

Surveillance Work in (and) Teaching Technical Writing with AI

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Abstract

The use of generative artificial intelligence (GAI) large language models has increased in both professional and classroom technical writing settings. One common response to student use of GAI is to increase surveillance, incorporating plagiarism detection services or banning certain composing activities from the classroom. This paper argues such measures are harmful and instead proposes a “CARE” framework: critical, authorial, rhetorical, and educational—a nuanced approach emphasizing ethical and contextual AI use in technical writing classrooms. This framework aligns with plagiarism best practices, initially devised from when rhetoric and composition scholars considered the pedagogical implications of the Internet.

Keywords

artificial intelligence, plagiarism, pedagogy, surveillance

In the last year, the use of generative artificial intelligence (GAI) large language model (LLM) chatbots has proliferated, with significant copyright, authorship, economic and social implications for a wide range of industries and additional impacts for instructors, administrators, and students at all levels of education. Responding to this rapid, widespread use (OpenAI reported 100 million monthly active users for ChatGPT in only two months), many colleges and universities have sought remedies to what was seen as a widespread plagiarism concern (Hu, 2023). Turnitin, a plagiarism detection service (PDS) used by many schools, and often integrated with learning management software (LMS), announced that they would release GAI writing detection in April

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of 2023, a feature that was made available by default alongside their other plagiarism detection products. By July, Turnitin boasted that nearly 98% of institutions using their services “have AI writing detection enabled within their Turnitin workflow in at least one of their active accounts” (Turnitin, 2023). Unfortunately, GAI detection tools have not proven to be especially reliable. OpenAI, the developer behind ChatGPT and its various iterations, created a companion AI classifier tool, though has now removed the tool due to its low accuracy (Kirchner et al., 2023). Turnitin still offers their own AI detection tools, though they heavily caveat their use. As a result of a growing concern about the accuracy of AI detection, a growing list of universities have begun to turn off the AI detection features offered by Turnitin (Ghaffary, 2023).

For administrators, a common approach to academic dishonesty is to increase the “surveillance work” expected of instructors (Kumar et al., 2019; Smith, 2012). Surveillance, of course, is now a substantial element of modern education. From visual student supervision to standardized testing, and from the growth in assessment bureaucracies to the now ubiquitous spread of centralized audiovisual classroom monitoring and online test proctoring, surveillance procedures and technology play a significant role in how universities evaluate students (Crooks, 2019; Monahan & Torres, 2010; Nemorin, 2017). Many of these new expectations are geared toward maximizing student accountability amid the challenges posed by the digital teaching environment—the disruption of shared physical classroom space, for example, and the sudden emergence of sophisticated LLM GAI chatbots like the ChatGPT iterations. Smith (2012) argues that surveillance workers engage in “the art of monitoring, interpreting and making sense of social reality” (p. 107), and a number of scholars have begun to critique the ways in which our instructional labor incorporates this surveillance work (e.g., Beck & Hutchinson Campos, 2021; Young, 2023). Along with a critique of these emerging forms of surveillance in the technical writing classroom, in this essay we push back against the increasing pressure that many instructors face to monitor student use of GAI systems.

In considering alternatives to these models of intensified student surveillance, we find the pedagogical best practices concerning online plagiarism developed in the 2000s to be quite valuable. At the time, rhetoric and writing scholars were responding to a flood of ethical concerns related to the rise of the Web, the proliferation of text, and the potential for students to borrow source language without appropriate attribution. While plagiarism-detection software increased in use, often within LMSs, most educators’ concerns were mollified by integrating well-scaffolded writing pedagogy (Bloom, 2008; Price, 2002; Purdy, 2005; Ritter, 2006; among others). The recent historical roots—and some of the most salient responses—for textual plagiarism fears, whether concerns over the Internet or GAI LLMs, can be found in this previous pedagogical conversation. We encourage instructors to integrate student use of GAI LLMs in the technical writing classroom, while also encouraging critical reflection on the roles that automated text generation and prompt engineering may play in their future careers. Specifically, we propose a heuristic framework for GAI integration based on Critical, Authorial, Rhetorical, and Educational (CARE) concepts—and

simultaneously reject the surveillance positions that technical writing instructors have been encouraged to adopt. The landscape for pedagogy that discourages plagiarism has changed, partially in response to the Covid-19 pandemic and its reverberating effects on curriculum delivery (Maryon et al., 2022; St. Amant, 2021; Trust et al., 2023), and technical writing instructors do not have to reinvent themselves as surveillance workers to their students' detriment.

Surveillance Agents

Technical communication scholars have begun to take a more robust interest in surveillance. Young (2023) has provided a thorough analysis of how these two practices intersect, identifying eight main sites of this intersection, with the most notable being the role of "surveillance workers" in the field of technical communication. Building upon the work of surveillance studies scholar Smith (2012, 2015), Young observes that while many technical communicators are not engaged in full-time surveillance labor (like many individuals employed in security and intelligence gathering, for instance), technical communication work often requires surveillance-heavy tasks (pp. 57–62). Young explains that surveillance roles are frequently placed with technical communicators, in part "due to their role as (1) information workers and (2) their technology expertise" (p. 30). Examples include user-experience work, which often requires technical communicators to specialize in the analysis, synthesis, and communication of research results (p. 62).

Young elaborates that a kind of "function creep" often occurs, as it is likely that while a technical communicator might not intend to surveil others, the accumulation, repurposing, and use of additional data can make increased surveillance part of everyday work. Young argues, "It is especially possible that a technical communicator may not initially intend to gather information for what could be considered surveillance purposes, due to the creep of surveillance practices" (p. 31). Specifically, Young elaborates that technical communicators align with two levels of surveillance intensity: either as "lower-surveillance-intensive positions [such as] insurance agent, bank teller, accountant, or technical worker" or higher-level positions "where the surveillance work being carried out has the power to significantly affect the lives of those being watched" (p. 53). For Young, this kind of surveillance functions as:

a type of oversight used to collect information on others to manage or influence others. . . . Thus, they would be gathering surveillance information to create actionable organizational goals. In this intersection [of technical communication and surveillance], then, positions like this are primarily focused on Technical Communication, but they do employ activities recognized as forms of surveillance (pp. 62–3).

With recourse to foundational surveillance studies scholarship (e.g., Lyon, 2001; Marx, 2005), Young thus identifies key elements of technical communication work with those data-gathering activities typically classified as surveillance.

While Young's analysis gives us an insightful look into the convergence of technical communication and surveillance, their work focuses exclusively on technical communication as a professional practice. Other scholars have analyzed the more general role of surveillance work in the classroom; in doing so, they've left us valuable insights with which to understand the evolving role of surveillance in technical communication pedagogy. Foucault's foundational work in surveillance, of course, focused on the school as a key site of "disciplinary" surveillance (1977; also see Hawisher & Selfe, 1991) designed to produce "docile bodies" (Simmons, 2010); the classroom space, in particular, was organized according to an iterable formula also found in military barracks, hospitals, and similar institutions. The teacher, whose role is defined as much by supervision as instruction, takes on duties characterized by "hierarchical surveillance, continuous registration, perpetual assessment, and classification" (Foucault, 1977, p. 220). This surveillance finds expression in the geographies of the classroom, with the instructor at the head of a constantly observable collection of students. It also finds expression, of course, in our predominant methods of perpetual, "quantitative" assessment (p. 296). These constant assessments, which establish norms of conduct and classify students according to the relative norms of peer performance, are embedded in essential everyday instructional duties like grading (Johnson, 2021).

Instructional "surveillance work" has evolved according to changes in classroom technology. Scholars have begun to question whether we've seen the rise of a post-disciplinary, or "post-panoptic," pedagogy that incorporates more diffuse and decentralized surveillance mechanisms into the classroom. These mechanisms, which complement classic disciplinary surveillance measures such as grading and visual instructor supervision, include the use of CMSs, tablets, mobile devices (Crooks, 2019; Nemorin, 2017), and even radio frequency identification trackers (Ema & Fujigaki, 2011). While the hierarchical geography of school and classroom architecture has long fueled the visual surveillance of confined students (both by direct optical surveillance and by closed-circuit television monitoring), these digital systems specialize in the surveillance of a screen-intensive, off-site, and often mobile student body. Geotracking students as they move between their homes and school, and then as they move throughout campus, has become an increasingly popular way of managing this new educational geography (Mavoa et al., 2023). Covid-19, of course, energetically fueled this "platformization of the classroom" (Kumar et al., 2019), as instructors were tasked with policing a variety of sudden dilemmas—not just students' mobility but also their virtual conduct, their attendance, and, of course, their submission of exams and written assignments. As Selwyn et al. (2023) point out, virtual proctoring systems such as ProctorU, Proctorio, and HonorLock provide another key step in this development, demonstrating how biometric analysis and algorithmic intelligence are being used to authenticate student identity and recognize potential indications of misbehavior (also see Bergmans et al., 2021; Watters, 2020). Epitomizing the capture of educational technology by "surveillance capitalism" (Zuboff, 2019), these platforms use student and faculty data to shore up

their proprietary databases, discover potential indices of academic dishonesty, and isolate the behavioral variables that predict student misconduct.

Scholars have argued that Covid-era accountability protocols have led to an increase in “carceral” approaches to education (Singh et al., 2021). Reflecting on a LMS that allows instructors to see when/if students accessed assigned readings, Singh et al. remark that they are “skeptical of what the future looks like for ‘smart’ educational technology because it’s so invested in capture and control and prediction” (p. 267). For Singh and colleagues, digital classroom technologies have a surveillance bias—one that reorients instruction around activities such as supervision and quantification. That is to say, the material biases of digital technology, because of the kinds of data they can capture and process, favor certain methods of instruction—and, moreover, certain ways of imagining what instructional duties should be. Increasing reliance on digital learning systems, therefore, influences what duties are expected of instructors; and this seems especially true in the face of tremendous technological innovations, such as GAI, which challenge not just our ideals of student authorship but also how we enforce those ideals via new mechanisms of surveillance and accountability.

Surveillance and GAI LLMs

Complicating this increasingly destabilized and carceral environment, ChatGPT entered the scene in November 2022. In many educational circles, the conversation immediately turned to plagiarism and how we might have to rethink our traditional methods of policing student accountability. Although GAI policies vary across educational institutions, many instructors of all levels are being asked to develop new competencies in surveillance work in order to police student use of this new technology. In general, we have seen the rise of two main approaches to GAI in the classroom: the first, which forbids the use of GAI outright, is *prohibitive*; the second, which is embedded in rhetorics of appropriateness, transparency, and responsibility, is *critical*. K-12 administrators, in particular, have shown a proclivity for the prohibitive stance, with some of the U.S.’s largest public school districts—such as New York, Los Angeles, and Seattle—banning its use outright (Johnson, 2023). This approach has emerged in higher education, as well, with institutions like Bryn Mawr and Villanova declaring any unattributed use of ChatGPT to be plagiarism and thus subject to its traditional disciplinary procedures (Barnett, 2023). The *critical* stance, however, appears to be more common among colleges and universities. This accommodationist approach welcomes the “open,” “responsible,” and “ethical” use of generative AI in the classroom.

Flower Darby, Associate Director of the Teaching for Learning Center at the University of Missouri-Columbia, expressed a common commitment that underlies the critical approach: she “share[s] the growing sentiment in college-teaching circles that ‘if you’re not using AI, you’re falling behind.’ We do our students a disservice—and we do not advance equitable outcomes in education or society at large—if we refuse to incorporate ChatGPT and other AI tools in the college classroom”

(Darby, 2023). Rooted in a utilitarian approach to technology and workforce preparation, administrators from a variety of higher ed institutions have made similar remarks, outlining the parameters that faculty should use in their GAI policies. For example, in a policy statement that expresses sentiment common across U.S. institutions of higher ed, the University of North Carolina's Office of the Provost declares: "AI should help you think. Not think for you" (n.d.). Outlining six general principles that instructors should use vis-à-vis GAI in the classroom, UNC mandates that students "engage with AI responsibly and ethically," requiring that "the use of AI must be open and documented."

What is emerging, therefore, is a new face on an old challenge—one with which writing scholars are very familiar. These new technologies can either be banned outright, which requires instructors to police any trace of their use, or these new platforms can be embraced as part of a pragmatic strategy to turn students into "ethical" and "responsible" users of the technology. The boundaries of this "ethical" and "responsible" behavior, then, will be policed as students are rewarded or punished according to how they operate relative to those boundaries. In this situation, "plagiarism" comes to signify an evolving realm of practices that test or violate those boundaries. New technology reshapes these boundaries and hence forces us to redefine our core assumptions about accountability and assessment. Since plagiarism's pre-GAI definition focused on presenting another person's work as one's own, this is obviously a conception inadequate to the challenges of the moment. As Emily Hipchen, who serves on the board of Brown University's Academic Code Committee, puts it, "If [plagiarism] is stealing from a person. . . then I don't know that we have a person who is being stolen from" (Barnett, 2023). The unsettled conceptual standing of *plagiarism*, accordingly, places additional responsibility on instructors to revise their pedagogical commitments in accordance with administratively determined standards of appropriate student conduct.

Whether our institutions' approaches are more of the prohibitive or the critical variety, the boundaries of plagiarism are certain to be policed. Even institutions with a generally critical approach to GAI have deployed Turnitin and other plagiarism detection software to determine violations of GAI policy. Turnitin's latest AI PDS is marketed toward both prohibitionist and critical instructors/institutions, as it claims to "gain insights on how much of a student's submission is authentic, human writing versus AI-generated from ChatGPT or other tools. . . [I]t provides information educators need to determine their next course of action" (Turnitin, n.d.). By generating a report that analyzes how much of a given text was composed by AI, Turnitin's GAI detection methods purport to quantify how much responsibility a student can take for written assignments. We can easily imagine a scenario in which an instructor or institution mandates strictly quantitative thresholds for plagiarism (e.g., papers may include a maximum of 30% GAI-produced text). So, "[d]espite all the claims that ed-tech 'disrupts,' it is just as likely going to *re-inscribe*. That is, we are less likely to use ed-tech to rethink assignments or assessments than we are to use ed-tech more closely scrutinize student behavior" (Watters 2020).

We see GAI LLM detection services, and indeed older PDSs, as operating in a larger *autopoietic*, or self-generating, economy of surveillance, boundary policing, and punishment. While Luhmann (1986) developed the concept to describe self-perpetuating social systems more generally, Keränen (2010) uses autopoiesis to describe how industry-developed simulations of bioterrorist attacks helped make government and military officials more aware—and therefore more concerned—about bioterrorism. These simulations and the resultant discourses increased governmental biodefense spending, which recursively strengthened future bioterrorist messaging. In essence, the bioterrorism industry has become a self-perpetuating system that promises increasing abilities to respond to the increasing threat of a bioterrorist attack. As Derkatch (2022) explains, autopoietic systems have no ceiling; they are “discursively constituted as always just out of reach, a place where we may be going but never where we are” (2022, p. 138). Hence, the goal of autopoietic systems is unfulfilled as the moving target can only be approached, never eliminated. Derkatch applies this autopoietic framework in the context of health rhetorics: since one can always be healthier, “good health” is a trajectory without a telos, it fuels a self-perpetuating, autopoietic cycle. On the ground, this results in a wide variety of strategies, technologies, and products designed to achieve an ultimately unattainable state. In recent decades, in particular, record-keeping, medical statistics, biological self-monitoring, and other forms of surveillance have been recognized as a way to grasp toward, although of course to never actually achieve, “health” at the individual and population levels. Thus, by shifting what is intelligible—and, moreover, what is practicable in a given context of intelligibility—new technologies have a tendency (1) to discover new dimensions of reality that can be analyzed, and (2) to simultaneously create new conditions for unsettling, resisting, and subverting whatever innovations they introduce (Packer & Reeves, 2020, pp. 159–174).

Accordingly, it is likely that instructors will be caught in the crossfire of an ongoing autopoietic battle in AI innovation. Calling this a “technological arms race,” Mindzak argues: “The technology comes out, and of course ed tech wants to come out with the detection, and then GPT is going to update in another few months... So [Turnitin’s AI detector] is not really a solution. It’s more of a temporary stopgap” (Knox, 2023). Ultimately, if our autopoietic systems for addressing health (or security, safety, etc.) have anything to teach us, implementing strategies of surveillance and technological innovation in order to detect plagiarism—or even “ethical” GAI use—is likely to put us on a trying path. In a process with which technical writing instructors will be highly familiar, technological products can pull instructors around in this autopoietic process, defining the momentary parameters of the conflict by determining: (1) students’ resources for composing text, as well as (2) instructors’ capacities for assessment and accountability—two factors that continuously fuel each other within an atmosphere of one-upmanship (and often fear and mistrust). The University of Louisville’s department of English observed that the use of PDSs:

creates a poisonous atmosphere between teacher and student. The message to students is that they are all potentially cheating and need to be watched... Such an approach makes adversaries of teachers and students, instead of collaborators. It creates a prison culture of guards and the guarded, a cat-and-mouse game of detection and mistrust where the fear of being caught can also breed a desire to get around the rules. (2009, n.p.)

Making students and instructors adversaries in a game of “guards and the guarded” reinforces harmful surveillance norms in the classroom. This stance rejects a collaborative pedagogical spirit and, thereby, creates a fraught atmosphere in which students disinvest and hence are more likely to test whatever boundaries are implemented. This autopoeitic “cat-and-mouse game” (Crooks, 2019) threatens to reinforce surveillance work, reorient instructional practices, harm student engagement, and poison relationships between instructors and their students. Ultimately, given the antagonistic, escalatory nature of this competition between plagiarism innovation and plagiarism detection, it is unlikely to work very well.

Lessons from Previous Plagiarism Debates

Many of the concerns we have over our students utilizing GAI for unauthorized text production mirror concerns voiced in the early 2000s, as the Internet (or more specifically, the World Wide Web) allowed access to a great deal more text. And, like our current fears that GAI detection services frame us as surveillance agents, earlier scholars fought back against the involvement of PDSs in writing classrooms. At the time, some instructors’ (and administrators’) fears were that students would eschew developing their own ideas and instead cut-and-paste liberally from existing web content and plagiarize their writing assignments. Howard explained that “Internet plagiarism” was “understood almost exclusively in terms of access to text with expanded access itself believed to be the primary cause of the phenomenon” (2004, p. 4). More freely available text, which included journalism and blogs, often presented in simple html, could allow students to claim authorship of material they never wrote via cut-and-paste mouse clicks. Just how much students were plagiarizing, was, and is, still up for debate, as research concerning student self-reporting is notoriously difficult to conduct. Some researchers described the situation as dire, with “cheating, plagiarism and other varieties of student misrepresentation” reaching “epidemic proportions” (Desruisseaux as cited in Marsh, 2007, p. 123). Most rhetoric and composition scholars were skeptical of the usefulness of such data, with Ritter referencing studies that showed 38% of students admitted to committing “cut-and-paste” plagiarism, up from 10% in the same survey conducted only three years prior (2005, p. 618). Zwagerman was similarly distrustful, noting that in one study, while 27.6% of students admitted plagiarizing, 90% believed others did so with the same regularity (2008, p. 679). To those that believed that plagiarism was rampant, the only good news was that it was easy to “catch” because sources were also easy to locate (Purdy, 2005, p. 276).

Despite the broader negativity over plagiarism in the early 2000s, many rhetoric and composition scholars realized that much of this “cheating” could be identified as evidence of students grappling with the nuanced conventions of Western academic writing. Howard was perhaps the clearest voice here, explaining that we “have to pull back from the mass hysteria and remember that the P-word covers a wide variety of behaviors, circumstances, and motivations” (2001, n.p.). Chief among those behaviors that could become a site for pedagogical intervention was that of “patchwriting” (Howard, 1992, p. 233). Patchwriting is often seen as evidence for student attempts to negotiate the language of others in their own writing, often through inexact paraphrase or imprecise notetaking. Howard emphasized that it was often the result of writers “working in unfamiliar discourse, when they must work monologically with the words and ideas of a source text” though end up borrowing too much of the source material in their attempt to create something new (Howard, 1995, p. 796). While plagiarism via the Internet was bemoaned by many, rhetoric and composition scholars emphasized that, for many instances of what could be classified as plagiarism, the solution was better pedagogy, not increased surveillance.

Most composition scholars from this era argued against a widespread “moral panic,” asking instructors instead to focus their efforts on writing instruction that embraced the teaching of a complex, scaffolded research and citation process instead of dismissing nonconforming citation practices with ethical pronouncements (see: Anson, 2011; DeVoss and Rosati, 2002; Marsh, 2007; Price, 2002; Purdy, 2005; Valentine, 2006; Vie, 2013; Zwagerman, 2008; among numerous others). According to Howard (2001), the fault lay partially with outdated, or “cookie-cutter,” writing pedagogies which bored students and could encourage profligate patchwriting:

It is possible that our pedagogy has not adjusted to contemporary circumstances as readily as have our students. Rather than assigning tasks that have meaning, we may be assuming that students will find meaning in performing assigned tasks. [...] We expect authentic writing from our students, yet we do not write authentic assignments for them. We beg our students to cheat if we assign a major paper and then have no further involvement with the project until the students turn in their work (n.p.).

Howard, and others, advocated for a more involved writing process, with assignments that were unique to individual courses, based on close attention to texts or experiences, and taught via a process-oriented pedagogy that was well-scaffolded with smaller, lower-stakes writing opportunities. Instructor time was better spent developing original assignments and assisting students through more authentic engagement, than trying to track down texts that deviated from Western academic standards of citation.

Similarly decried by rhetoric and composition scholars were the extended and elaborate efforts some took to locate source material for student plagiarism. It was (and still is) frequently argued that good pedagogy should alleviate the need to spend time locating the sources students incorrectly cited, forgot to cite, or perhaps intentionally copied. When one writing instructor explained that cheating students stole 15 hours

of her time and made her more suspicious of future students, Zwagerman rebutted that students in fact did not steal time: “students suspected of cheating do not cause a teacher to waste fifteen hours gathering evidence—or to adopt a suspicious attitude in the first place. Just as some students will choose to cheat, teachers choose how to respond” (p. 679). Instructor time is better spent integrating more robust conversations about citation practices into writing classrooms (Purdy, p. 291), yet complaints about the time spent to identify and “prove” that plagiarism occurred would foster the development of PDSs whose purpose mirrors current GAI detection services.

The basic premise for PDS use is often a cost/benefit analysis where instructor time is represented as a valuable commodity. Quoting from Turnitin’s website, Vie (2013) explained that their PDS “trumpets its ability to save time, increase productivity, and create ‘new possibilities for feedback, engagement and learning’; it assures us it can help students engage with the course material, their instructors and their peers; and it swears to ‘remove the roadblocks associated with delivering rich and timely feedback to students’” (p. 4). While faculty have been enticed to think of a PDS as a technological intervention that could ensure that their time was spent in more effective ways, opposition to PDS came from universities and composition organizations—and the rationales varied from distrust of their accuracy to rejection of their role in student surveillance. The Council of Writing Program Administrators argued that PDSs were simply inaccurate (2019, n.p.), and others took issue with the “presumption of guilt” that PDSs instill in the classroom environment. A PDS’s value is often framed in evaluative terms, where students deemed to have written in a manner inappropriate to Western assumptions of falsely standardized written academic English are judged to be deficient (Purdy, 2009, p. 68). For Zwagerman, Turnitin’s PDS echoed Foucault’s panoptic schema in several ways: via its archive, though its ability to command obedience, and, perhaps most insidiously, as a mechanism of self-subjection (p. 691). Here, we see the strongest arguments against PDSs, and indeed against modern GAI detection services. While the accuracy of both may be in doubt, their use creates a surveillance system within our classrooms and places instructors as surveillance agents, ultimately harming students. Further, these surveillance technologies create an auto-poietic system that continually reproduces the transgressions it locates and defines. The way out of such surveillance agent positions, we argue, involves building on several lessons from rhetoric and composition’s earlier confrontation with the moral panic of digital text proliferation.

I Really Do Care, Do U?

Building from the lessons previous scholars have gleaned from their frustrations with PDSs, we consider how to push back against the imposition of GAI detection services and responsibly move forward in engaging GAI LLMs in technical writing classrooms. Some of this resistance against PDSs will inevitably involve progressive pedagogy that creates writing situations either where GAI use is impractical or where it becomes part of the curriculum. Rather than increase student surveillance, we should aim to obviate

the use of detection service through effective, scaffolded writing pedagogy. Key to a more considered pedagogical approach is how we present students' authorial situations in our technical writing classrooms; yet again we can look to rhetoric and composition's response to Internet plagiarism. Ritter's work on online paper mills (sites that provide either complete or on-demand papers for a fee) strikes at the heart of these authorial issues. Ritter (2005) argued that paper mills capitalize on the incoherence of how students understand (and how we present) authorship in composition courses. Often, students are confronted with conflicting advice: that they are authors with a unique voice, but authors that are undermined in their ability to present complete writing (p. 608). Students are thus "skeptical of their own abilities as new agents in academic discourse [but simultaneously] aware of the prestige that published authors gain in the academy" (p. 608). Paper mills allow students to sidestep this confusing authorial position and instead accept a work-for-hire context where their time is seen to be more valuable than the educational significance suggested by a writing assignment.

In technical writing courses, authorship is often more complicated than it is presented in composition. In technical writing courses, the position of the student is complicated by the many different authoring activities that professionals encounter while composing. In her account of how to reconsider what defines plagiarism in technical writing, Reymann (2008) notes that:

Technical communicators commonly perform a variety of types of composing activities that could be considered plagiarism in the context of the first-year composition classroom. Such activities include:

- Using boilerplate materials and templates.
- Relying on existing designs and layouts in the creation of texts.
- Collaboratively creating written works.
- Ghostwriting texts for popular media consumption.
- Assigning the status of "honorary authorship" in published scientific research to lab supervisors or advisors who have contributed little to the writing process.
- Cutting, pasting, and repurposing existing content, including collating information from technical documents and product specifications.
- Single sourcing (p. 61).

These writing activities do not follow a single-authored, original text model often espoused in composition courses, and Reymann suggests that technical writing instructors should adopt an expanded sense of authorship that complicates what is often considered plagiarism. We have seen such complex authorial positions discussed more broadly for technical writers (Jeyaraj, 2004; Slack et al., 1993) and complicated in the production of technical manuals (Frost & Sharp-Hoskins, 2015). Even though technical writing textbooks may not always support such complexity (Mosco, 2021), writing activities that confound Western, Romantic conceptions of authorship can be used in classroom settings to avoid the confusing disparities between what students

are told about their authorship and the activities that professional technical writers perform on a daily basis. Such activities also preclude the need for PDSs.

In order to bring GAI LLMs into the technical writing classroom, and avoid presenting conflicting messages about technical writing authorship, we propose a brief model that allows for appropriate planning and reflection on the ethical, situational use of GAIs, one that aligns with instructors' existing pedagogical goals. In proposing this guide, we keep in mind Kitalong's advice that applying assumptions about print-based plagiarism to online spaces where those same assumptions fail to hold is to enact a violence (1998, p. 260). We believe a similar symbolic violence happens if we act as surveillance workers and make assumptions about plagiarism that fail to take modern technical writing authorial positions and activities into account.

When considering how to incorporate GAI LLMs in technical writing courses, we should do so with CARE—with attention to CARE issues:

Critical

When considering whether to bring GAI LLMs into the technical writing course, we should evaluate how the GAI constructs the language it offers. At issue is how a GAI LLM frames people, describes cultural and legal issues, and represents (or fails to represent) bias. These models can also flatten language into a "Standardized Written English," stripping discourse of perspective, complexity, dialect, and accent (MLA-CCCC, 2023, p. 7). Any use of a GAI should critique these considerations and more, including a GAI's ownership model and environmental impact (Bjork, forthcoming). To address these issues, technical writing instructors could potentially expand their use of case studies—already a common strategy in technical writing pedagogy—or develop assignments that ask students to explore and discuss GAI output.

One example of such critical analysis could involve students exploring different GAIs with the same writing prompt—for example, a prompt seeking out background research for a white paper. Many prompts to a GAI will return falsely "standardized" English in a dialect resembling white, Western, academic conventions. Students could then prompt the different GAIs for responses in explicitly distinct dialects or levels of perceived "formality" and compare how different language models handle that dialect conversion attempt, and also whether dialects, which are equal in complexity and value, are being equally valued by the GAI LLM. Spoiler alert: they're unlikely to be. Such an activity could also prompt a discussion as to the dialect choices students are making, sometimes unconsciously and sometimes in an attempt to code-switch, in their own work, and whether technical writing classrooms, and the language tools that technical writers can use, have different dialect expectations than other writing situations. Students may be encouraged to push back against the assumptions made by GAI LLMs, gain critical awareness of whether and how they make use of these tools in the future, and possibly consider false "standards" about clarity and concision in technical communication writ large.

Authorial

In much the same way that composition students should not be presented with an incoherent model of authorship, technical writing students should not be presented with authorship positions that are incoherent with technical writing practices. While no instructor is beholden to the demands of industry, we should be at least aware of the uses of GAI LLMs outside of controlled educational situations. For many courses, students should be allowed to explore how GAI LLMs impact writing and communication situations, and how they can benefit—or detract—from collaboration, single sourcing, remixing, or other composition tasks.

There are many possible options for demonstrating how technical writers use GAI LLMs in industry, but one option could involve students developing definitions of specific terminology for their fields of study, writing for an audience with substantive existing knowledge (what is often called a “high-context” audience). For example, mechanical engineering students could create a short definition of the “stress-strain curve,” a relationship between stress and strain for different materials. Students could then prompt a GAI to change their definition to one directed toward an audience with lower existing contextual knowledge before that work is anonymized and collected in a class repository. This small database of anonymized, “lower-context” knowledge can then be used to generate additional reports, for a broader public. Some students, however, will be experts on this information, having written the high-context materials, and can be encouraged to critique the GAI-generated materials and their use. Writing assignments like this don’t have to be especially convoluted, but by situating students as experts and then inviting them into situations where their knowledge (and writing) can be anonymized, aggregated, and repurposed, we can offer students a glimpse into writing-for-hire contexts, single-sourcing, and the challenges of writing with GAI LLMs.

Rhetorical

In any technical writing course, instructors and students encounter situations where the use of GAI LLMs—or any platform for networked composing—changes the rhetorical ecology of different communicative acts (Amidon et al., 2019). In some instances, a GAI could assist students in inventional tasks, while in others it could aid in adjusting stylistic concerns; regardless of the use, the addition of a GAI can change students’ intentions, meaning, or sense of audience. When students make use of a GAI, they also learn the rhetorical complexities of prompt engineering, and of stringing prompts together in order to refine their outcomes and build context for a language model that lacks context.

While there are now GAI models and plug-ins that can create written instruction sets or standard operating procedures from screen-recorded video files, many are proprietary and beyond the budget of technical writing programs. These GAI LLMs may be capable of describing website navigation and mouse clicks, but are less able to understand the specific contexts of a group of users. The same is true for any nonspecific

GAI instance, though students might be able to create a generic instruction set and then set about trying to provide additional rhetorical context for a group of users—and identify how the GAI can never replicate the rhetorical nuance that comes with user knowledge and usability testing (Johnson-Eilola, Selber & York, 2024, p. 10). To start, students can prompt a GAI for a set of discrete instructions for performing a larger task; what will likely result is something that is recognizable within the genre, but vague as to the instances of use. Additional prompts with information about audience expectations, limitations, concerns, and desires could create instructions that are more specific to the potential rhetorical situations of users. Students can then be guided through user testing scenarios with those GAI-generated instructions—with the larger goal of adapting or rewriting material for the actual audience of users. After testing instructions, but also querying users about how these GAI-generated instructions suited their use, students can reflect upon how the GAI-generated instructions can provide a start, but ultimately lack rhetorical context—something that requires the thoughtful reflection of technical writers and usability specialists.

Educational

Any incorporation of a GAI LLM into a technical writing course should necessarily be driven by the larger pedagogical goals—and the explicit pedagogical tradition—of the course and instructor. Each university's technical writing sequence will have unique learning outcomes and each instantiation of the course will be tuned toward both instructor strength and existing student expertise. As such, the attributes of a GAI, and its use in classroom activities, must match these larger educational designs. We encourage any technical writing instructors to first establish the pedagogical goals of their course and then consider how a GAI LLM might align with those larger ideals. These pedagogical outcomes should also guide the use of PDSs, which can instill unwanted systems of surveillance into our classrooms, likely disrupting other educational intentions.

Many introductory courses in technical writing will have student learning outcomes focused on navigating research databases, evaluating original research sources, summarizing that material in professional documents, and adhering to a specific set of citation conventions. When prompted to assist in these same tasks, free versions of GAI LLMs will often fabricate sources, but still provide summaries and citations for that material. Students could use a GAI in developing or narrowing their research ideas, identifying stasis on specific topics, or locating the most-frequently cited materials in the field, but could be prohibited from making more robust use of a GAI in their research process. While it's possible that a university's broader pedagogical foundations and/or additional institutional prohibitions might play a role in restricting GAI use, a course SLO could also limit how instructors and students engage with a GAI in connection to an assignment.

Conclusion

In response to the potential pedagogical disruptions of GAI, this essay has offered a critical, historically informed analysis of its future in the classroom. To do so, it situated GAI detection methods within the broader historical perspective of classroom and assignment surveillance. We observed that current administrative preferences for managing GAI have followed either a prohibitive or a critical approach: the prohibitive approach disallows GAI entirely, while the critical stance, which is couched in rhetorics of responsibility and transparency, sets standards in place for the acceptable use of GAI. This perspective was informed by earlier scholarly debates on plagiarism and its detection in the writing classroom, which taught that these surveillance methods and technologies (as exemplified, e.g., by PDSs) often lead instructors to ignore pedagogical best practices in favor of automated assignment policing. Building upon these insights, we ultimately presented a framework for implementing GAI in the technical writing classroom that avoids simple prohibitive measures. This framework offered several basic principles that can inform tech writing instructors' use of GAI: CARE.

While each institution, of course, will place varying constraints on how instructors consider students' GAI use, the CARE framework provides general principles upon which instructors can reflect in order to determine a suitable path. The CARE model emphasizes the situational and pedagogical promise of GAI while cautioning instructors against allowing the technology to redetermine their relationships to students. GAI has the potential to significantly change technical writing instruction and work; that does not necessarily mean, however, that we have to let it change our work in such a way that plagiarism anxiety and surveillance work comprise even more of our labor. As Singh et al. have argued, our principles for using pedagogical technology should foreground the generative nature of the student/instructor relationship: in the face of emerging technologies, "it is easy to lose sight of what's important. The thing that creates any educational space is the people in it... When we make technology—smart technology and predictive technology—the central and most important member of the classroom, we lose sight of all the potential that should exist in those spaces" (Singh et al., 2021, p. 270). The technical writing classroom is a space of such potential, and by cultivating an atmosphere of care—one that keeps sight of what's ultimately important—we can strive to put GAI and other technology in its appropriate place rather than allowing it to redefine how we see our work (and how we watch our students).

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