way, the podcast assignment offers particular value in the engineering classroom.

Podcasting in higher education was relatively new in 2018 when I developed a podcast assignment for my course Advanced Communication for Engineers, so I justified its use by detailing its ability to meet the course learning objectives and to promote desired accreditation outcomes. However, in re-tooling my standard team presentation assignment into a podcast assignment, my intention was to upgrade instructional quality, so I explicitly asked, "What educational value, if any, [does a] podcasting assignment add?" (Ramsey, 2019, p. 2). Although I concluded confidently that this initial version of a podcast assignment addressed key learning objectives appropriate to an upper division communication course, I could not articulate a compelling new value

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that it added to the class. In Spring 2021, I revised both the assignment and my research question to more specifically address engineering majors. The assignment prompt was revised to present a clearer rhetorical situation of students creating a demo episode for a podcast about the role of engineering in society, and the updated research question considered the value of the assignment within the broader context of engineering education.

This reframing of the podcast assignment was inspired by increasing calls from engineering education researchers that we must promote student awareness of engineering's social dimension, for instance by considering social justice (Riley, 2008) and the intertwined relationship of technology and society (McGowan & Bell, 2020). In particular, in "Culture of Disengagement in Engineering Education?," a longitudinal study of engineering students at four institutions, Erin A. Cech (2014) examined students' concern with "public welfare," defined as the effect of engineering on the general public beyond their use of technology, for instance, in terms of "social justice, [...] inequality of access, the spread of risk and benefit, and issues of privacy, monitoring, and control" (p. 45). Cech found "students' public welfare concerns decline significantly over the course of their engineering education" (pp. 42-43, emphasis original), leading her to suggest that engineering education may be creating a culture of disengagement. Presumably, students are encultured to focus on the technical aspects of engineering while the social context of their future work is relegated to an afterthought or considered a distraction from their technical education.

With this culture of disengagement as the impetus for revising the podcast assignment, the research question shifted from identifying the value of a podcast assignment within a particular course to considering its broader educational relevance for engineering students. To that end, this chapter asks what value, if any, does a podcast assignment add *for engineering students*?

This chapter proposes that the podcast assignment fosters self-reflexivity and models a construction of identity in relationship to others, which may support students' engagement with public welfare. The Background section presents the assignment and reviews dialogical self theory in the context of fostering engineering students' self-reflexivity and social awareness. Dialogical self theory is used because it addresses identity development as a dynamic process within a social context. The Methods section describes the data collection and analysis. The Results section presents survey results. The Discussion section analyzes the results in the context of dialogical self theory and the potential to counter a culture of disengagement, finding that the podcast assignment promotes students' construction of their identity as engineers within a social context. The conclusion notes limitations of the study and avenues for future work.

Background

In the updated version of the assignment, students create a demo recording for an episode of a podcast called *Engineering Moment*. Production of the *Engineering Moment* podcast is supported by the University of Southern California Engineering School's Dean's office; while it is available on most major podcasting platforms, its primary purpose continues to be as a class assignment. The broad prompt is tied to a specific rhetorical situation, the potential to share their ideas about engineering and society through an actual podcast production:

The podcast series *Engineering Moment* incorporates student voices in a variety of ways, and while you're welcome to submit to your work the series, you will not be required to do so. It's possible, too, that our 'moment' will change quickly and the topic you explore for this class may need to be updated. With these caveats in mind, approach your work for this class as a prospective demo tape for the series.

Create an episode for *Engineering Moment*, addressing a topic of your choice at the intersection of engineering and society.

Students work in teams of two or three, and each team member is expected to speak for 5-7 minutes. The podcast needs to be based on research (typically about five sources per team member), and students submit an annotated bibliography as one of the scaffolding assignments. Scaffolding assignments are a key component of successful podcast assignments (Detweiler, 2019; Faris et al., 2019; Jennifer, 2022; Jones, 2010; Lee & Geraci, 2022), and additional scaffolding assignments include using a focus group for topic refinement, crafting a storyboard, and writing show notes. Students are introduced to the chat show (Drew, 2017; Ramsey, 2023) as the recommended genre, so all team members share equal speaking time and convey information, instead of using a host and expert guest format or a narrative format with fewer voices. The chat show format presents a prepared but unscripted conversation.

Fostering a Dialogical Self to Promote Social Engagement

Engineering Moment is more than a short chat about engineering, which the title (and the chat show genre) might suggest; it is also more than an invitation for students to consider the social impact of engineering in this moment of time. At heart, it is an opportunity for students to experience constructing a dialogical self, which is constructed and reconstructed by actively engaging

with the perspectives of others (Hermans, 2001; Hermans, 2003). The chat show podcast enacts these dynamics as students strive to present a "diversity of perspectives on the topic" (Drew, 2017): the podcast facilitates engagement with multiple viewpoints and promotes the perspective-shifting abilities needed in constructing a dialogical self.

The dialogical self is fundamentally playful, engaging in low-stakes and high-agency identity exploration. While "fun" may not be an adjective commonly associated with engineering education, it *is* an adjective associated with podcasting in the classroom (Almendingen et al., 2021; Detweiler, 2019; Jones, 2010; McCarthy et al., 2021)and podcasts have opened new possibilities for assessment in interprofessional learning (IPL. The chat show genre in particular encourages linguistic playfulness; Drew (2017) identified wit as a signature move of the genre, citing a blending of humor and intellectualism. A similar playfulness is clear in Hermans' description of the multi-subjective nature of the dialogical self:

> In contrast to the individualistic self, the dialogical self is based on the assumption that there are many I-positions that can be occupied by the same person. The I in the one position, moreover, can agree, disagree, understand, misunderstand, oppose, contradict, question, challenge and even ridicule the I in another position. (Hermans, 2001, p. 249)

The dialogical self, then, hosts a conversation between competing perspectives—much like some genres of podcasts (Detweiler, 2021; Drew, 2017). As an internal conversation, constructing a multi-subjective dialogical self seems as easy as putting on a new hat, a simple trying on of a different perspective.

While this ability to imagine the world through another's perspective might increase student awareness of engineering's impact on public welfare, that is not enough: students must also be able to view engineering and their own identities from the perspective of another. This, too, is an aspect of the dialogical self:

> The dialogical self is "social," not in the sense that a self-contained individual enters into social interactions with other outside people, but in the sense that other people occupy positions in a multivoiced self. [...] I'm able to construe another person or being as a position that I can occupy and as a position that creates an alternative perspective on the world *and myself*. (Hermans, 2001, p. 250, emphasis added)

Hermans' formulation of the dialogical self here isn't simply playful—it is privileged. When the dialogical self occupies another perspective, it does so willingly (even willfully), one-sidedly, and with no risk: if a disagreement with an assumed I-position becomes uncomfortable, the position can simply be abandoned, which is problematic when trying to foster genuine self-reflexivity. In contrast to this privileged formulation, scholars from oppressed communities have offered powerful descriptions of the necessity of seeing oneself from the perspective of another. For instance, W.E.B. Du Bois formulated the concept of "double consciousness"—"this sense of always looking at one's self through the eyes of others" (Du Bois, 1903, para. 4). Double consciousness as articulated by Du Bois is not a theoretical framework of identity but a lived intergenerational struggle, a thwarted "longing to attain self-conscious manhood, to merge his double self into a better and truer self" (para. 5). Similarly, Gloria Anzaldua's theory of mestiza consciousness (Anzaldua, 1987) and current discourse on intersectionality describe a self that must be able to view itself as an other, with an ability to shift between multiple aspects of its identity.

Both approaches—incorporating the perspectives of others into one's own perspective and viewing oneself from the external position of another—are valuable in promoting students' self-reflexivity and potentially supporting an engagement with public welfare. Podcasting can facilitate such perspective-shifting: in creating the podcast, students must research a contextualized engineering topic and foreground its social implications, prompting them to consider the views of multiple stakeholders; at the same time, inherent in podcasting is the potential that their voices may be heard and interpreted by others, potentially prompting students to access the dynamics of double-consciousness models. Podcasting enables the combining of these identity-making models through the ethos of playfulness on the one hand and social justice awareness on the other hand.

Additionally, dialogical self theory is particularly appropriate in a discussion of engineering education because it explores the construction of identity through dynamics that align readily with engineering qualities. The dialogical self "is always tied to a particular position in space and time" in contrast to a static and atemporal Cartesian self (Hermans, 2001, p. 249), making it inherently contextualized. Similarly, Steven L. Goldman located engineering within in a contextualized and contingency-based framework in opposition to a universal framework of scientific certainty and necessity (Goldman, 2004). Overall, the concept of a dialogical self resonates with key engineering ideals: it is creative, dynamic, and flexible (National Academy Engineering, 2004, pp. 53-57).

Priming Students through the Presentation of the Assignment: Bridging the Dialogic Self and Social Engagement

Students are introduced to the assignment through a presentation intended to prime (Kapkın & Joines, 2021) their receptivity to both aspects of the

dialogical self (considering other's perspectives and viewing themselves from the viewpoint of another). The introduction of the podcast assignment has two aims: first, to have students consider engineering's social impact from a general perspective; and second, to jolt them into an awareness of their particular perspective as engineering students. Additionally, the introduction is intended to excite the students about the process of making a podcast episode.

To begin, I share slides from a conference presentation about Engineering Moment for an audience of composition instructors. I ask the students to imagine themselves as a writing instructor, probably 30-60 years old, and to play along with a word association exercise from this perspective. I create a clear context in space and time (crucial in the construction of the dialogical self) and note that the conference was during the end of Fall semester in 2020—the height of the COVID-19 pandemic. Figure 6-1 shows the final composite slide of an unfolding series: the word "stress" leads to an image of excessive paperwork (usually, students realize that while they might be stressed with writing papers at the end of the semester, instructors would be stressed grading the work); adding the word "tension" leads to an image of a tension headache (students aren't typically aware of this phrase, and I explain the older writing instructor at the conference would likely recognize it); adding the word "moment" leads to multiple images conjuring current social stress and tension (students connect easily with these images). After this first set of word associations, students generally feel confident imagining the responses of a writing instructor.



Figure 6-1. Slide prompting students to consider composition instructors' perspective



Figure 6-2. Slide prompting students to imagine composition instructors trying to consider engineering students' perspective

Then, I tell them that the next few slides attempt to put the conference audience members into their perspective, considering the words from the perspective of an engineering student. I ask students to imagine that they are writing instructors who are trying to imagine being engineering majorsstudents typically laugh at this complication. The same words unfold, with drastically different images, shown in Figure 6-2: "stress" leads to figures of tension, compression, and sheer force vectors. Reliably, students lean back in their chairs with laughter as I point out that I needed to explain to the audience of writing instructors that in engineering "stress" is neither good nor bad but simply a phenomenon that must be considered. This moment serves as a shock of (self) recognition, with students realizing that they have a specialized knowledge base which yields a unique perspective. "Tension" leads to an image of a crane with a chain moving an object, and I tell students that I informed the conference audience that, like stress, tension is neither good nor bad, but it can be usefully harnessed. Lastly, the word "moment" leads to an image of a wrench, and I note that I needed to explain to the conference audience that moment equals force times distance, and it is a foundational engineering concept.

The students are now aware that as engineering majors they have a unique perspective, and I remind them that they are not only engineers and that as concerned citizens they share the perspective of the first series of slides. Then, I share a third series of slides that merge the first two perspectives, shown in Figure 6-3. When most citizens consider social justice, they may think of movements like Black Lives Matter; engineering students think of this too,

but they might consider also the need to reduce racial bias in facial recognition, AI, and other technologies. When most citizens reflect on current causes of public stress, COVID-19 comes to mind; engineering students are aware of COVID-19, but they imagine creating a vaccine or improving contact tracing. When most citizens ponder political controversies, they think of potential election inference; engineering students would go a step further and consider cybersecurity solutions.



Figure 6-3. Slide demonstrating that engineering students simultaneously hold the perspective of a citizen and a special knowledge base as engineers

In short, the assignment's introduction establishes two points: first, engineering students are part of a larger social community and understand the pressing issues of our time; and second, as engineers they have a useful perspective on potential solutions for these issues. Ultimately, by priming students to step outside themselves—first attempting to think from another's perspective and then imagining that other perspective considering their own perspective—the students experience the construction of the dialogical self.

Methods

IRB approval was received for this study in 2021. From the spring 2022 to spring 2023 semesters, this podcast assignment was delivered to 264 students in classes of Advanced Writing for Engineers, who produced 82 podcast demo episodes as their deliverables. All classes were introduced to the assignment through the priming protocol described in the Background section. After the podcasts had been submitted, a data collector emailed students invitations to take an anonymous online survey. One hundred and forty-nine of the 264 students took the survey; not all students answered every question. Of the 149 respondents, 92 identified themselves as engineering majors. Only the responses of self-identified engineering majors are considered in this chapter. The survey included a validated Engineering Identity Scale (Patrick et al., 2018), which will not be discussed here because the constructs do not address this chapter's research question. The survey also included open-ended questions directly asking students what aspects of the assignment they found most and least valuable; these questions will be considered in the sections that follow. A theoretical thematic analysis will be applied (Braun & Clarke, 2006), using dialogical self theory within the context of a culture of disengagement.

Results

The open-ended question, "What did you find most valuable about the podcast assignment?" received 68 responses. Repeated throughout the responses were four themes connected to the dialogical self and a culture of disengagement: perspective, fun, society, and collaboration. Of the 68 students who responded to what they found most valuable about the assignment, 49 also responded to the question about what they found least valuable. No student only responded to the question about the least valuable aspect.

Table 6-1 presents the relative frequency of themes noted in response to the most valuable aspect of the assignment.

Theme	Description	Relative frequency
Perspective	Comments noting self-reflection on their own per- spective; comments noting the value of expressing their perspective to others; comments noting the value of considering others' perspectives	31%
Fun	Words such as "fun," "enjoyed," "excited," "interest- ing," "playing," "creative"	29%
Society	Comments discussing the role of engineering in society (not comments with students imagining the perspective of society)	18%
Collaboration	Comments about teamwork	15%

Table 6-1. Relative frequency and description of themes in responses to what students found most valuable about the assignment

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Table 6-2 presents representative quotations reflecting the range of responses for the four common themes.

Theme	Representative quotations	Conceptual connection
Perspective	"Introduced a bunch of different perspectives" "Listening to myself from another perspective was helpful" "Consider my experiences with a wider scope"	Perspective-shifting
Fun	"The recording was fun because it made the process feel more lighthearted when we'd inevitably mess up—and then laugh and start over—because it's not a format we're to used to as engineers, thus also being a point of growth"	Playful
Society	"Thinking about the connection between our topic/ content and the mission of Engineering Moment and the role of the Engineer leveraging their knowl- edge for the benefit of society. It allowed me to think about my role in that as well as even outside of the assignment"	Personal and profes- sional self-reflexivity Increased awareness of social role of engineering
	"Talk[ing] about engineering holistically and what it means to be an engineer. I never really think about my responsibilities as an engineer in my day to day life"	
	"It broadened my understanding of engineering as a discipline and also made me reflect on the past, present, and future of engineering"	
Collaboration	"Great because this topic needs a discussion with more than 1 person's opinion" "A discussion to synthesize sources"	Perspective-shifting Playful
	"Working in a group made the assignment a lot more enjoyable"	

Table 6-2. Representative quotes of responses related to the themes

None of the themes mentioned as most valued were mentioned more than three times as least valued (relative frequency of 6%), supporting the positive feedback. The response that "nothing" was least valuable (not simply leaving the response blank) occurred at a relative frequency of 20%. Only two other themes were mentioned as the least valuable aspect of the assignment with a relative frequency of at least 10%: 1) editing the podcast (relative frequency of 24%); and 2) inadequate time for the assignment (relative frequency of 16%).

Discussion

This paper's research question asks: What value, if any, does a podcasting assignment add for engineering students? Considering engineering education's culture of disengagement, the paper explores whether a podcast assignment could stoke student interest in engineering's social impact and promote student self-reflexivity and perspective-shifting through the dynamics of dialogical self construction.

Student responses to what they found most valuable about the assignment included four themes: perspective, fun, society, and collaboration. *Perspective* was the most frequently mentioned of the themes. Perspective-shifting included both dynamics discussed in the Background section, incorporating others' perspectives into their own perspective and seeing themselves through the eyes of another. Additionally, students noted a broadening of their perspective, which is the ultimate effect of constructing and reconstructing the dialogical self; these comments may reflect the nature of the podcast assignment having a potential public audience.

The theme fun was mentioned nearly as much as perspective. Playfulness is an essential aspect of the dialogical self, and, according to the student responses, it was cultivated by the medium of podcasting. In fact, the representative quote balances several items on the fulcrum of fun: collaboration, working in a new medium, thinking and working in new ways, and growth. The theme *society* conveyed engagement with public welfare issues and an awareness of the podcast's potentially wider audience. Collaboration was often mentioned in conjunction with fun and perspective. Collaboration connects to the dialogical self by embodying the multi-voiced self as team members—in effect, a scaled performance of the dialogical self with the team as the *I* and the members as various perspectives. The lack of comments about collaboration as a least valuable aspect of the podcast assignment is noteworthy: non-podcast forms of project-based learning activities are increasingly common as part of engineering education, and teamwork can "simultaneously be the most frequently reported positive and negative theme in the open-ended student comments" (Palmer & Hall, 2011, p. 363).

Overall, student responses indicate the assignment enhanced their understanding of engineering's role in society and promoted personal and professional self-reflexivity. Furthermore, these comments suggest that both the assignment's topic and the nature of the podcast medium promoted this self-reflexive broadening of awareness beyond the bounds of the assignment. Ramsey

Conclusion

The sample size was a limitation of this study. While 264 students completed the podcast assignment, only 92 engineering majors took the voluntary anonymous survey with 68 answering the open-ended question. Future partnering with more instructors, potentially moving beyond engineering communication courses to other engineering courses, would produce a larger and potentially more diverse data set. Additionally, collecting demographic information and administering a pre-survey could provide valuable insight.

The recent revision of a podcast assignment to address concerns within engineering education shows promise in increasing students' self-reflexivity, their ability to shift perspectives, and their engagement with public welfare issues. Very soon, AI will cause both engineering and engineering education to evolve: this evolution will very likely intensify the need for student self-reflexivity and thoughtful consideration of public welfare concerns. The podcasting assignment is uniquely positioned to meet this challenge.

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PROCEEDINGS OF C&W 2023

This book includes selected proceedings from the 2023 Computers and Writing conference, exploring topics in archival work, gaming, artificial intelligence, and pedagogies. Contributions engage the 2023 conference theme—To What End? Hybrid Practices for Engagement and Equity—using a variety of theoretical, pedagogical, and research-based approaches familiar to scholars of digital rhetorics, multimodal composition, and closely related fields.

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