

Do Algorithms Dream of Electric Muses? Teaching Creative Writing in the Age of Generative AI

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Abstract

In Philip K. Dick's novel *Do Androids Dream of Electric Sheep?* androids are given a psychological test to confirm they are not human before killing them. The story's end suggests that humans will treat a seemingly harmless android as authentically as a human even when humans are aware the android is not human. Students use tools like ChatGPT, which function as autocomplete on steroids, to produce text using probabilistic relationships among words, and instructors can't always tell the difference between average student writing and Gen AI text. In creative writing classes, instructors might use *thinking for oneself* as a central learning priority and re-focus on the intertwined roles of the self, awareness, and skills. Applying Carol Dweck's research, creative writing can be an environment where students understand their abilities are not fixed and failure is part of developing their unique combination of abilities. Angela Duckworth's concept of situational modification and designing environments in which students can follow through is useful too. This paper examines factors that shape pedagogical approaches and offers example class activities designed to serve learning priorities and avoid use of GenAI that inhibits student decision-making, thinking, and autonomy.

Keywords: creative writing, pedagogy, teaching, generative AI

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Introduction

“Do Algorithms Dream of Electric Muses?” refers to science-fiction writer Philip K. Dick’s post-apocalyptic novel *Do Androids Dream of Electric Sheep?* and to its 1982 film adaptation, *Blade Runner*. Both feature androids, called *andy* (novel) or *replicant* (film), who are stronger and smarter than humans. In both versions, their lifespan is limited to four years; in the novel, this is a result of their inability to replace deteriorating cells, but in the film, it is a built-in security feature because they tend to develop self-awareness and emotions as they age. In both versions of the story, main character Rick Deckard is a hired gun charged with identifying and retiring—essentially killing—several escaped replicants. To identify a replicant, Deckard measures the individual’s pupil dilation while asking probing questions about memories and made-up scenarios that often involving harm to the self, family, or animals.

This notion that to be human is to be self-aware and affectionally bonded is the context for this preliminary exploration of teaching creative writing in the age of Generative AI presented in this paper. Researchers such as Angela Duckworth and Carol Dweck provide additional concepts—grit and growth mindset, respectively—with specific application to human learning that can be considered when making pedagogical and academic policy decisions.

What Can Gen AI Do? What Should We Use Gen AI to Do?

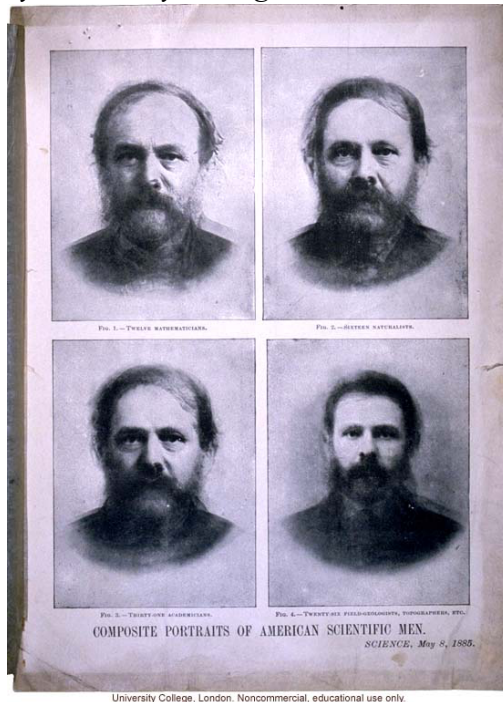
Dick’s story also offers another term to shape this exploration: *kipple*. Dicks writes, “Kipple is useless objects, like junk mail or match folders after you use the last match or gum wrappers or yesterday’s homeopape. When nobody’s around, kipple reproduces itself.” The concept of kipple begs the question not only of what Gen AI can do but also of what we want to end up with.

In their book *AI Snake Oil: What Artificial Intelligence Can Do, What It Can’t, and How to Tell the Difference*, authors Arvind Narayanan and Sayash Kapoor offer a graph in which the y-axis moves from what AI does well to what’s snake oil and the x-axis moves from what’s benign to what’s harmful. Autocomplete is in the lower left corner, indicating that it works well without creating much harm, whereas criminal risk detection and cheating detection are in the opposite corner, suggesting these tasks are ones that AI does poorly and that have great potential for harm.

Here, an analogy might be helpful: the composite photograph. The technique of composite photograph involves multiple exposures on the same print and was championed by Sir Francis Galton to create what might be considered an average of a dataset of images of faces. This layering of faces, one on top of the other, creates an image that represents all of the individual faces and is also none of them. This analogy offers an interesting reference point for the process and outputs of Gen AI. In the 19th century, the composite portrait was both a fun trick, as in the trend of composite girl and boy high school class photographs, and a dangerous practice Galton used to define physical features of criminality, mental disability, and brilliance. Likewise, the probabilistically generated essay that ChatGPT produces in response to a student’s prompt is recognizable as an essay drawn from all the tool’s—the product’s—training materials and replicating none of them. As simultaneously generically human and not human at all, both the composite portrait and the ChatGPT reply to an assignment substitute for originality and flatten variety.

Figure 1

“Composite Portraits of Scientific Men” by Francis Galton in *Science* (May 8, 1885), Held by University College, London



If the question is *can ChatGPT write a poem?* The answer is *yes*. In *Nature*'s November 2024 issue of *Scientific Reports*, Brian Porter and Edouard Machery shared the results of their study on whether non-expert readers could distinguish AI-generated poems from human-composed poems:

Our findings suggest that participants employed shared yet flawed heuristics to differentiate AI from human poetry: the simplicity of AI-generated poems may be easier for non-experts to understand, leading them to prefer AI-generated poetry and misinterpret the complexity of human poems as incoherence generated by AI.

Without a the equivalent of Deckard's human authenticity test, Gen AI poetry seems more human than human poetry. And yet, when participants are told that a poem is AI generated, their responses were more negative. A reader's personal preference seems to align with the judgment that a poem is human composed, which may also suggest that reading is imbued with assumptions about self and interaction with others.

While autocomplete seems a benign use, ChaptGPT, Claude, Gemini, and the like put autocomplete on steroids and increase the drawbacks of probabilistic flattening of voice—of individuality and variety—in written language. In addition, because they obscure the self of the student as well as the community of human authors on whose work their training draws, these products might be seen to spit out kibble—useless artifacts—in relation to the learning priorities and values of the creative writing class.

This important pedagogical question is not *can Gen AI produce adequate writing?*, nor even *should students use Gen AI?* Instead, a better question might be *in this learning task, how does using Gen AI inhibit or foster the student's own learning?*

Grit, Growth Mindset, Goals

While he doesn't discuss kibble in his book *The Shallows*, Nicholas Carr's argument that all the time we're spending on our devices is changing our brains might be extended to understand our reading habits as treating texts as kibble. "Calm, focused, undistracted, the linear mind is being pushed aside by a new kind of mind that wants and needs to take in and dole out information in short, disjointed, often overlapping bursts..." Carr writes. Short—quick—bursts certainly describes what ChatGPT does with prompts. Pointing to a wealth of research, Carr argues that linear reading increases comprehension, but web-browsing involves decision-making, which makes reading feel boring in comparison. Carr summarizes research that indicates students struggle to read books in their entirety and skip around even on any given page, perhaps, he posits, because reading is slower and seems boring compared with habit-forming scrolling and clicking.

While *The Shallows* is more than fifteen years old, the National Assessment of Educational Progress (NEAP) in 2022 concluded that US high school seniors have lowest rate of basic reading skills in three decades. NEAP assesses twenty areas of reading comprehension, including "Recognize main purpose of a persuasive essay," "Choose best description of the main purpose of argument text," and "Locate explicit information about a position in an argument text." One-third of seniors and eighth-graders read at below basic level, and these declines began well before the global pandemic and its online educational modes. Much discussion of Gen AI in higher education has focused on writing, but how we teach and value reading needs attention. For the discipline of creative writing, reading is prioritized not for content comprehension but for appreciation and understanding of how texts work in order to make decisions about one's own writing.

While it's a dated book in some ways, Thomas A. Angelo and K. Patricia Cross's *Classroom Assessment Techniques* includes a discussion of survey-based disciplinary learning goals, which might be considered disciplinary values as well. While creative writing is not addressed specifically, the top learning goals for English, the arts, and the humanities all share "Think for oneself," linking what pedagogy in these areas is designed to achieve and distinguishing the goals and pedagogy of these disciplines from disciplines like business and the sciences. The self of the student matters creative writing, and student use of Gen AI must be considered with this disciplinary value and learning goal in mind.

Though she doesn't discuss Gen AI in her book *Grit*, the ease of ChatGPT challenges what Angela Duckworth calls *grit*, or the ability to care so much about an "ultimate concern" that it motivates and gives meaning to what an individual does. One's own writing might be or become such an ultimate concern for students during a semester of creative writing, and pedagogical decisions might be made in that light. In fact, pedagogy might account for Duckworth's concept of situational modification by creating a classroom environment and assignments that increase grit, patience, intention, and perseverance. Reducing temptation for distraction—in terms of this paper, the temptation to use Gen AI—is part of situational modification.

Additionally, grit isn't something we should apply to everything, which suggests that ChatGPT might be best for tasks that already don't require grit instead of using it to avoid grit in pursuing creative writing. Importantly, grit alone is not sufficient to overcome all barriers, and creative writing recognizes that learning occurs as part of the process even when what's composed is flawed. Thoughtful revision in the creative writing course is an example, then, of grit. In any

discipline of practice, Gen AI risks inhibiting learning when it is used as a substitute for the seemingly requisite thousands of hours needed to develop in a field of practice.

Carol Dweck's *Mindset* offers another way to consider the importance of effort, practice, and experimentation. Growth mindset, in Dweck's view, is not dependent on preventing mistakes or treating them as harmful but, rather, recasts mistakes—risk, failure, perseverance—as a helpful part of the learning process, which aligns with much of creative writing pedagogy and myriad versions of workshopping pedagogy. Importantly, according to Dweck, students who understand that their intelligence and abilities can grow tend to achieve more, whereas students who understand their mindset as fixed tend to be less motivated, less accomplished, and more likely to take their toys and go home when faced with an obstacle. While *Mindset* doesn't speak directly to creative writing, growth mindset allows creative writing to define itself as a discipline focused not only on what students are able to produce, which Chat GPT might achieve equivalently well, but on development of the self and one's own mind.

Student Self & Classroom Community

Given disciplinary valuing of the self and goals of grit and growth mindset, class activities that not only require writing but also encourage self-awareness, engagement with others, and individual decision-making may be especially effective. In addition, ChatGPT may be especially ineffective in supporting this kind of learning even though it is efficient in producing text. Efficiency, after all, isn't a learning priority or disciplinary value for creative writing.

Exquisite Corpse

The exquisite corpse may be especially helpful during the first or second class meeting because it can also function as an ice breaker and low-stakes peer interaction. Used at the end of a course, it can take on a celebratory quality.

Activity

To form a collaborative poem, each student writes one line on a piece of paper, folds the paper to hide all but the most recently written line, and hands it to the next student. The process concludes when every student has contributed a line. The collaboration is read and discussed.

A variation can be done in which each student begins a poem so that the class generates as many poems as students, the equivalent of a collaborative chapbook. Another variation can extend the work by giving a copy of the collaborative poem to each student revise for the next class meeting. This leads to multiple reimagined versions from one result—an anti-composite.

Discussion

Class discussion can be used to emphasize that writers compose as individuals and are also a community, responsible to ourself and each other. The activity also asks students to become comfortable with the idea that not everything a student writes will be great—poems can be revised—and begin to grasp that decisions add up one after another to a whole. The goals of this exercise are skills and awareness of decision-making, regardless of whether the poem turns out to be any good. Talking with each other about the poems helps student figure out their strengths, weaknesses, tendencies, and assumptions and what makes their individual writing distinct from that of others. The following questions can facilitate discussion:

- Whose poem is this? What does collaboration mean for poets? What does it mean to author?
- How did you decide what to write at any given moment? How would you feel if the poem were revised and your line were cut? What's your stake as a writer in what you compose?
- How does the poem make sense even though the parts were added without much knowing much of the whole? Where does the poem not make sense? Why do you think that not-sense occurred? How might we revise to make sense?
- Where does the poem seem most original? Where does it seem most cliché? How does building one line from someone else introduce constraints akin to predictive text or encourage guessing akin to probability? Which lines seem to work against what's expected from the line before?

Chicago Manual of Style & Grammar

Grammar gets a bad rap with students when presented as a set of rules to follow. For the writing student, however, grammar is an important tool in one's disciplinary toolbox. In addition, grammar can be considered in relation to decision-making and, in its attention to minutia, grit. Awareness of grammar options and the effects of grammar decisions can also give students the sense that they are indeed learning how language works—the sense of growth mindset.

Activity

The instructor brings a physical copy of the *Chicago Manual of Style (CMOS)* to class. Or the online version can be used, which may be an opportunity to show students how to access library resources as well. Class time can be devoted to several grammar lessons from *CMOS* that demonstrate how grammar creates meaning and how different grammatical decisions or options shift or shade meaning.

Discussion

From this paper's perspective on learning, it's important to talk about grammar as power and decision-making for oneself, not as rules for students to follow. By consider options on the spot, students can see in real time that they are continually making decisions as they compose. Here are a few examples of grammar topics that work well for fruitful discussion.

- Restrictive & Nonrestrictive clauses and phrases: The presence or absence of commas changes the meaning.
- Adverb Position: Where the word *only*, for instance, is placed in a sentence changes the meaning.
- Stress: Students often have fun if listing all the words that they can think of for which changing the stressed syllable changes not only the meaning but the part of speech, e.g., *contract*, *progress*, *perfect*, *record*. This lesson can be treated as a game with teams.
- Contronyms: Students may ever have consciously considered a word might be able to mean itself and its opposite.
- Citation: The author comes first because the individual responsible for thinking is most important. APA puts the date next, suggesting recent is better in rapidly changing fields, but *CMOS* leaves it until the end because, in many practical ways, *what* is more important than *when*. Citation—acknowledgment of each other as authors—creates

community across writings about the same topic. In the age of Gen AI, this lesson invites conversation about who the author of ChatGPT-generated text really is.

Micro-Essay

Activity

A micro-essay is a short artist statement to accompany a creative piece, which might be an individual poem, story, or essay or a portfolio of several pieces. The length of a micro-essay can vary—one sentence or one page might be appropriate for a poem, whereas a thousand more substantial essay of a thousand words or even longer might be more appropriate for reflecting on a batch of poems. Keeping the length short—perhaps, uncomfortably short enough to require grit—is key to encouraging focus, prioritization, and decision-making and discouraging the illusion of comprehensiveness or jumbled free association.

The micro-essay reflects critically on a combination of the instigating experience or idea, the choices the writer made, the techniques the writer used, and/or influences or models. Importantly, what is written is connected to the self who writes it and to communities of writers and readers, including classmates and authors of relevant works the student has read.

If the micro-essay accompanies a draft for feedback, it might include areas the student wants to work on and questions for response. Such a micro-essay might be guided by the question *what are you attempting individually, and how can we help you achieve your ultimate concern or passion?* In this case, students learn from writing their own micro-essays and from reading the micro-essays of their peers.

If the micro-essay accompanies final portfolio work, it might reflect on the choices made in revision, the relationship of the individual piece to the other work in the portfolio, the techniques the writer prioritized developing, and connections to other course content.

Examples of micro-essays and artist statements can be distributed to students and discussed as models to be adapted rather than formulas to be followed. The poetry anthology *In the Tempered Dark*, edited by Lisa Fay Coutley, for instance, includes a micro-essay from each contributor.

Discussion

In a way, the activity itself can be considered the student's discussion of the student's own writing. Questions might be provided to guide the micro-essay. However, students should be discouraged from using questions as a checklist or preconceived formula and instead form a cohesive statement that conveys their learning values. The micro-essay should be written such that the student becomes more aware of the own priorities, values, and decisions by conveying those priorities, values, and decisions to the micro-essay's reader.

Conclusion

While the exploration presented here is preliminary and not intended to wholly dismiss the potential effectiveness or benefits of Gen AI as part of learning in other disciplines, the use of Gen AI by students in creative writing requires further scrutiny because of the high risk that such use undercuts learning as defined by interrelated reading and writing skills and decision-

making capability. Gen AI use also undercuts creative writing's disciplinary values of developing the self and one's writing voice and engaging with others by using one's writing voice. As higher education navigates appropriate and beneficial use of Gen AI by student's for specific learning tasks, the field of creative writing may adapt to accommodate and benefit from its use by students. The risk of Gen AI use is not inherent, and writers like Lillian-Yvonne Bertram are conscientiously using AI and algorithmic process to compose aesthetically compelling and culturally relevant work.

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Declaration of Generative AI and AI-Assisted Technologies in the Writing Process

The author declares that no AI or AI-assisted technologies have been used to generate, refine, or correct the content in the manuscript. The ideas, design, procedures, findings, analyses, and discussion are originally written and derived from careful and systematic conduct of the research.

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