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GENERATIVE AI AND THE WRITING CENTER

A New Era of Peer-Tutor Professionalization*

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Introduction

OpenAI's ChatGPT has undeniably triggered a paradigm shift in the way humans engage with technology in educational settings. One significant consequence of this technological advancement is the transformation it has brought to how Writing Program Administrators (WPAs) and Writing Center Administrators (WCAs) engage in discussions about the writing process with colleagues, students, and writing center tutors. This transformation is most evident within the core of the writing center practice, where traditional pedagogical practices must be reevaluated to align with our new technological landscape. We see that the confluence of human expertise and machine learning provides a fertile ground for WPAs to explore the intriguing interplay between generative AI and WCAs to rethink and redefine the terrain of writing support. The premise of this chapter is not driven by concern that our tutors' roles will become obsolete. We firmly believe that "[w]hat students do when working collaboratively on their writing is not write or edit, or least of all, proof. What they do is converse...[T]hey converse about and as a part of writing" (Brufee, 1984, p. 645). Our motivation for this premise stems from our sincere curiosity about what an AI-informed tutor training program might look like. An obvious step toward that goal is through peer-tutor professionalization. Our inquiry here goes beyond the mere examination of technology. Instead, we encourage readers to think pragmatically about the future of writing tutor professionalization in the age of AI. We envision the creation of a liminal tutor training space where generative AI and human expertise collaborate to shape a new narrative of student learning and agency.

With that in mind, this chapter will explore how WCAs could ethically incorporate generative AI tools in their practice both to design tutor professional development opportunities and to raise awareness about critical AI literacy among the tutoring staff. Following Long and Magerko's (2020) definition of AI literacy "as a set of competencies that enables individuals to critically evaluate AI technologies; communicate and collaborate effectively with AI; and use AI as a tool online, at home, and in the workplace" (p. 598), this could

* OpenAI was used to generate parts of this manuscript.

potentially alleviate training design and delivery stress that are well documented among WCAs in the literature (e.g., Jackson et al., 2016). We will begin by providing a brief history of the emergence of generative AI tools. We will subsequently explore how AI compels us to reevaluate the traditional writing center practice, especially concerning the fundamental skills required for effective tutoring. We conclude by providing top-down, hands-on, dialogic training scenarios WCAs could use to familiarize tutors with generative AI tools to foster their continuous professional growth. We believe that we can enhance student writers' understanding of these tools by preparing tutors to guide discussions about AI and how it can be critically and responsibly deployed in the composition process. Through the process of preparing tutors to guide these discussions, the writing center can influence broader conversations around AI, potentially driving instructional design decisions to prepare students for critically AI-integrated professional spaces. The rhetorical situation has evolved, and writing centers must adapt.

Exigence: The Seemingly Staggering Advent of Generative AI

Undoubtedly, the arrival of OpenAI's ChatGPT as an easily accessible and initially free model caught many of us in higher education by surprise. One need only look at the vociferous, at times reactionary, response across traditional and social media for proof of this (c.f., Caplan, 2023; Grobe, 2023; McMurtri, 2022). Indeed, this collection is part of that reaction, and we, the chapter's authors, are voices in that chorus. We would be remiss if we did not acknowledge the, at times, emotionally charged reality that we inhabit—replete as it is with stories of professorial over-reaction (Verma, 2023), concerns over learning loss (Office of Educational Technology, 2023), dread over professional replacement (Farnell, 2023), and ruminations on ethics and user privacy (Acquisit et al., 2022). Admittedly, these concerns are legitimate ones, even if we may feel that the positive or negative reaction has been rather outsized, and they are not without historical precedent. Very similar reactions emerged in the early days of computers in the classroom (c.f., Cuban, 1993; Dreyfus & Dreyfus, 1984). Nevertheless, we begin from a simple premise: generative AI is undoubtedly revolutionary, but therein lies the crux. The field of computer science has been building toward generative AI for some time, with incremental developments going all the way back to the 1960s—tracing its lineage back to the Restricted Boltzmann Machine, a form of artificial neural network for unsupervised machine learning (Hinton & Sejnowski, 1986) and ELIZA, the original chatbot that many thought came close to passing the Turing Test because human users had issue telling they were talking to a machine in early turns of the conversation (Weizenbaum, 1966). While generative AI is certainly a seismic shift, its emergence has been clearly presaged in the field of computer sciences and computational linguistics for quite some time.

AI: The Case of Yet Another Alphabet Soup

It is in recognition of this need to “catch up” that we approach the current section. Before addressing the question, “how can I ethically leverage AI for better writing center practice?” we believe it is helpful to first explore what AI is and how it operates. Our goal is to provide you with a basic understanding (compared to that of AI designers, computer engineers, and data scientists) so that you can (a) speak confidently about AI and (b) participate in discussions—verbal or written—as a critically engaged member. In other words, engaging with AI

agents and having critical dialogue about them may soon become a new baseline social literacy necessary for participating in broader disciplinary and national discourses (see Alexander, 2008; Gee, 2015).

Artificial intelligence can best be understood as the capacity for a machine or computer program to learn from experience, adapt to new inputs, and create novel outputs to accomplish tasks traditionally associated with human intelligence (though this distinction is debated [see de Waal, 2016]). For instance, determining if a text is positive or negative in emotional content was once seen as uniquely human, until the development of sentiment analysis allowed machines to do this. This technology, when paired with others like collaborative and content filtering, supports recommender systems used by Amazon and Netflix (Liu, 2020). Emulating human cognition has long been a goal in computer science. Early visionaries like Charles Babbage and Ada Lovelace, 18th-century mathematicians, laid the foundation for machines capable of symbolic manipulations similar to how humans use language for complex tasks (Vardi, 2016)—even if AI as we understand it now is a more modern development.

Addressing the question, “How does AI work?” is complex and varies depending on the type of AI system. However, modern AI generally relies on key technologies: machine learning, which involves automatic learning from experience; neural networks, which mimic the human brain to process information; and natural language processing, allowing AI to understand and generate human language (Crawford, 2022; Mitchell, 2020). These components form the backbone of most AI systems today.

AI agents like ChatGPT and Google Gemini represent a new evolution of AI, using Large Language Models (LLMs) trained on vast amounts of text data—much of it from public sources but also from specialty documents (Zhao et al., 2023). These models use context to enhance their understanding of text, generating outputs that align more frequently with Gricean Maxims. What makes models like ChatGPT revolutionary is their use of Generative Pre-trained Transformers (GPTs), a specialized type of neural network designed to understand word relationships across sentences and generate novel outputs. These models, trained on hundreds of billions of tokens, are known as generative AI or genAI and may also produce voice, music, and images (Ghahramani, 2023; Zhao et al., 2023). With this understanding, we turn our attention to the writing center and AI’s potential role in writing.

AI Tools and the Writing Process

In the late 20th century, writing center research underwent a significant transformation known as the social turn (Geller et al., 2007; McComiskey, 2000). This shift aligns with broader developments in writing studies and represents a departure from the traditional cognitive approach to text production, which portrays the writer as “isolated from the social world,” a “solitary author [who] works alone within the confines of his [sic] own mind” (Cooper, 1986, p. 356). Instead, there has been a growing emphasis on socio-ecological approaches that focus on the writer as an active participant in various communities of practice, each characterized by its own unique context and dynamics (Wenger, 1998; Geller et al., 2007). This shift challenges the notion of the writer as a solitary figure working in isolation and instead highlights the collaborative and dialogic nature of the writing process. Scholars such as Brufee (1987) and Elbow (1973) have emphasized the importance of dialogic and interaction in writing. According to the socio-ecological model, writing is not solely the product of individual effort but rather emerges from ongoing

engagement with social systems and relationships (Cooper, 1986, p. 367). This perspective underscores the interconnectedness between writers, their peers, other stakeholders, and the context where writing takes place, emphasizing the role of social dynamics in shaping the writing process.

The turn to this collaborative, process-based aspect of writing has demanded a shift in writing center practice from their initial function as “labs,” which were extensions for writing classes, to independent centers (Bouquet, 1999). This separation of the writing lab from the classroom, which previously shaped the educational goals of lab writing sessions, required that autonomous writing centers establish their independent pedagogical strategies, philosophies, and tutoring staff. One of the early proponents of developing tutor training programs for writing center staff was Brufee (1980), who notes that “peer tutors tend to enhance the quality of the service as an alternative to classroom learning” (p. 77). Brufee advocates for staffing writing centers with graduate and professional tutors, as well as undergraduate peer tutors. According to Brufee, the latter group is “more likely to be perceived as ‘something else’—not teachers exactly, but helpers, friends, at best intellectual companions” (p. 77). Tutoring staff must receive appropriate training to provide feedback, with the primary objective of this training being to increase tutors’ respect for other students’ minds, and to increase their ability to work collaboratively” (Brufee, 1980, p. 78; see also Gillespie & Lerner, 2003).

As we delve into the importance of tutor training and its role in enhancing the quality of writing center support, it is crucial to recognize the evolving landscape of education and technology. While we recognize the importance of traditional tutor training programs where tutors are trained to work collaboratively with student writers and to respect their intellect, it is important for us to think about the role generative AI tools might play in the drafting process. This raises the question: If we have embraced the writing-as-a-process model for decades now, why can’t we accept AI tools as yet another affordance in the writer’s socio-ecological environment? It is important to emphasize here that our intention is not to promote unguided student use of AI, nor is it to suggest that AI output should be used uncritically or in place of student-generated writing and cognition. Instead, we aim to draw attention to the undeniable prevalence of an array of technological tools and that students already actively employ them to varying degrees in their writing and compositional processes (e.g., Sheridan & Inman, 2010). For us, we see AI as one more technological tool, albeit one novel and untested. Thus, our task is to confront a pertinent issue: whether we are comfortable with it or not, students are already seeking assistance from AI tools (see Terry, 2023; McVay, 2022). So how can we initiate constructive discussion about responsible use with writing center tutors? Before we return to this question and present potential solutions, we will first present what researchers had already been forecasting about the potential impact of generative AI tools on writing instruction.

AI Tools and Writing Studies

Prior to the launch of OpenAI’s ChatGPT in November 2022, writing scholars have predicted what writing instructors and WPAs are wrestling with today: the impact of AI tools on writing instruction. Porter (2018), for example, foresaw that “very soon our students will have bots available to ‘assist’ their academic writing—and that will become a perfectly reasonable thing for them to be doing, not unlike their current use of spelling and grammar

checkers” (Para. 3). Hart-Davidson (2018) suggests a future where initial drafts, except for artistic texts, are rarely manually composed. Instead, writers could rely on writing software to start drafts, potentially restricting it to the author’s vocabulary or incorporating external texts, with writers retaining control over the revision process (p. 252). Regardless of our willingness to adopt AI tools, these predictions have become a plausible reality. Therefore, as writing instructors and WCAs, our foremost concern should revolve around the question: how can we provide our students with the necessary skills to utilize AI tools with expertise? Or as Porter (2018) puts it: “we and our professional writing students need to know how to teach bots to write, because it is bots who are increasingly handling basic writing/communication tasks such as customer service, technical documentation, and news and report writing” (Para. 2).

When examining the interplay between human and machine-generated writing, Porter (2002) emphasizes the importance of adopting Katherine Hayles’ (1999, p. 3) perspective on technology from an ethical standpoint. This perspective, he asserts, draws from Donna Haraway’s (1991) concept of the cyborg, which challenges the traditional human-machine dichotomy and reconsiders conventional notions of bodily boundaries and the identity of the writer as solely human. By embracing a posthuman approach, one delves into the hybrid nature of cyborgs and the interconnectedness between humans and machines (Porter, 2002, p. 387). According to Hayles (1999), “there are no essential differences or absolute demarcations between bodily existence and computer simulation, cybernetic mechanism and biological organism, robot teleology and human goals” (p. 3; as cited in Porter, 2002, p. 387). This post-humanist perspective on AI-generated text highlights a pertinent ethical concern regarding the blurred lines of authorship within texts produced collaboratively by humans and machines. McKee and Porter (2020) articulates the critical modern concern of human-machine interaction by stating that “the ethics of human-machine writing requires of both humans and machines a deeper understanding of context and commitment to being a good human, a good machine, and a good human-machine speaking together” (p. 111). Although we, as writing instructors and WCAs, lack the ability to instill ethics in machine training directly, we believe that we are ethically obliged to initiate open and transparent dialogue with tutors as part of tutor professionalization, which by extension will enable tutors to have these conversations with student writers. These conversations will enable us to understand the extent to which AI is involved in our students’ writing processes. Unless we actively encourage such discussions, students may remain hesitant to disclose their use of AI tools. And, given the already fraught nature of the writing classroom and conversations about academic integrity and plagiarism, this becomes an even more salient need in light of colleges’ and universities’ disparate responses to the advent of generative AI. Therefore, it becomes important to not only equip students with an understanding of the tools available but also to teach the ethical use of said tools and their potential rhetorical impacts.

To offer a metaphorical example, we would encourage you to think back to the turn of the 20th century and the emergence of the Industrial Revolution. This was another moment of radical automation of previously inherently human creative/generative labor. Throughout much of human history, pre-Industrial revolution, the textile industry represented highly skilled labor, with particularly skilled sewists being able to demand a high premium for their art. However, the emergence of automation during the Industrial Revolution led to a deskilling of the labor needed for basic clothes construction, giving rise to the problematic industry

of fast fashion that we see today. It should be noted that this hasn't led to the deletion of sewing as a skill, but instead to a seismic shift in how the textiles industry operates and in our, the consumer's, relationship to it. Now, fast fashion is crafted in highly automated environments by low-skill labor in exploitative conditions, and you, the consumer, imbue little value on its outputs. To be honest, when was the last time you wept at the destruction of your Old Navy or Zara sweater in the wash? However, in this new environment, the home sewist, who can leverage skill (human labor and expertise) with automation (computerized sewing and pattern-cutting machines), represents a new class of semi-skilled labor that can produce custom pieces that carry more inherent social and personal value. And, the skilled sewist or tailor, now taking on a role akin to a textile artist can not only eschew automation altogether, if they wish, they have hard-won disciplinary expertise that allows them to create highly custom pieces that have the highest personal and social value for the consumer.

It is, with relatively little imagination, that we can apply this example to one possible future of writing. Yes, automation, in the form of generative AI, can produce massive amounts of novel, yet-to-exist, text. However, we would argue this text will be imbued with little social, commercial, or personal value. However, by teaching students critical AI literacy and how to incorporate this new socio-ecological tool into their workflows, we equip them to become like the home sewist in the earlier example. They are able to deploy their journeyman expertise and automation to produce novel text that meets an immediate and personal rhetorical need in a way that facilitates connection communication and carries greater value than mere AI-produced text. And, it will be the skilled writer, with rich life experiences, hard-won disciplinary expertise, and written communicative ability that will emerge as the textual artisan of the future. Indeed, even tech companies see this value, as AI training companies are beginning to hire writers, poets, and rhetors to help train future generative AI models and to stave off model collapse (see Malleck, 2023). This shows that the ability to engage in the act of writing sans automated assistance will become highly valued, but in different ways and for different purposes.

Transitioning now to the discussion of AI-focused training for writing center tutors on generative AI tools, we delve into how peer tutors, knowledgeable in guiding conversation with students and faculty, can extend their expertise to include discussions on AI in writing. Additionally, we will explore how WCAs can leverage AI tools to provide professional development opportunities for tutors. This proactive approach positions writing centers to influence faculty discussions, leading to better instructional designs for students in AI-influenced professional realms post-graduation. The rhetorical landscape has evolved, and writing centers must adapt. Central to this is the belief that humans remain essential, with AI serving to enhance our cognitive and creative capacities.

On Stage: AI and the Writing Center Administrator

We don't believe that it would be a radical statement to say that the role of the WCA is one that could be described as either having to wear, and balance multiple hats (optimistically), or one so multivariate that the risk of burnout is ever-present as the WCA is pulled in scores of different directions each time they set foot in the office or open their email. This raises a legitimate question: how can we create space for the human expertise of the WCA and their ability to create meaningful connections between human agents and disciplinary expertise to facilitate tutor training and student success while still acknowledging the time-poor nature of

WCA labor (i.e., never enough hours in the day)? We believe that AI represents a tool to help address this time-poor state and to help encourage greater work-life balance for the WCA, which will ultimately allow them to function more effectively. And, understand, we are not arguing that AI should replace the WCA. Rather, the WCA can use AI in ways that ethically and meaningfully support their professional efforts. In doing so, the WCA can model the use of AI tools for their tutors who can then consider how to discuss AI use with their tutees. To highlight this, we will describe a short vignette, connecting it to our socio-ecological framework.

At a small writing center at a liberal arts college in the Midwest, a WCA needs to prepare for a tutor training session on AI, a session that their staff has been calling for since the beginning of the term. The WCA, while curious about AI, is not a computer scientist, nor are they a digital humanities specialist. So, somewhere between teaching their course load, which is three courses this semester because of budget cuts at the college; managing the day-to-day operations of the center; and representing the center in various meetings across campus, the WCA must plan an effective training session to help prepare tutors for an AI-rich world. With the writing-to-learn framework in mind, the WCA decides that instead of pre-planning every element of the workshop, they would instead model the use of AI tools and critically explore them with their tutors. So, to prepare, knowing that the day-of outputs will be different, the WCA decides to explore AI tools and how they might be presented to the tutors.

Hence, considering the AI tool as an eco-social affordance, a digital, robotic partner of sorts, the WCA opts to begin by leaning into the conversational style encouraged by the chatbot style UI of many modern generative AI, such as ChatGPT, Google Gemini, and Anthropic Claude2. The WCA poses a simple question to the AI:

I'm a writing center administrator and need to prepare my tutors to have conversations with students about using AI as part of the writing process. I'm a bit ambivalent about the whole thing myself. So, I'd like you to act as my tech-savvy colleague, as another writing center specialist with a most optimistic, yet critical view of AI, to help me think through this training session.

While using a tool like ChatGPT (GPT-4), the system decides to be overly helpful and produces an outline of a potential workshop instead of merely acknowledging the role that we have created for it—acting a step ahead of what we were expecting/needing from just this prompt. The WCA, while not having asked for a workshop outline, does find it to be a useful starting point (see Figure 7.1, below).

Now, while our imaginary WCA remains somewhat ambivalent about AI, it has provided some useful food for thought, so the WCA decides to dig deeper through follow-up prompting, this time asking:

So, this idea of using AI to help brainstorm and organize thoughts is rather interesting. What would be an effective way of introducing this skill to tutors? What is some advice that I can give them to help them learn, practice, and master this skill?

Here, the AI response is less helpful, or at least not aligned with what the WCA was hoping for. The AI has produced another list of general ideas, and not specific recommendations.

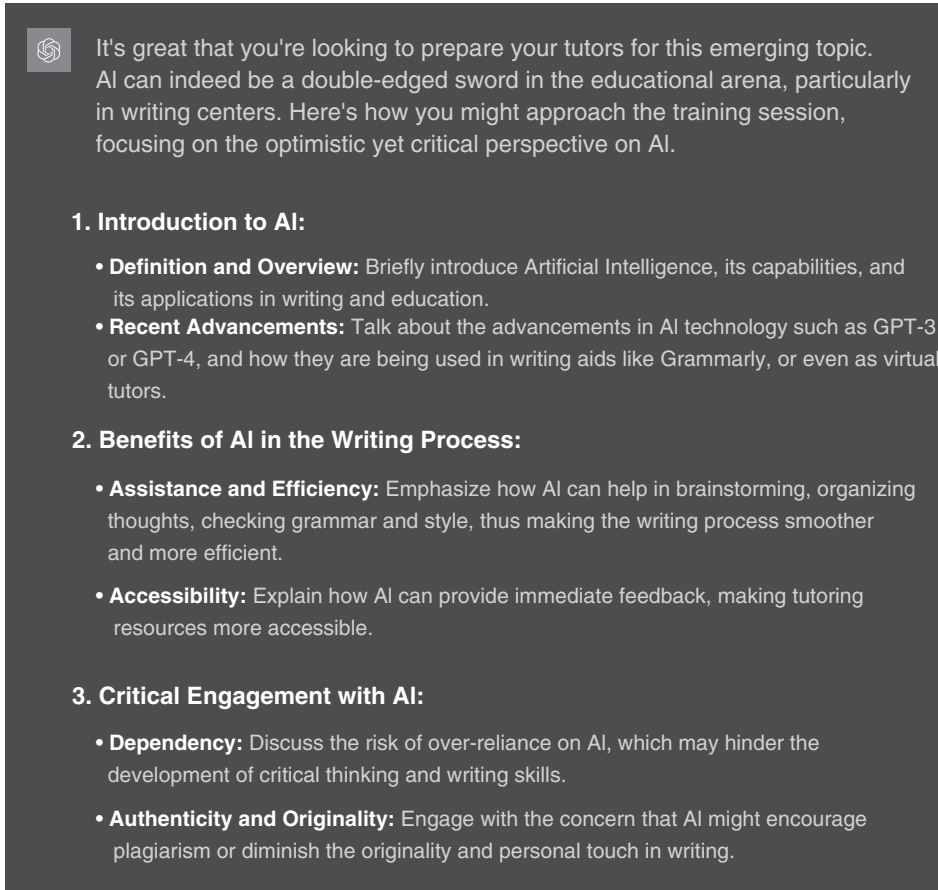


FIGURE 7.1 Sample GPT-4 output in response to prompt.

The WCA revises their prompting, just as they would if talking with a colleague who misunderstood the intent behind their original question (Figure 7.2).

Ok, but if I wanted to show them how to do this through guided practice, how could I do this? Can you help me develop an action plan for how to model using AI to come up with ideas for writing in a way that helps tutors learn how to do it by watching it being done?

Now, the AI has produced a more useful outline that the WCA can actually implement during the upcoming training session, and more importantly, they now have an example of working with AI that they can share and discuss with their tutors as they consider the rhetorical and discoursal skills necessary to engage in effective AI use. It is not so detailed that anyone could just read from the outline to deliver the session; it still requires considerable experience and expertise in the fields of writing center administration and rhetoric and composition, but it's a good start. At this point, the WCA has only been talking with the AI for about 10 minutes. To have reached this point on their own may have taken a few hours. They now have more time to dedicate to preparing for the training session, or other professional demands—or to



ChatGPT

Certainly! To effectively model the use of AI for brainstorming and organizing ideas in writing, you can develop a structured action plan that involves demonstration, participation, and reflection. Here's a step-by-step guide to help you:

Action Plan for Modeling AI Use in Brainstorming

Step 1: Pre-Session Preparation

- **Select a Tool:** Choose an AI writing tool that is accessible and offers features like brainstorming assistance, Idea generation, and outline creation.
- **Prepare Topics:** Select a range of topics or use past assignments for demonstration. These topics should vary in complexity and subject matter to show the tool's versatility.

Step 2: Live Demonstration

- **Introduction:** Start by introducing the selected AI tool, discussing its features, capabilities, and limitations.
- **Live Demo:** Conduct a live demonstration where you input a topic into the AI tool and show how it generates ideas, key points, or an outline. Explain each step:
- **Input Process:** Show how to input prompts effectively.
- **Interpretation:** Demonstrate how to interpret the AI's output.
- **Selection and Modification:** Show how to select useful ideas and modify others to fit the writing goals.

Step 3: Guided Practice

- **Hands-on Practice:** Allow tutors to use the AI tool themselves. Give them a topic and guide them through the process of generating ideas using the tool.
- **Group Activity:** Break the tutors into small groups and assign each group a different topic. Have them use the AI to generate a structured outline.
- **Discussion:** After the activity, discuss what ideas the AI generated, which were useful, and how they could be integrated into a writing piece.

Step 4: Role-Playing Exercises

- **Scenario-Based Role Play:** Create scenarios where tutors play the role of both the student and the tutor. The 'student' uses the AI tool to generate ideas while the 'tutor' guides and provides feedback.
- **Swap Roles:** Allow roles to swap to give each tutor the perspective of using the tool and teaching how to use it.

FIGURE 7.2 Action plan for modeling AI use in brainstorming.

actually take a needed break to avoid burnout. More importantly, they have realized something important about AI and writing—AI is most effective when prompted properly. This means providing plenty of contexts and approaching the tool not as an answer engine (like a Google search), but like a live conversation. Richer output is arrived at through careful conversation—through follow-up questions, additional context, and redirection where needed. And, herein the WCA has arrived at a key insight to share with their tutors when it comes to helping them reflect on AI's potential role in the writing process and how they discuss this tool with the students who visit the writing center.

Behind the Scenes: AI and the Writing Center Administrator

To build on the example in the previous section, the WCA can effectively utilize AI generative tools to preplan targeted and efficient tutor training materials. Here, we present two additional scenarios through which WCA can employ AI technologies for designing professional development content for tutors and tutors-in-training:

- 1 **Content Generation:** AI tools can be leveraged to generate written materials tailored to the specific objectives of a training session. For example, during a tutor norming session centered on Standardized Academic English, the WCA can supplement a student's draft with an AI-generated draft on the same topic. The WCA should not disclose to the tutors the involvement of AI in text generation at this stage of the training. Instead, tutors can be encouraged to compare the two drafts, focusing primarily on the texts' stylistic features such as voice, flow, and diction. After facilitating a guided discussion, the WCA can then reveal the authors of each draft. Subsequently, the discussion can shift toward how tutors should interact with AI-generated texts, especially when a student writer discloses their use of such tools during a tutoring session.

Another application of text generation involves using AI to create a text with specific weaknesses aligned with the training's focus. These weaknesses might include the overuse of the passive voice, run-on sentences, inadequate transitions, or any other writing issue pertinent to the training. Tutors then can collaborate, using these AI-generated drafts to brainstorm effective feedback strategies for assisting students who may seek help with similar writing challenges. It is important to emphasize that the WCA should leverage its expertise to review and refine the AI-generated text to ensure it fulfills its intended purpose effectively.

- 2 **Content Adaptation:** The WCA can also use AI-driven applications like Twee to formulate discussion prompts based on YouTube videos. For example, the WCA might use John Bough's TEDx presentation on linguistic profiling to raise tutors' awareness about issues related to linguistic diversity. Additionally, the WCA can employ Twee to create a transcript of the talk, offering an alternative or supplementary resource for tutors who prefer reading over or alongside listening to the presentation.

By integrating AI-generated content in these ways, WCAs can enhance the quality of their tutor training materials while also encouraging thoughtful discussions about the role of AI in the writing center and how tutors can best assist students who integrate AI tools into their writing processes.

Closing Remarks

The advent of generative AI marked a significant juncture in the academic sphere. What some perceived as an unexpected emergence not only brought innovative functionalities but also sparked various responses across higher education (e.g., Anson, 2022). The accessibility and capabilities of such AI tools were met with varying degrees of reception, from enthusiastic adoption to critical scrutiny. It is within this juxtaposition of surprise and varied sentiment that we hope we were able to illustrate some modest measures WCAs can employ to raise writing center tutors' awareness about the transformative potential of generative AI and its implications for contemporary writing center practices.

The integration of artificial intelligence, particularly the advancements brought about by generative models, has the potential to profoundly reshape the operational socio-ecological environment of writing center practice. These changes encompass various dimensions of writing center administration and pedagogy. From an administrative perspective, the incorporation of AI could facilitate a more streamlined approach to WCA labor. One of the greatest advantages lies within the domain of professional development. With the assistance of AI-driven analytics and automated modules, administrators can now devise targeted training programs, ensuring that tutors and staff are equipped with the most up-to-date critical AI literacy tools. This not only simplifies the often complex and time-consuming process of curriculum design but also ensures that training materials are consistently aligned with the evolving demands of the academic environment. This efficiency has freed up valuable resources, allowing writing centers to invest in other critical areas of growth and development. Furthermore, the introduction of AI into writing centers enhances their role as hubs for continuous learning and adaptation within writing center cultures. In this new paradigm, learning is not viewed as a one-time event but as an ongoing journey. Tutors and staff can be encouraged to engage with AI tools regularly, benefiting from real-time feedback and adaptive learning pathways. This ensures that they remain at the forefront of educational innovation, ready to meet the diverse and evolving needs of students.

Integrating AI into tutor training and professionalization ushers a new set of considerations and imperatives. Historically, the core competencies of effective tutoring were largely rooted in interpersonal skills, content knowledge, and collaborative pedagogical strategies. However, with the growing conversations around the use of AI in educational settings, there is an emerging need to reassess and expand this skill set. The presence of AI, therefore, demands a recalibration of what constitutes essential skills for modern tutors. It's no longer sufficient to solely rely on traditional tutoring techniques; tutors must now also possess a foundational understanding of AI-driven tools and their potential applications in the educational context. This includes not only the technical aspects of operating such tools but also an appreciation of their underlying algorithms and decision-making processes.

It is in this new reality that we delineated a hands-on, dialogic training approach that becomes crucial in this context. Dialogic training emphasizes active engagement and open dialogue between WCAs and tutors, ensuring a deeper and more nuanced understanding of the subject matter. Through such interactive sessions, tutors can gain firsthand experience with AI tools, exploring their functionalities, strengths, and limitations. This experiential learning approach ensures that tutors are not merely passive recipients of knowledge but active participants in their own professional development journeys. Moreover, familiarity with AI's capabilities is just the starting point. Tutors must be trained to adeptly integrate these tools into their existing tutoring methodologies. This involves understanding when to rely on AI for assistance, how to interpret AI-generated feedback, and how to seamlessly blend traditional and AI-enhanced techniques to create a holistic tutoring experience that caters to the diverse needs of students. In essence, the evolution of AI in educational settings doesn't just add another tool to a tutor's toolkit; it reshapes the very fabric of tutoring pedagogy, prompting a shift toward a more integrated, adaptive, and technologically informed approach.

In light of the new AI-rich world, it is crucial to re-theorize writing center practices. We suggest adopting a socio-ecological lens to understand AI's role in writing. This perspective views writing as a dynamic mix of social and ecological elements, not just a static

product. Historically, writing centers focused on the individual writer's skills and voice. But with advanced AI tools, there's a paradigm shift. Writing isn't just about individual thought—it's an evolving process influenced by AI. These tools not only aid in mechanics but also shape a writer's choices and content, reflecting the socio-ecological perspective. AI's influence on writing practices manifests in several ways. For instance, AI-driven tools offer real-time feedback, predictive text suggestions, and advanced grammar checks, all of which subtly guide and shape the writing process. These tools not only aid in the mechanical aspects of writing but also influence the writer's choices, style, and even content direction. This dynamic interaction between the writer and AI tools exemplifies the socio-ecological perspective, highlighting the interconnectedness of individual agency and external ecological factors. Furthermore, this evolving landscape underscores the need for a more holistic approach to understanding writing. It's not just about the writer or the written text but about the entire ecosystem that influences the act of writing. From the algorithms that suggest the next word to the databases that provide research material, AI is intricately woven into the modern writing process. In essence, the socio-ecological lens illuminates the complexities of the contemporary writing landscape. It challenges us to move beyond traditional dichotomies and embrace a more integrated view, recognizing writing as a continually evolving process shaped by both human agency and technological advancements like AI.

The integration of AI into writing centers signifies a notable shift in educational methodologies. As technological advancements continue to shape various sectors, education—specifically writing practices—are not exempt from this influence. The evidence suggests that AI-driven tools offer tangible benefits in terms of administrative efficiency and enhanced learning experiences (Fatima et al., 2024; Fillippi et al., 2023; Felten et al., 2019; Diamandis, 2023; Zarifhonarvar, 2023). However, the full implications of these tools, both positive and potential challenges, require careful consideration. It's essential for educators and administrators to approach the integration of AI with a balanced perspective, prioritizing empirical evidence and best practices. While the potential of AI to augment writing centers is evident, it's equally crucial to ensure that such integrations align with educational goals and values. As the landscape of writing practices evolves, a proactive approach to understanding and adapting to these technological shifts is advisable. Such an approach will likely ensure that writing centers remain effective and relevant in an increasingly digital academic environment.

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