Empowering Students Through Generative AI: Enacting Their Rights to Language Literacy and Critical Thinking

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Workshop Goals and Agenda

Workshop Goals

- Reflect on how critical thinking and language literacy can be developed through Generative AI
- Evaluate the implications and investigations of writing with Generative AI
- Review strategies for helping students engage authentically with Generative AI

Agenda

- Why students need critical thinking and language literacy in an AI world
- Stuart Selber's multiliteracies as a framework/lens
- Insights from the writing classroom
- Reflection and discussion

Why Students Need Critical Thinking and Language Literacy

Developing critical thinking skills is essential for college students because it allows them to approach complex problems, analyze different viewpoints, and make informed decisions. These skills enhance their ability to evaluate evidence, identify biases, and construct logical arguments. Critical thinking helps students succeed academically, especially when writing research papers, participating in discussions, or solving problems. It also prepares them for the real world by fostering independence and adaptability, which are important for navigating various career paths and contributing meaningfully to society. Moreover, critical thinking helps students better understand and engage with the information they encounter daily.*

*This explanation was generated by ChatGPT. What grade would you give it?

Implications for Writing with AI

CO-INTELLIGENCE

Living and Working with AI

ETHAN MOLLICK
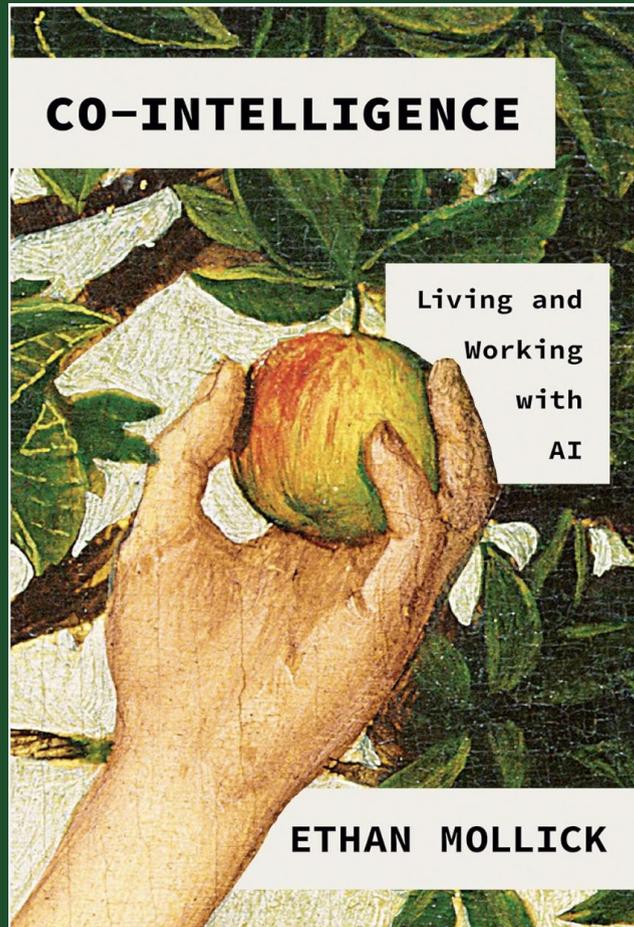
(2024)

One consequence is that we could **lose our creativity and originality**. When we use AI to generate our first drafts, we tend to anchor on the first idea that the machine produces, which influences our future work…

We **will not be able to explore different perspectives and alternatives**, which could lead to better solutions and insights.

Another consequence is that we could **reduce the quality and depth of our thinking and reasoning**. When we use AI to generate our first drafts, we don't have to think as hard or as deeply about what we write. We rely on the machine to do the hard work of analysis and synthesis, and we don't engage in critical and reflective thinking ourselves.

We also **miss the opportunity to learn from our mistakes and feedback** and the chance to develop our own style" (12).

Freewrite for 3 minutes

What's your response to this quote?

In "Make AI Part of the Assignment" (*The Chronicle of Higher Education*) Marc Watkins, assistant director of academic innovation at the University of Mississippi, writes:

"Learning requires friction, resistance, and even failure." Generative AI can remove the friction, allowing students to offload cognitive work to an algorithm. Given that reality, how can we "introduce a bit of intentional friction" into students' use of AI and help them demonstrate their learning when they use it?

Stuart Selber's Multiliteracies to Teach Critical Thinking and Language Literacy

1. **Functional Literacy:** a student needs to learn how to use a digital tool so that they can develop fluency in its use

1. **Critical Literacy:** a student needs to learn how to evaluate a digital tool so that they understand its strengths, weaknesses, impacts, and assumptions... some of which may not be entirety obvious. Developing skills around costs and benefits associated with any new technological development is important and arguably an indicator of an educated critical thinker who is able to evaluate based on criteria.

1. **Rhetorical Literacy:** a student needs to learn how to evaluate rhetorical situations, not only for discerning when and when not to use a digital tool but also how to alter output from a digital tool to more adequately address an audience and purpose. Rhetorical literacy requires nuanced understanding of audience.
   a. And what about the arts of writing? Maybe better writers, those who evoke something in and from us, will become increasingly obvious, needed ,and distinguishable.

AI Literacies Framework

AI Literacies
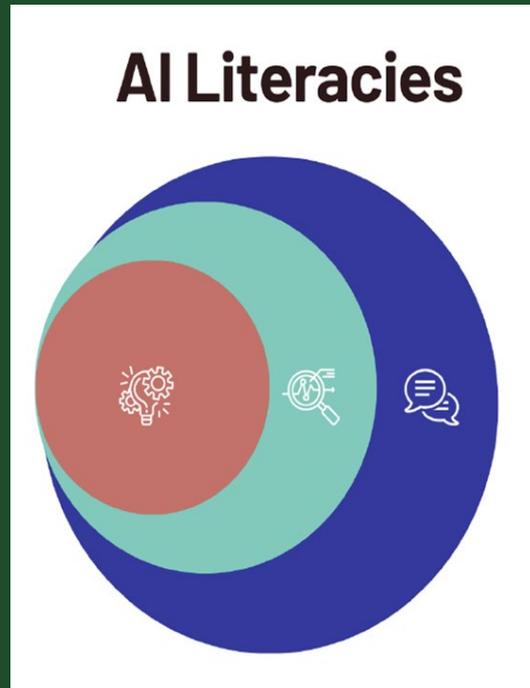
Functional
- Understand the core mechanisms of how AI works
- Identify the capabilities and limitations of various AI technologies
- Become familiar with standard AI interfaces and platforms.
- Interact with AI-driven tools and applications through effective prompting.

Critical
- Question and evaluate the credibility and trustworthiness of AI systems and applications.
- Recognize potential biases in AI interactions and outputs.
- Mitigate GIGO (Garbage In, Garbage Out).
- Consider the ethical implications of AI use.

Rhetorical
- Understand the role of rhetoric in communication.
- Synthesize prompt + output synergies to shape communication.
- Identify and analyze rhetorical patterns in AI-generated text.
- Analyze the style, tone, and voice of AI-generated content.
- Compare and contrast AI vs. human-generated content.

"Framework for the Future: Building AI Literacy in Higher Education White Paper"

How ChatGPT is Changing Education

"The writing robot is going to be there. We need to learn how to write with it. We need to make writing robots the subject of education and what might be productive about it. and what its limits are. AI gives us what is statistically the next piece of information. It doesn't tell us what texts on which the robot is trained It doesn't evaluate the information. The large corpus of texts being used is unknown."

–Stuart Selber (Feb 2023)
"How Is ChatGPT Changing Education"

The Value of Writing

- Writing promotes critical thinking.
- Writing promotes engagement with course content.
- Writing activates deeper thinking about concepts as opposed to rote memorization of details.
- Writing enhances comprehension for students with certain learning styles.
- Writing facilitates "logical, linear presentation of ideas."
- Writing permits "reflection upon and review of what has been written."
- "Written language not only makes ideas more widely and easily available, [but] it changes the development and shape of the ideas themselves."

Langer, J.A.; & Applebee, A.N. (1987). How Writing Shapes Thinking: A Study of Teaching and Learning. NCTE Research Report No. 22. Urbana, IL: National Council of Teachers of English.

Writing Assignment Best Practices

Principles for Postsecondary Teaching of Writing (Conference on College Composition and Communication Position Statement)

Guiding Principles. Sound writing instruction:

1. emphasizes the rhetorical nature of writing;
2. considers the needs of real audiences;
3. recognizes writing as a social act;
4. enables students to analyze and practice with a variety of genres;
5. recognizes writing processes as iterative and complex;
6. depends upon frequent, timely, and context-specific feedback from an experienced postsecondary instructor;
7. emphasizes relationships between writing and technologies; and
8. supports learning, engagement, and critical thinking in courses across the curriculum.

Enabling Conditions. Sound writing instruction:

1. provides students with the support necessary to achieve their goals;
2. extends from a knowledge of theories of writing (including, but not limited to, those theories developed in the field of composition and rhetoric);
3. is provided by instructors with reasonable and equitable working conditions; and
4. is assessed through a collaborative effort that focus on student learning within and beyond writing courses.

AI-Assisted Learning Template by Marc Watkins ("Make AI Part of the Assignment," *The Chronicle of Higher Education*, Nov. 2024)

To Student: Use the form below to highlight how you used human and machine skills in your learning.

Idea Generation and Critical Thinking

- I generated all of my ideas independently
- I used generative AI tools to enhance my brainstorming process
- I critically evaluated AI-suggested topics but developed my own concepts
- I collaborated with AI to refine and expand on initial concepts

Research and Information

- I conducted all research using traditional methods
- I utilized AI-powered search tools to find relevant information
- I used AI-summarized articles but drew my own conclusions
- I assessed AI-generated reviews of sources and expanded upon them

Content Development

- I wrote all content without AI assistance
- I used AI for proofreading and minor language improvements
- I expanded on AI-generated paragraphs with my own knowledge and creativity
- I guided AI content generation and substantially edited the output

Editing and Refinement

- I edited and refined my work independently
- I considered AI style suggestions and made informed choices
- I critically evaluated AI-suggested rewrites and selectively implemented them
- I collaborated with AI for comprehensive edits, but made sure to maintain my voice and intent

Planning and Organization

- I used generative AI to refine my own outline using AI-suggested improvements
- I started with an AI-generated outline and developed it with my own insights
- I collaborated with AI throughout the project, taking suggestions and improving them in ways that helped strengthen my ideas

AI-Assisted Learning Template Student Reflection on Learning (excerpt)

AI might have helped you learn in this process, or it may have hindered it. Take some time to answer some of the questions below that speak to your experience using AI. Reflection asks you, the writer, to talk about what was meaningful for you, so using a machine isn't helpful for you in this instance.

- What tricky situations arose when using AI? How did you chart a path through them?
- What something new using AI helped you discover about learning or tackling problems?
- Did using generative AI change your perspective? If so, tell us why.
- Did bouncing ideas off AI spark your creativity? Were there any new exciting directions it led you towards, or did you wind up preferring your own insights independent of using AI?
- Which of your skills got a real workout from using AI? How do you feel you've improved?
- How did you shape AI outputs to fit the needs of an assignment? Can you point to any moments in the process that really show how you used your human skills?
- How do you see AI fitting into your future learning adventures or work life? What are you excited to try next?
- What are you concerned about after using AI?

CO300: Writing Arguments (in the Age of AI)

"Let's Be Frank[enstein] About AI"
Experiments in Integrating Generative AI into the Writing Process

(15% of final course grade)

The primary goal of Unit 2 is to give students the time, space, and opportunity to experiment with integrating Generative AI into various stages of their writing process, to analyze the results of those experiments, and to reflect on the challenges and opportunities afforded by the technologies. Ultimately, we will be asking ourselves *What do we gain?* and *What do we lose?* when we integrate AI into our writing process?

The objective with this assignment, then, is for you to learn–individually and collaboratively–more about how you might use Generative AI as a catalyst for generating ideas, insights, and perspectives; as a collaborator; as a reviewer; and/or as an editor, while also maintaining control of the ideas you're creating and communicating and centering your own learning.

This assignment has essentially 3 parts, with explanations of each below:

1. Composing Collaboration with GenAI
2. One additional AI-Assisted Experiment of your choice from the list
3. End-of-Unit Reflection

1. Composing Collaboration

In this assignment, you will embark on an exploration of the symbiotic relationship between human creativity and AI assistance by engaging with ChatGPT (or an AI large language model of your choosing), to (potentially) enhance the content and depth of a writing product of your choosing. Like Frankenstein the scientist, you will create an end product that pulls from content, ideas, and perhaps perspectives generated by yourself *and* AI. Embrace the experiment and learn from it!

CO302: *Writing in Digital Environments* AI Policy (written collaboratively by students)

Writing in Digital Environments as a course provides a unique opportunity to experiment with and learn from the role AI can play in the writing process. Therefore, students are encouraged to use AI (ChatGPT, etc.) as a writing tool in responsible and ethical ways, including those noted by students in this class after experimenting with ChatGPT during the "Let's Be Frank[enstein] About AI" assignment: generating/gathering ideas, brainstorming, outlining, revising, and editing. (The responsible roles students see ChatGPT serving in the writing process were described as "an assistive writing resource," "a helping hand," "a guide," "a prompting tool," "an advanced editing tool," and "a building block.")

Students agree that AI such as ChatGPT should not be used to do the work for students, should not be used to generate entire assignments, should not be used to create content or ideas that students pass off as their own, and should not be allowed to impede or stifle students' learning, creativity, or independent thinking.

Students agree that if they use AI in their writing process they should acknowledge how and why they used AI; they should verify any facts, sources, or claims AI generates; and they should know they are responsible for any inaccurate, biased, or offensive information they used that was generated by AI.

Student Responses about AI and Education

June 28, 2023

Suspicion, Cheating and Bans: A.I. Hits America's Schools

Teachers and students on how ChatGPT is changing education.

"It just brings up a point of **what does education even mean to us anymore**, and how can we make it so school isn't just focused on how good you are at **playing school** and doing what you need to do to graduate **instead of learning** for yourself."

–CSU Student in CO300

"I never really thought about school like this. While I don't use AI to get myself ahead and complete my degree, I thought it was interesting how they viewed their journey of college. Since I will be graduating in May, this made me reflect on my time here at CSU and how much I have taken it for granted. **Instead of treating school and my classes as a voyage or journey to get my degree, I have kinda just been mindlessly doing the work to check classes off.** And if I was able to do this without AI, it makes me wonder what students who use AI to complete their assignment are really gaining from being here."

–CSU Student in CO300

"Amplify Your Critical Thinking With Generative AI" (LinkedIn Learning Tutorial)

Outlines some of <u>Generative AI's primary biases</u> and gives strategies for pushing back on those biases through your prompting.
- Example: Ask how cultural perceptions might be affecting its recommendations.
- Example: Ask if its statistics include perspectives from various demographics such as _____.

Outlines some of the primary <u>human biases</u> that affect how we engage with what GenAI produces and gives strategies for using GenAI to recognize and push beyond those biases.
- Example: Share with it your perspective on a particularly issue. Ask GenAI to "simulate perspectives of critics, supporters, or experts." Ask it to "consider a diversity of cultures, beliefs, nationalities, races, genders, ages, etc." in the perspectives it simulates. Ask it to consider human and non-human perspectives.
- Example: Share with it a claim you are making and why. Then ask it to "please indicate assumptions" in that claim and provide you with specific questions that you can use to probe those assumptions.

Benefit of Teaching Students to Critically Engage with AI

"Giving students the opportunity to think critically and openly about their AI usage lays bare some uncomfortable truths for both students and teachers. **It can lead both parties to question their assumptions and be surprised by what they find.** Faculty members may discover that students actually learned something using AI; conversely, students might realize that their use of these tools meant they didn't learn much of anything at all. At the very least, asking students to disclose how they used AI on an assignment means you, as their instructor, will spend less time staring into tea leaves trying to discern if they did."

–Marc Watkins

How might you "introduce a bit of intentional friction" into students' use of AI with the goal of helping them develop critical thinking and language literacy skills?

1. Individual free write [3 minutes]
2. Small group discussions [7 minutes]
3. Large group share-outs [5 minutes]

Questions to consider as we create assignments to help students enact their rights to language literacy and critical thinking:

- Are we talking to students about AI use or just blindly assigning with or without AI?
- What are our assumptions about college learning and what are students' assumptions?
- What do students need to maintain interest and motivation in their college classes?
- Might we ask students a question about what they worry about for their younger siblings as a way of getting at the deeper problems with AI (and other technologies) for them as well?
- Might we deepen learning through writing, including reflections on learning?
- WEC--getting depts to ask students questions at the beginning would lead to more meaningful conversations and learning.

Wrap Up

- What's your biggest takeaway from today's workshop?
- What questions do you have?

Feel free to reach out to us to continue the conversation: kelly.bradbury@colostate.edu, genesea.carter@colostate.edu, and sue.doe@colostate.edu.

Thank you

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