

Note

ChatGPT and the Future of Writing about Writing

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Introduction

Within the space of just one year, chatbots powered by Artificial Intelligence (AI) Large Language Models (LLMs), such as ChatGPT (Chat Generative Pre-Trained Transformer), have grown in functionality.¹ Artificial intelligence is not new to writing automation or the pedagogy of college writing. Software such as WordPerfect and Writer's Helper has been shown to improve student efficiency with the amount of time required for revising and editing (Williamson, 1993). More recently, Ma (2021) has recommended Virtual Reality technology as part of an immersion teaching strategy for second-language learners. In both cases, the AI software depends on something initially created by the student.² However, ChatGPT-4, described as “more creative and collaborative” than earlier iterations (OpenAI, n.d., Creativity section), has expanded the capacity in natural language processing to allow it wide functionality in practical scenarios such as answering questions, chatting automatically, and de/coding formulae (Zhang & Li, 2021). For academic writing in particular, ChatGPT can accomplish such tasks as generating summaries of papers, extracting key points from articles, and providing citations (Aljanabi, 2023)—tasks beyond the capacity of previous GPT models.

ChatGPT was launched in 2022 by OpenAI, an American research laboratory of the for-profit corporation OpenAI LP and its parent company, the non-profit OpenAI Inc. ChatGPT operates as a fine-tuned chatbot with transfer and reinforcement learning capacities.³ The LLM algorithm of ChatGPT allows the platform to “generate, edit, and iterate with users on creative and technical writing tasks, such as composing songs, writing screenplays, or learning a user's writing style” (OpenAI, n.d., Creativity section). The possibilities offered by ChatGPT come with the caveat that, if not engaged critically, it can hinder—not help—user creativity and reasoning.⁴ What I propose in this note is an inquiry-based model that centers the user—i.e., the writer—as a problem-solver who reflexively develops their critical thinking and writing skills through close engagement with the creative and technical process of the ChatGPT platform.

This note adds to existing research in Writing about Writing (WAW) through the following questions: What critical thinking parameters can be placed on ChatGPT to preserve originality in student thought? And how can ChatGPT be used without displacing the centrality of the student-writer? In what follows, I address each of these questions as part of my overarching research focus: an examination of the future of writing in a rapidly changing technological world. Key discussion points I raise during this note overlap with central ideas in WAW research as discussed by Wardle and Downs (2022), namely reflection as an aid to encourage “[t]ransferring and repurposing what we know about writing” (p. 105), conversational inquiry as a form of making new knowledge “rather than simply reporting on information you've gathered from a library or web search” (p. 126), and creativity as having an “inherently rhetorical quality” (p. 950).

An Inquiry-Based Model

As it happens, the areas where ChatGPT and similar LLMs have the most shortcomings are those that provide the most opportunities for improving learning outcomes. For example, Azaria (2022) explained that ChatGPT may request additional information to provide an answer. Additionally, a minor change to a question might lead to a contradicting response. In such cases, AI-powered writing tools provide metacognitive moments for students to go beyond simply generating responses and into the realm of critical inquiry. To explore these moments, I take an approach similar to how Ng et al. (2022) used AI-driven chatbots to apply Pedaste et al.'s (2015) five-phase model of inquiry-based learning to the writing process. My approach differs by requiring students to investigate design problems of ChatGPT, a much more advanced chatbot than Siri, which formed the basis for the study by Ng et al. (2022), by identifying where and how at each stage of the five-phase model ChatGPT is not successful.

I provide students with a five-phase model, tailored to a college writing schematic, that enables them to fill the gaps in ChatGPT's learned knowledge (as shown in Table 1), which exist because it has been trained on data that go up to its "knowledge cutoff" of 2021 (Chatterjee & Dethlefs, 2023).⁵

Table 1 *Five Phases of Inquiry-Based Learning for College Writing*

Phases	Inquiry-based learning	Using ChatGPT as an example
Orientation	<ul style="list-style-type: none"> • Creating interest and curiosity about a topic • Encouraging a range of observations 	<ul style="list-style-type: none"> • Focusing on reliability, validity, style, or register of information provided by ChatGPT • Observing the intentionality or purpose behind ChatGPT
Conceptualization	<ul style="list-style-type: none"> • Forming research questions based on a topic 	<ul style="list-style-type: none"> • Comparing questions about how ChatGPT can and might be used by different people
Investigation	<ul style="list-style-type: none"> • Exploring and collecting available sources to address questions • Identifying patterns and making inferences based on information gathered 	<ul style="list-style-type: none"> • Developing a writing plan inclusive of the organization of material provided by sources • Analyzing ChatGPT for predictability or inconsistencies
Conclusion	<ul style="list-style-type: none"> • Constructing lines of reasoning and making judgments based on inferences 	<ul style="list-style-type: none"> • Offering solutions to the problems or gaps in knowledge revealed by ChatGPT
Discussion	<ul style="list-style-type: none"> • Reflecting on the writing process and generating new understandings 	<ul style="list-style-type: none"> • Providing misconceptions of ChatGPT and evaluating its performance

In addition to applying an inquiry-based model to college writing assignments, educators can also make the review process of any given ChatGPT-generated essay into a meta-cognitive moment. Such a process might include first allowing students to have ChatGPT generate an essay from a given prompt and then asking them to review the

essay as part of, say, a rhetorical analysis. Finally, students can be prompted to improve the essay by rewriting it themselves. The skill of metacognitive awareness that is enabled through a review process of ChatGPT's essays is especially useful for EFL learners (Azizi et al., 2017), and a comprehensive review of ChatGPT's pre-trained knowledge will further deepen student creativity and engagement as students will likely gain confidence from identifying gaps in ChatGPT through an inquiry-based model.

Toward a User-Centered Design

The inquiry-based model I have offered necessarily foregrounds student knowledge as part of a WAW method by invariably placing students at the center of their writing process. The ease of access and efficient manner of generating information with ChatGPT presents a challenge to educators who are unable to ideologically adapt their perspectives of the rapidly changing technological nature of college writing (Vie, 2008) or pedagogically adapt their instruction to suit the demands of such changes (Anson, 2021). Given the inevitability of even more sophisticated papers generated by chatbot platforms in the future, attention should be focused not on discerning chatbot papers from student essays but on creating a user-centered design of the writing process that involves "a focus on users first, technology second" (Greer & Harris, 2018, p. 17). To achieve a user-centered design when it comes to AI chatbots such as ChatGPT, educators should consider the following:

1. Emphasize a Reflective Approach

As a crucial part of the experiential learning endeavor, reflective writing encourages learners to add personal involvement to their writing assignments (O'Connell & Dymont, 2013). Additionally, the emphasis on reflective writing as a follow-up to previous assignments allows students to view writing as process- rather than product-based through problem-solving (Avarzamani & Farahian, 2019). This practice of solving problems through reflective writing becomes even more significant given that the advanced functionality of AI platforms for addressing relevant, appropriate, and genre-specific problems through machine learning and deep learning algorithms (Munir et al., 2022) could negatively affect students' ability to see writing as experiential and process-based. Furthermore, to improve student engagement and creativity, reflective writing assignments that incorporate design thinking have been shown to discourage dependency on technology (Purdy, 2014). Leverenz (2014) integrated strategies of design thinking, divergent reasoning, wicked assignments,⁶ team writing, and prototyping with a focus on "cyberliteracy," a junior-level class examining how digital technologies shape literacy. Instead of individually writing papers, students worked in teams to research a problem related to cyberliteracy and design an intervention. A similar design-thinking approach when applied to college writing courses can reorient students from consuming information to developing it to suit their writing needs.

2. Evaluate Chatbot Responses

As mentioned in the previous section, an inquiry-based model of learning with, not from, ChatGPT allows for an active learning process. Another aspect of user-centered approaches to ChatGPT might include interrogating its capacity to provide information and on what basis it does so. In other words, what does the trained knowledge of ChatGPT say about its software engineering? Further, where else does such knowledge exist already, and why?

I asked ChatGPT to compose a song in the music genre called Soca, which is indigenous to my home country, Trinidad and Tobago:

Compose a Soca

Verse 1:

Feelin' hot, hot, hot in dis party
Everybody jumpin' like dey crazy
Soca music blastin' on de speakers
Can't sit down, can't be no lazy

Chorus:

Soca, soca, make we wine
Soca, soca, all de time
Soca, soca, make we jump
Soca, soca, make we jump up

Verse 2:

De rhythm sweet, sweet, sweet like honey
De beat makin' we heart race like money
We wine up, wine up, wine up to de top
De party don't stop, don't stop, don't stop

Chorus:

Soca, soca, make we wine
Soca, soca, all de time
Soca, soca, make we jump
Soca, soca, make we jump up

Bridge:

De carnival season is here
De music bringin' we cheer
De rhythm and de beat
Make we forget our seat

Chorus:

Soca, soca, make we wine
Soca, soca, all de time
Soca, soca, make we jump
Soca, soca, make we jump up

Outro:

De party goin' all night long
De soca music make we strong
We wine up, wine up, wine up to de top
De party don't stop, don't stop, don't stop.

Beyond ChatGPT's structural design of a typical song, the platform borrows the title lyrics "Feelin' hot, hot, hot" from The Merryman's classic Calypso song.⁷ Additionally, ChatGPT mimics the English Creole transcription of "d" and "dis" and "dey" for the Standard English article "the" and pronouns "this" and "they." There is also the use of subject pronouns used as object pronouns ("make *we* jump") that is characteristic of English Creole. Finally, in terms of content, ChatGPT references the carnival season as well as the dance "wine." A rhetorical evaluation of this response by ChatGPT reveals certain stereotypes associated with Soca music, language, culture, and dance elements. ChatGPT is limited by not only the parameters of its datasets, but also the datasets themselves, which contain biases that concern geo-culture and genre conventions.

Similar user-centered design approaches to evaluating ChatGPT's responses can encourage students to be creative with how they use the platform as well as improve their rhetorical evaluation skills. In each of the two recommendations I provide above, students of college writing become active creators with the design process of ChatGPT's limited knowledge base, allowing educators to maintain general course objectives by emphasizing writing as an ongoing, imperfect process—even for AI-powered writing tools.

Conclusion

AI-powered writing tools existed before ChatGPT and, based on the popularity of the latter, will only continue to become more sophisticated. The significant learning curve posed to educators by ChatGPT's pre-trained model is also an opportunity to reinvent the ways in which writing has been taught. In this note, I have provided recommendations for educators to utilize, not discourage, ChatGPT in writing instruction. Such recommendations include an inquiry-based model for using ChatGPT in writing assignments and a user-centered design approach that actively shapes the content provided by ChatGPT's limited knowledge base. Writing instructors must begin examining the viability of artificial intelligence platforms such as ChatGPT through an academic lens to grasp the complexity, ramifications, and potential that they may hold for pedagogy and the future of the field. For researchers, future iterations of WAW can take up AI-powered writing specifically for the ways in which it can add to the user's metacognitive awareness of the writing process.

Notes

¹Here I refer to AI as automated devices that have functions similar to human processes such as analysis, synthesis, learning, and self-correction.

²Williamson (1993) discussed the process using WordPerfect and Writer's Helper as follows: "The students first type their essays on the word processor. Then, they take their essays through the analysis which flags various writing deficiencies. The students then revise on hard copies of their essays. Finally, using the word processor, the students edit their essays based on the analyses" (p. 4). Ma (2021) pointed to student-teacher collaboration with AI when it comes to VR technology immersion: "Students and teachers studied in groups in a virtual situation created by VR technology and communicated in English throughout the whole process" (p. 1).

³Transfer learning is an area of machine learning in which knowledge gained while learning to recognize, say bicycles, could apply to the recognition of scooters. Reinforcement learning is another area of machine learning whereby an algorithm learns through trial and error. Ricciardelli & Biswas (2019) have studied FAQ-type chatbots able to self-improve performance.

⁴By “reasoning,” I refer to students’ critical thinking capacity. This claim is consistent with findings from Burkhard (2022) that students reported their use of AI tools “make them lazy, that they hinder their learning of how to write good texts, that they take away the individual writing style or that they become dependent from these tools” (p. 5). Although Burkhard did not focus on pre-trained AI systems, which have existed since GPT-1 in 2018, it is expected that student dependency on AI writing tools will increase as OpenAI platforms improve their scaling of data.

⁵When I asked ChatGPT, “Who is the Prime Minister of the UK?” it responded, “The Prime Minister of the United Kingdom as of my knowledge cutoff is Boris Johnson.”

⁶Leverenz (2014) used Buchanan’s (1992) description of wicked assignments as “ill-formulated, where the information is confusing, where there are many clients and decision makers with conflicting values, and where the ramifications in the whole system are thoroughly confusing” (p. 15). According to Leverenz, “[b]y eschewing easy or obvious solutions, wicked problems require us to think creatively about the problem as well as the solution. As a result, we come to own the problem—as our vision—rather than merely fulfilling someone else’s idea of what should be done” (p. 7).

⁷Calypso is considered to be the primogenitor of Soca.

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