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

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,

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

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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 helpful in filtering the corpus of texts for my review, but it is not all-encompassing. 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.

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

Publication	Range	Issues	Articles	Articles Referencing "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%

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).

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

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

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).
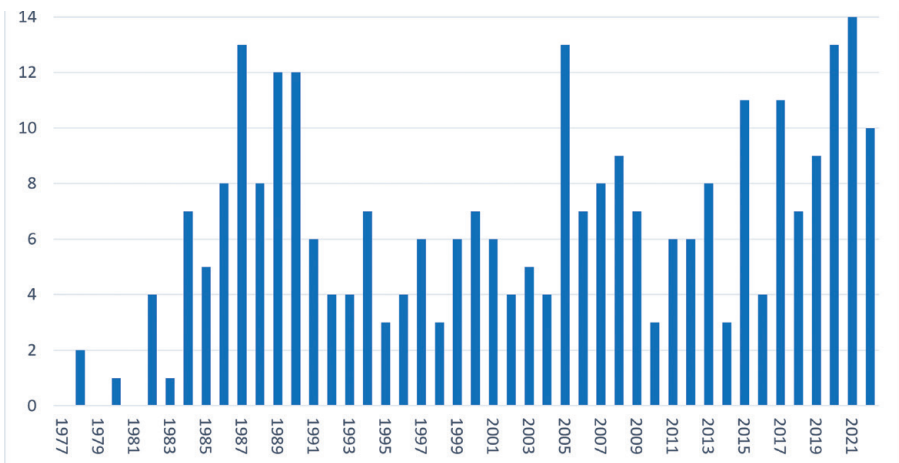

Figure 2-1. Frequency of articles referencing "software," 1977–2022

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.

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

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

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

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-to-day 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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