Teaching and Learning Anthropology Journal
Vol. 6, No. 1 (2023)

COMMENTARY

Could ChatGPT Prompt a New Golden Age in Higher Education?

Elisa J. Sobo

San Diego State University
Esobo@sdsu.edu

Abstract

The public rollout of ChatGPT, a free app that produces uncannily refined responses to users' questions or prompts, initially had many education professionals up in arms due largely to fears over student cheating. Panic levels receded as a new realization surfaced: rather than simply banning the use of generative artificial intelligence (GenAI or AI) for assignments, we can and should adapt to chatbot-related challenges, reframing them as opportunities. In meeting this new technology with creativity and purpose, we can reorient education's compass needle back toward process as opposed to product – toward thinking about as opposed to merely recounting what others have said. In other words, higher education must evolve, and the adaptations we create, not ChatGPT, could be the real revolution.

Keywords: *Chatbot; Generative Artificial Intelligence (Gen-AI, AI); Higher Education; Pedagogy; Critical thinking*

Introduction

In Wonderland (Carroll 1871), Alice meets the Red Queen in a garden of talking flowers. The pair begin walking. Soon they are trotting quickly – and getting nowhere. To Alice's surprise, the environment around them is moving, too. In the Red Queen's world, Alice learns, you run just to keep your position.

Geneticists have recast this story as "the Red Queen Hypothesis" to highlight the competitive essence of natural selection, which seems to lock various species into an evolutionary arms race. For instance, when a predator population's sight improves, prey with better hiding skills become most likely to survive and reproduce; this adaptation in turn provokes another in the predator species. Such leveling up is constant – unless or until an extinction ensues.

Consider now ChatGPT, a free generative artificial intelligence (GenAI) "chatbot" app that produces uncannily refined responses to questions or prompts by transforming portions of texts on which it is "pre-trained" into human-like articulations. It does this by

ISSN: 2641-4260

following certain pre-programmed rules or algorithms that support it in predicting which words are most likely to follow others.

When first released (at the tail end of 2022), many education professionals, perhaps particularly in the humanities and social sciences, sounded the alarm over students using chatbots like ChatGPT to ghost-write assignments. ChatGPT's sophistication makes it hard to know when this has occurred. If students aren't doing the work assessed, some asked, what value do high grades or even diplomas hold? If such achievements mean nothing, the university could go the way of the dinosaur.

From an anthropological perspective and based on my own experience fielding questions about GenAI (often just called AI) apps as a member of the San Diego State University (SDSU) Senate's Information and Instructional Technology Committee, this catastrophist scenario is highly unlikely. Instead, and ostensibly in keeping with the "Red Queen Hypothesis," we will stave off extinction because our lesson plans will evolve. This has happened before. When students learned to keep copies of tests, teachers learned to rotate multiple choice answers (themselves an adaptation to something prior). We must likewise adapt to keep pace with the rise of chatbots.

That said, many who study evolution find the competition framework entailed in the Red Queen Hypothesis wrongheaded. Cazzolla Gatti (2016) has called competition "unnatural"; mechanisms centering on cooperation and a drive toward coexistence are now coming to the fore in this field. Concurrently, rather than imagining students and teachers as adversaries, we should focus on the cooperative or mutualist side of the equation. Rather than simply banning the use of AI for assignments – as if the "just say no" approach has ever worked – we must reframe chatbot-related challenges as opportunities. We should lean into the better education-related services that AI may provide. A wide variety of pedagogical activities could be enhanced if we can do so properly.

In meeting new AI technology with creativity and purpose, we can reorient education's compass needle back toward process as opposed to product – toward thinking about as opposed to merely recounting what others have said. In doing so, the adaptations we create, not ChatGPT, could be the real revolution.

Information Conveyance and Regurgitation

Anthropology degree programs exist in a higher education system that, ideally, aids students in developing critical thinking skills. In fact, however, multiple large-scale studies have failed to demonstrate such gains (see Pearlman 2020, 6-8 and Arum and Roksa 2011). This is partly because, for complicated reasons relating to the global political economy (see Giroux 2011), and despite educators' best intentions, today's classroom-based offerings are frequently industrial in scope.

Despite instructors' aspirations for engagement (amplified by the pandemic; see Mariola and Ozar 2021 and Lang 2016), today's large class sizes and high teaching

loads fuel the use of computerized grading systems and quickly assessed prompts. Against this "backdrop of scarcity," many instructors can teach no more than facts and concepts (McMurtrie 2022; see also Paul 2004).

Moreover, like laborers' wages, grades measure where students stand in relation to or in competition with others and can be used coercively (Lave and McDermott 2002). Indeed, today's school learners can feel like laborers whose lives and creations are experienced as their own only when "off the clock" (Lave and McDermott 2002; see also Blum 2010). In this sense, school-based learning sits in contrast to self-driven, intrinsically rewarding learning – the kind non-industrialized societies often undertake (e.g., Lancy, Bock, and Gaskins 2012).

Beyond industry, education today also has parallels with banking. As Paulo Freire (1996 [1970]) demonstrated while working to eliminate illiteracy, Western education culture generally encourages students to think of themselves as vessels into which knowledge is deposited. This fosters paralytic, superficial thinking and the regurgitation of facts that sustain the status quo.

Indeed, today's college student is trained to fetishize "correct" and therefore static answers suitable for use with answer keys and grading rubrics. Teachers, so often burdened with huge class sizes and bureaucratic overwork, enable this mind-set. Given this environment and social norms regarding the measures of success, a notable proportion of students do cheat (Blum 2010).

Along these lines, ideas on which students will not be tested – including ideas foundational to deriving defensible answers – are often cast as unimportant. The demand to "show your work" can seem inscrutable when answers are either right or not. The system currently commonly encourages a destination, not a journey-related educational voyage. Grades are too often determined by a big "content dump" submitted in the form of a long paper or major examination at the end of the semester and never revisited. In short, critical thinking is generally not the point. To all who value authentic teaching and learning, this is a *shanda*.

What to do?

Socrates argued about 2.5 millennia ago that dialog – conversation through which knowledge and wisdom can be produced – is impossible with a text: "Written words … seem to talk to you as though they were intelligent, but if you ask them anything about what they say from a desire to be instructed they go on telling just the same thing forever … [Text] can neither defend itself nor come to its own support" (Hawkins 2021). Socrates' vantage, which Plato echoed, prioritizes engagement with ideas undertaken by two or more human beings. In other words, it prioritizes processes that the ideal teacher-student relationship should entail – processes nigh on impossible in high-enrollment classes that fetishize information conveyance or where skill-building takes a back seat to concrete final products in determining grades.

But the majority of assignments submitted are never rewritten. Students rarely sit down with professors or each other to workshop or revise their papers. Many never read the comments that a professor might provide. Submissions are graded and forgotten. The emergence of ChatGPT calls on us to rethink the viability of this system.

Prioritizing Process

For many educators the big question chatbots raise is, If students no longer write their own essays, how will we be able to measure what they've learned? My answer (and I'm not alone here) is that we must pivot away from equating learning with regurgitating facts. Fortunately, adapting to chatbots could help us do this specifically by elevating practices meant to cultivate the art of argument and promote excellent critical thinking skills – practices displaced by industrialized education's focus on writing's end product.

The process of writing itself holds great value. Many scholars have noted that they write to think or to work through problems and find answers. Accordingly, one way creative professors plan to meet the chatbot challenge is to evaluate or assess not papers themselves but the self-reflections students might be required to create via journaling or oral reports assigned after work has been submitted; or the journals or oral reports may be weighted much more heavily than the works themselves. (Those worried that AI may infuse even the content of these reflections can create journal prompts referencing very current events not likely to be in the AI database or disallow script use for oral presentations.)

A perhaps more radical approach to counter the pull of ChatGPT, at least when viewed against the banking or product-focused models, is to break paper-writing into smaller chunks, starting with outlines, drafts, and first and second revisions, each with their own due dates and formative assessments. One can sequence assignments so that students begin with their introductions and then subsequently build out a draft, adding a literature review (jump-started perhaps by a bibliography request submitted to the AI and vetted), and then adding a synthesis section and a conclusion, and finishing the paper off with a round or two of final revision and abstract creation. Changes made in the manuscript along the way should be made with tracking turned on so that teachers, and students, can see how each piece of work has developed.

This method (often used with graduate students already) aligns with longstanding math test "show your work" norms. An added bonus is how it enables students to see, literally, how far their thinking has come. Adapting this method for use in large undergraduate anthropology classes will require flexibility of course. My own plan for term papers this Fall is to add a peer-review phase in which modifications are discussed, and to cut back on content in certain areas of the syllabus so that time can be devoted to adequate in-class instruction on anthropological writing (and thinking).

Both plagiarism and authorship will be explored with students as well. No piece of writing is an island. As writers ourselves, we often incorporate or respond to comments

others may make on the work, for instance, and we rely on authorship guidelines such as those provided by journal editors to determine who merits mention in the by-line. Academics also have for at least three decades relied on some form of AI in our writing, from the clunky spell-check options of the 1990s, to more recently available notifications that our grammar may be off, to today's sentence-length revision suggestions, meant to assist us in increasing the concision or comprehensibility of our prose. Key here is that control is left in the hands of the author, who bears ultimate responsibility for, and retains intellectual property rights in, the work.

Syllabi for courses should contain guidance in this regard so that students are clear on what does and does not count as plagiarism when they incorporate chatbot-generated ideas or text into their course deliverables. ChatGPT itself has this advice on verbiage: "Explicitly state that submitting AI-generated content, such as responses or papers directly generated by ChatGPT, without proper attribution is not acceptable. Make it clear that students should not present AI-generated content as their own original work"; and "Emphasize that using AI or any other technology does not exempt students from the obligation to properly cite sources and give credit" (ChatGPT, personal communication, May 31, 2023; regarding this citation style, see Caufield 2023). Some mention also should be made of the fact that, when one uses AI, one's queries become part of what the AI "knows." The implications of this would be excellent fodder for a guided in-class discussion. And students who do not wish to contribute to AI in this way must be offered alternate assignments to the kind that require this, such as when they are invited to submit a short piece of writing to an AI app with a request for revision.

Writing also could be submitted for lessons on paraphrasing. In response to a query regarding AI use that I posted on the Teaching College Anthropology Facebook group page on June 1, 2023 (see https://www.facebook.com/groups/teachingcollegeanthro/), Lisa Beiswenger of Saint Francis University reported Fall 2023 plans to pick out a particular passage from a reading, ask students to have AI paraphrase it a few different ways, and then discuss the outcomes as a class.

Katie Hughes at San Diego State University plans, based on some experimentation in Spring 2023, to have students ask chatbots questions a few ways. But with her assignment, students will be tasked with writing text like a mission statement for a project, a letter requesting funds or data access, an op-ed, a problem statement, et cetera. Hughes encourages students to collaborate with ChatGPT to generate structural and language suggestions for whatever genre they are attempting, and she coaches them to then take ownership of the product, both by refining their instructions to ChatGPT and by adding their own verbiage so that the product comes closer to resembling what it was that they had envisioned or what it is that they need. Hughes will do much of this in class, workshop-style, this Fall. Last Spring, student teams repeated this process for a variety of tasks, from creating slogans to creating a bio for the kind of "About Us" page that many project or business sites post. Hughes found particularly valuable

how the process of refining instructions to ChatGPT caused students to become clearer on their own desired outcomes, both in terms of messaging and editing for clarity and concision. Their focus moved away from writing to please the teacher and toward getting AI to write to please them. Placing students in the driver's seat this way led to higher quality submissions than Hughes had seen previously, largely, she thinks, because of the way it elevated agentic engagement (Hughes, personal communication, June 5, 2023).

Another way AI can be used is for assistance in scholarly paper revisions. Students can submit a draft, ask for revisions, and then compare and contrast the versions, reflecting on any value added and identifying mistakes introduced. Through this kind of exercise, which will require fact-checking and provision of supportive citations, students further their writing skills as well as their capacities for critically evaluating a text's assertions.

Brenda Baker (another Teaching College Anthropology respondent) will do something like this in her upper-division Ancient Egypt course at Arizona State University this coming academic year. Her writing assignment, which grew out of observations regarding how a Spring 2023 assignment was met, now begins with AI-generated text. She has students correct errors in the AI's writing and identify concrete supporting examples from within their course materials. In effect, this forces them to engage with the latter and think more deeply than they otherwise would about the assigned material.

Also as shared with the Facebook group, Lisa Valkenier at Merritt College provided students a ChatGPT-generated answer to their first assignment prompt last Spring after reading what had been submitted and sensing that much of it was written by AI. She spoke to students about quality issues in what was submitted and offered them, as extra credit, the opportunity to evaluate ChatGPT's answer quality on a three-point scale. She then explained, as part of the class discussion, why ChatGPT's response was only a D+ answer, thus warning students that AI use is not always successful. This activity could also be a prime opportunity to discuss biases in an AI database, such as any racism, sexism, classism, or any other bias that the AI might have introduced based on the texts it had been trained on (more will be said regarding those below).

C.W. Howell, who shared their experience at Elon University via Twitter (May 27, 2023), had students ask ChatGPT to write an entire essay. Then Howell had students grade the essay, including identifying factual errors. Students later explained how they detected these mistakes and what they learned about how AI works from the assignment. Reasons for chatbot errors are discussed below. The point here is that every student found mischaracterizations; most were shocked; some expressed worry about the devolution of our critical capacities.

Given that many instructors only realized AI's significance as Spring 2023 teaching began, most assignments using chatbot technology have not yet run one full course. In part for this reason, I provide a few assignment "ideas" generated through ChatGPT:

1. "AI Ethnographic Analysis: Assign students to interact with ChatGPT and analyze its responses as if it were a representative of a particular culture or society. Students can design a set of questions that explore cultural practices, beliefs, or rituals, and use ChatGPT's responses as a basis for analysis. They can critically evaluate the AI-generated responses in terms of accuracy, biases, and cultural context. This assignment prompts students to consider the role of AI in ethnographic research and the challenges of cross-cultural understanding.
2. "Debate with ChatGPT: Divide the class into groups and assign each group a [course-relevant] topic or theory to discuss. Each group can have a conversation or debate with ChatGPT, representing different perspectives or arguments related to the topic. Students can critically engage with ChatGPT's responses, challenge its assumptions, and analyze the limitations of AI in understanding complex [theoretical] concepts. This assignment encourages students to sharpen their critical thinking skills and explore the boundaries of AI in [anthropological] discourse.
3. "AI and Social Media Analysis: Ask students to use ChatGPT to analyze a specific social media platform or online community related to [an] issue of interest. Students can engage in a conversation with ChatGPT, posing questions about user behavior, trends, or social dynamics within the digital space. They can then analyze ChatGPT's responses to gain insights into the studied phenomenon. This assignment enables students to explore the potential applications of AI in studying contemporary social phenomena and critically reflect on the limitations of AI-generated analysis.
4. "AI and Cultural Change: Assign students to have a dialogue with ChatGPT about the impact of technological advancements, including AI, on cultural change and adaptation. Students can discuss how AI has influenced social practices, values, or communication patterns within a specific cultural context. They can analyze ChatGPT's responses to identify potential implications, challenges, or opportunities associated with the integration of AI into societies. This assignment encourages students to think critically about the societal implications of AI and its effects on cultural dynamics" (ChatGPT, personal communication, May 31, 2023).

The above examples are informative not only literally but also in how they illustrate the often pedestrian and repetitive nature of AI output. They feel uniform; they lack

"burstiness" and "perplexity." The latter refers to complexity of text, which is higher when humanly written. The former is a measure of sentence-to-sentence variation in terms of length, reading level, and so forth. Like "perplexity," "burstiness" is higher for humans than chatbots (Bowman 2023).

Garbage in…

The main corpus of texts chatbots have digested are unscholarly and inevitably somewhat dated (by February 2023, ChatGPT for instance only had access to texts dated 2021 or earlier), and even those incorporated in internet browsers, such as Bing Chat, do not have access to certain fire-walled academic material. Keeping prompts very contemporary is one way then to discourage reliance on AI. Accordingly, as reported in another reply to my June 1 Facebook query, Bethel Nagy at Arizona State University ties writing prompts to specific, recent works unlikely to be in an AI database.

In addition to having fact gaps, chatbots can regurgitate biased, prejudiced, stereotyped, or untrue assertions based on those contained in their training texts, and they can generate fabricated counterfacts. They do a great job at replicating "natural human language" in part because they attend to what we type in when we interact with them in a given session (the implications of which for user privacy definitely merit discussion). Given this "context awareness", and because AI programming has not been perfected – because in truth chatbots cannot think and are not actually intelligent – chatbots can "hallucinate" (make stuff up). This occurs in roughly 20 percent of their answers (Woodie 2023; see also May 2023).

Beyond inviting students to locate AI biases and "hallucinations" (as was suggested above), one might lean into counterfactual information when planning an assignment. One might invite students to purposefully feed an AI app questions that speak to popular prejudices, misconceptions, or controversies related to their classes (e.g., "Was Margaret Mead duped by interlocutors in Samoa?" or "Can we impute race and gender by looking at skeletal remains?"). Teachers can then help students evaluate chatbot answers while offering subject-matter training as well as ancillary training in media, scientific, and other literacies. Such skills are critical for today's college graduates.

These kinds of creative approaches have the added benefit of enriching student-teacher relations as they require us to talk to each other about content versus merely assigning summative marks. They serve to counter the emphasis on throughput promoted by many university administrations.

"Change or Die"

As early as the 1960s, technological change seemed rapid enough that those at the forefront of science and technology confessed, via a new industry publication, to feeling like "liquid in turbulent flow." "Change or die" emerged as a favored "axiom of

sociotechnical Darwinianism" – an imperative by which organizations that could not keep pace with contemporary innovations were doomed to obsolescence (Wisnioski 2012). Nearly seventy-five years later, the turbulent flow has not slowed; and like Alice and the Red Queen, even teachers must keep running just to stay in place.

That said, the emergence of ChatGPT and the like offers an opportunity to do more than that. Innovations that might be instantiated could in fact enable us to (re)grain ground in ensuring that the kind of education on offer is the kind we wish to provide.

The above ideas regarding how to incorporate AI are just the beginning; many more will emerge as the months roll by and ideas offered here may have a very limited shelf life given the present pace of chatbot evolution. Moreover, innovations in higher education's use of AI will not be confined to the classroom. My own university already uses a chatbot to help students with questions related to their college financial accounts. Other applications include career counselling, mental health services, and class schedule building.

Of course, in such applications, utmost care must be taken so that biases which may pervade chatbot training texts are not made manifest in suggestions that disadvantage certain groups of students, such as by routing them toward particular pathways on the basis of demographic information. Changes entailing AI that simply function to maintain the status quo are not really changes at all.

Along these same lines, innovation is nothing without implementation and curricular changes such as those suggested here will not come easily or for free. Energy must be put into fomenting the kinds of structural changes necessary to support the move from product to process recommended. Applying such approaches requires university administrators to agree to smaller class sizes. And it requires all of us – teachers, students, and sometimes parents as well – to revise our expectations of what real education entails and of the skills and dimensions of intellectual and self-development that it can offer.

Acknowledgments

Many of the ideas herein (current at the time of writing even if dated now, given GenAI's speedy advancement) were rehearsed first for my portion of a panel discussion regarding ChatGPT at San Diego State University (SDSU). Thanks are due to Donna Ross, San Diego State University (SDSU) Senate Information and Instructional Technology Committee Chair and to Sean Hauze and Michael Borgstrom, Directors, respectively, of SDSU's Instructional Technology Services (ITS) and Center for Teaching and Learning, for organizing the panel. I also am grateful to co-panelists Peter Blomgren, Frances Nedjat-Haiem, Amy Schmitz Weiss, and Ross. Musings shared during preparations for the event and audience questions and observations informed many of the present reflections. I would also like to acknowledge ITS Faculty Fellow Katie Hughes as well as James Frazee, SDSU's Deputy Chief Information Officer and Senior Associate Vice President for Learning

Environments, Technologies & User Services; and gratitude also goes out to the Teaching College Anthropology Facebook group, whose members kindly offered some of their own examples for use in this essay. Notwithstanding, I alone take responsibility for all content – including any errors or hallucinations.

References

Arum, Richard, and Josipa Roksa. 2011. *Academically Adrift: Limited learning on college campuses*. Chicago, IL: University of Chicago Press.

Blum, Susan D. 2010. *My Word! Plagiarism and College Culture*. Ithaca, NY: Cornell University Press.

Bowman, Emma. 2023. "A college student created an app that can tell whether AI wrote an essay." National Public Radio, January 9, 2023. https://www.npr.org/2023/01/09/1147549845/gptzero-ai-chatgpt-edward-tian-plagiarism.

Carroll, Lewis. 1871. *Through the Looking-Glass and What Alice Found There*. London: Macmillan and Co.

Caufield, Jack. 2023. "ChatGPT Citations | Formats & Examples." Scribber, May 15, 2023. https://www.scribbr.com/ai-tools/chatgpt-citations/.

Cazzolla Gatti, R. 2016. "A conceptual model of new hypothesis on the evolution of biodiversity." *Biologia* 71, 343–351. https://doi.org/10.1515/biolog-2016-0032.

Freire, Paulo. 1996[1970]. *Pedagogy of the Oppressed*. Translated by Myra Bergman Ramos. London: Penguin Books.

Giroux, Henry A. 2011. On Critical Pedagogy. New York: Continuum Books.

Hawkins, Jon. 2021. "Plato's Surprising Argument Against Writing." *The Apeiron Blog*, June 17, 2023. https://theapeiron.co.uk/platos-surprising-argument-against-writing-6d14eaff7cee.

Lancy, D.F., J. Bock, and S. Gaskins. 2012. *The Anthropology of Learning in Childhood*. Lanham, MD: AltaMira Press.

Lang, James M. 2016. *Small Teaching*. San Francisco: Jossey-Bass.

Lave, J., and R. McDermott. 2002. "Estranged Labor Learning." *Outlines - Critical Practice Studies* 4 (1): 19–48. https://doi.org/10.7146/ocps.v4i1.5143.

Mariola, Matt, and Ryan Ozar. 2021. "This Fall, Aim for Engagement." AAC&U Web Exclusive. American Association of Colleges & Universities, July 22, 2021. https://www.aacu.org/liberaleducation/articles/this-fall-aim-for-engagement.

May, Jonathan. 2023. "ChatGPT is great – you're just using it wrong." *The Conversation*, February 2, 2023. https://theconversation.com/chatgpt-is-great-youre-just-using-it-wrong-198848.

McMurtrie, Beth. 2022. "AI and the Future of Undergraduate Writing: Teaching experts are concerned, but not for the reasons you think." *The Chronicle of Higher Education*, December 13, 2022. https://www.chronicle.com/article/ai-and-the-future-of-undergraduate-writing.

Paul, Richard. 2004. "The State of Critical Thinking Today." The Foundation for Critical Thinking. https://www.criticalthinking.org/pages/the-state-of-critical-thinking-today/523.

Pearlman, Steven J. 2020. *America's Critical Thinking Crisis: The failure and promise of education*. Self published, The Critical Thinking Initiative / Steven Pearlman.

Wisnioski, Matthew. 2012. "'Change or Die!': The History of the Innovator's Aphorism." *The Atlantic*, December 12, 2012. https://www.theatlantic.com/technology/archive/2012/12/change-or-die-the-history-of-the-innovators-aphorism/266191/.

Woodie, Alex. 2023. "Hallucinations, Plagiarism, and ChatGPT." *Datanami*, January 17, 2023. https://www.datanami.com/2023/01/17/hallucinations-plagiarism-and-chatgpt/.