CHAPTER 17.

GENERATIVE AI REPLACES TECHNICAL WRITERS

✨ *GENERATIVE AI AUGMENTS THE CAPABILITIES (AND RESPONSIBILITIES) OF TECHNICAL WRITERS*

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"Will there even be technical writing jobs by the time I graduate?"

I began to hear this question (and many other versions of it) from my undergraduate technical communication students in Fall 2022. In the years since, the questions have become only more frequent. Undergraduate technical communication students are encouraged by faculty (including me) and university messaging to become proficient in using generative artificial intelligence (GenAI) so they're prepared for the workplace. At the same time, students are inundated with AI marketing that promises to do the writing for them: seamlessly, quickly, and more effectively. Furthermore, the sometimes-uncritical adoption of AI technologies into the workplace indicates that companies are willing to embrace GenAI-driven writing to save money.

So, will GenAI replace technical writers?

The short answer is no, and I think it's a bad idea in general. This "bad idea" is particularly harmful to undergraduate technical communication students for three reasons: 1) It overgeneralizes and attributes GenAI technologies with totalizing power *over* technical writers; 2) It ignores what we already know about writing, including that without localization, texts are often inadequate and problematic (Agboka, 2013; Crabtree, 1998; Sun, 2006); and 3) It ignores historical precedents of the ways technical writers have embraced and adapted to technological change. Students that are told (and believe) this story of technical writing's demise may be discouraged from taking technical communication classes, pursuing internships, and engaging in writing and design to create more

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effective and accessible information in workplace and community contexts. Below, I briefly outline these three components of the "bad idea," before turning to a more generative (pun intended) belief about the relationship between GenAI and technical writers, namely, that GenAI augments the capabilities and responsibilities of technical writers.

Technical writers can write effectively *with* AI, but AI cannot write effectively without us. Effective technical writers must gain expertise in what Godwin Y. Agboka (2013) terms "participatory localization," the careful attunement to the language, culture, politics, and legal contexts in which people read and use texts. Critically, participatory localization necessitates that technical writers collaborate equitably and thoroughly with users, the people who will utilize a given document or information set. While Agboka's vision of participatory localization doesn't actualize in all technical writing scenarios, the fact remains that technical writing cannot be written, revised, and published in a vacuum. The tokenization and vectorization processes of current GenAI language learning models guesses (and powerfully so) word by word what comes next. GenAI programs are high-quality pattern guessers. Their processes are fundamentally distinct (though not incompatible) with the processes of technical writers as they consider users, context of use, and usability concerns. GenAI can, and sometimes does, accelerate the workflow of technical writers as they write. At the same time, GenAI can generate ineffective, de-localized content that needs extensive revision, with guidance that can come only from the technical writer's relational knowledge drawn from direct interactions and conversations with users. GenAI's tokenization, which enables the generation of coherent responses that appear human-like, should not be anthropomorphized. GenAI does not (and cannot) think, read, or write as humans do. GenAI cannot effectively localize content. The technical writer is still at the helm, possibly utilizing GenAI technologies to augment their efficiency, still with careful supervision. A technical writer must carefully tailor their prompt, assess the quality of the AI-generated response, and may need to thoroughly tinker with the prompt and the response before determining the content will be effective. Furthermore, technical writers involved in the creation and maintenance of internal AI systems play a vital role in writing documentation for a variety of stakeholders, assessing output quality, and assist in the training and optimization of the system.

Historically, technical writers have embraced technological change. From the introduction of the printed alphabet, to public access to computers and word processing, to GenAI, what we know (and want to know) about technical writing expands and evolves. Understandably, undergraduate technical communication students may be confused about the mixed messaging surrounding GenAI use and concerned about their ability to get a job. Historically contextualizing the

emergence of GenAI programs helps to avoid sweeping overgeneralizations about what will happen next. Our conversations about computers and writing in the late twentieth century parallels much of what we are currently discussing about GenAI and writing. In 1988, Cynthia Selfe and Billie J. Wahlstrom, prominent technical communication researchers, suggested

> Our increasing use of computers as composing tools may force us to debate, investigate, explore, and revise our ideas about, our information on, and even our definition of writing. The amount of research that needs to be done is staggering, but the fact that there is so much to do is also liberating (p. 64)

Today, we can easily substitute "GenAI technologies" for "computers." Selfe's prediction has proven to be true; we now know far more about writing and have a more inclusive definition of what counts as writing. It is difficult to imagine technical writing *without* computers. And far from extinguishing the field of technical communication and imploding the career possibilities in technical writing, computers added a new richness and complexity to writing. Is this an overly rosy picture of what will come of the proliferation of GenAI technologies? Perhaps not. We know that the initial hype of GenAI-as-panacea has tempered. As we emerge from what Eric Siegel (2023) calls the "AI hype cycle," we should be skeptical of claims that GenAI can singlehandedly "replace" technical writers. While we are left with many, many unanswered questions, it's clear that technical writers are vital to the creation, development, and evolution of AI technologies. It is liberating to consider the extent to which technical writing research and workplace expertise will contribute to new understandings and best practices for the uses of GenAI technologies, and an ever-richer, expansive definition of writing.

GENERATIVE IDEA: GENAI AUGMENTS THE CAPABILITIES (AND RESPONSIBILITIES) OF TECHNICAL WRITERS.

GenAI benefits, challenges, and presents ongoing ethical conundrums to technical writers. Ultimately, technical writers will have to navigate corporate expectations about GenAI integration, discover how GenAI will add to their current writing and design workflows, and manage increased expectations for the efficiency and accuracy of their work in a GenAI-saturated workplace. Technical communication teachers and program administrators should assure students that technical writing jobs still exist in the current and future eras of GenAI. Additionally, teachers and administrators should revisit their current program structures and professional development to consider the new capabilities and responsibilities technical writers possess as they critically engage GenAI technologies.

With programmatic and instructional support, undergraduate technical communication students can anticipate these complexities and face them head on. Technical writers will take on the additional workload of teaching colleagues about the relationship between GenAI and writing, advocating for ethical and effective GenAI usage, and articulating their own value and indispensable role in composing effective writing. Students should have the time and space to practice these skills in the supportive context of undergraduate technical communication courses. And given the lightning-quick pace of GenAI rollout and system revisions, students also need preparation in quickly responding to and critiquing new technology. As technical communication teachers and administrators, we must learn alongside students as GenAI continues to evolve and model how to respond when GenAI is implemented without our consent.

So, no, GenAI will not replace all technical writing jobs. GenAI reorients the work of technical writers. Technical writers will need to become effective "explainers" (Card & Duin, 2023, p. 13) of their value and of the technology itself— how algorithms work and change within these complex systems. Within an organization, technical writers will need to be involved in creating guiding documents to establish company policies on effective and responsible GenAI use. We know that technical writers are not always involved in the design process of deliverables (e.g., websites, mobile apps, and printed materials) and do not sit at the top of the food chain in large organizations. Therefore, technical writers must continue to navigate the challenging power dynamics within their workplaces as it relates to GenAI technologies, responsible usage, and what constitutes best practices. Technical writers may need to take calculated risks and speak out when GenAI policies present ethical and procedural issues for their workflows. Furthermore, technical writers will need to effectively articulate their skillset as distinct from GenAI capabilities (Lesh, this volume). Professional associations, including the Association of Computing Machinery (ACM) Special Interest Group for the Design of Communication (SIGDOC) can support technical writers through research-informed statements and guidelines for technical writing with AI.

At the undergraduate level, technical communication students will need early and consistent exposure and practice writing with GenAI programs. In 2021, we might have introduced students to Darwin Information Typing Infrastructure (DITA) and MadCap Flare to familiarize them with structured authoring and content management. Now, we should also familiarize students with programs like Quarky, the AI "copilot" for structured authoring. Technical writing students should have space and time to explore, experiment, and critically consider how GenAI technologies layer on to traditional technical writing processes, and what is truly new about writing with AI. Students should be able to explain their own worth as technical writers in simple terms, explain their

philosophy of GenAI usage, and move nimbly across writing technologies as they effectively localize their writing to specific users. Most importantly, technical writing students should be primed to explain the ideologies of GenAI interfaces and program designs, understand the extent to which GenAI technologies reinforce and perpetuate inequity, and strive to be involved in the co-construction of GenAI technologies to better serve people.

When a technical writing student enters the workplace, they must be prepared to advocate for themselves and participate in the design of internal GenAI programs, collaborate with others to establish guidelines, metrics, and assessment of effective AI usage, and know how to adapt to the ever-changing GenAI environment. Realistically, they should also be prepared to be asked to produce writing extremely quickly and interact with colleagues who assume GenAI omnipotence and generally undervalue writing knowledge, strategies, and skillsets. For example, technical writers will need to be prepared to explain the technological complexities of GenAI and the complexities of what it means to write ethically and effectively in persuasive, but accessible, terms to stakeholders throughout an organization. Universities that implement GenAI literacy-infused general education requirements, service-learning opportunities, and inter-departmental collaboration across STEM and the humanities can help support the work of technical communication programs in this kind of student preparation. This kind of university-wide infrastructure bolsters technical communication programs to serve as the heart of learning about and becoming proficient in writing with GenAI technologies for students across campus.

It sounds like a lot because it is a lot. Technical writers will be capable of more and responsible for more. As teachers and administrators, we have an ethical and practical responsibility to prepare students for the workplace, and moreover, an AI-saturated world.

We are responsible for learning alongside students and shepherding them into this tumultuous and exciting era of technical writing. We can be cautiously hopeful about what comes next.

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