



Cydney Alexis and  
Theresa Merrick Cassidy

# Teaching with AI:

## **A Plan to Adapt & Innovate Your Teaching this Year**

Cydney Alexis and Theresa Merrick Cassidy  
Kansas State University

# Two quotes to begin

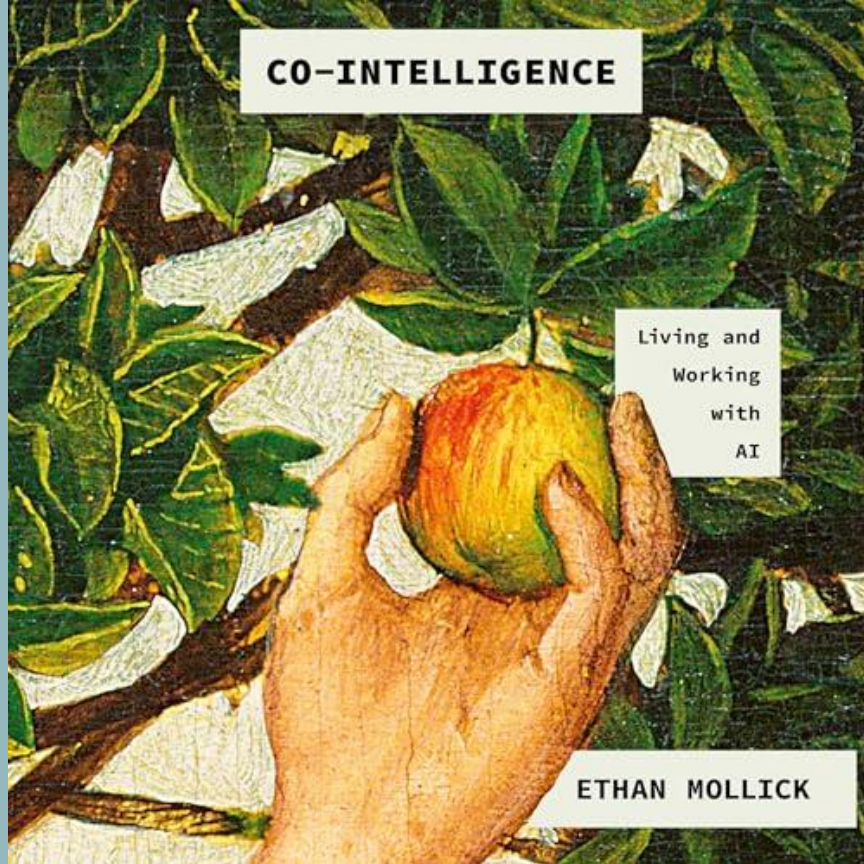
"When a hot new technology like GPT4 comes out, it is important not to use it simply because it is cool; we need to think about what problems with technology might be able to help solve"

Salman Khan, Khan Academy,  
*Brave New Words*

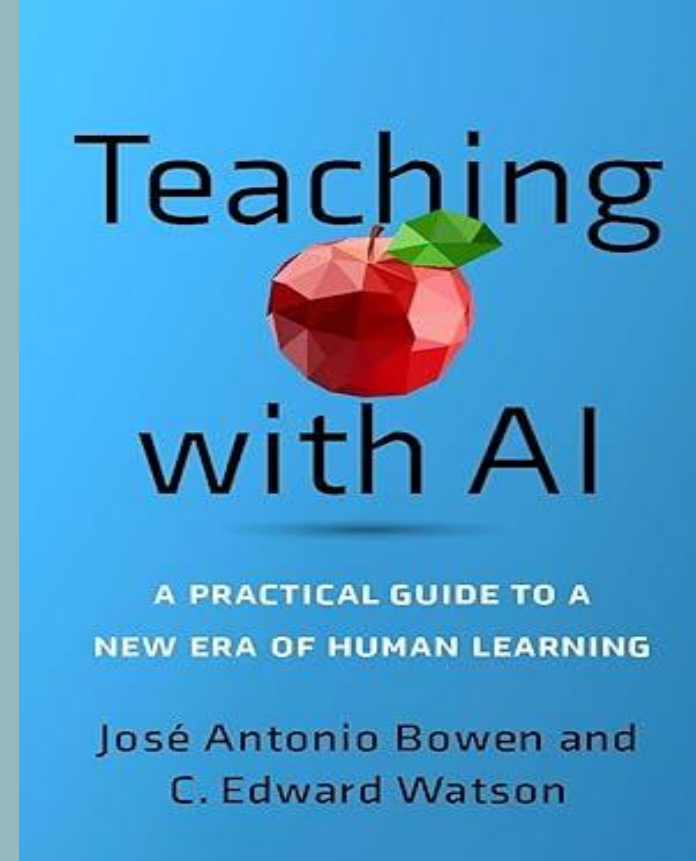


# Two books to begin or enhance your AI journey

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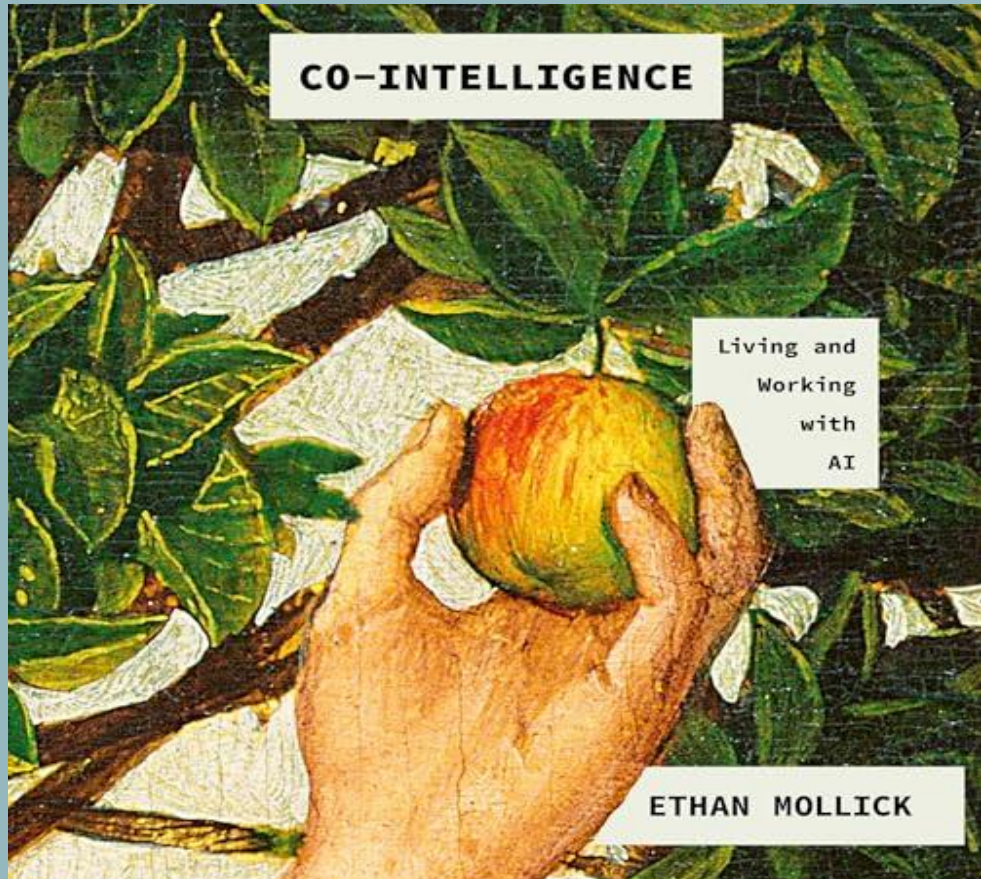
Co-Intelligence by Ethan Mollick: [PenguinRandomHouse.com](https://www.penguinrandomhouse.com)



Teaching with AI | [Hopkins Press \(jhu.edu\)](https://www.hopkinspress.com)


# Mollick's Substack: One Useful Thing

Cydney Alexis and  
Theresa Merrick Cassidy



**One Useful Thing**

[Home](#) [Archive](#) [About](#)




## Change blindness

21 months later  
AUG 11 · ETHAN MOLLICK

Latest Top Discussions


### On speaking to AI

Voice changes a lot of things  
AUG 1 · ETHAN MOLLICK



### Confronting Impossible Futures

We shouldn't be certain about what is next, but we should plan for it  
JUL 22 · ETHAN MOLLICK



### Gradually, then Suddenly: Upon the Threshold

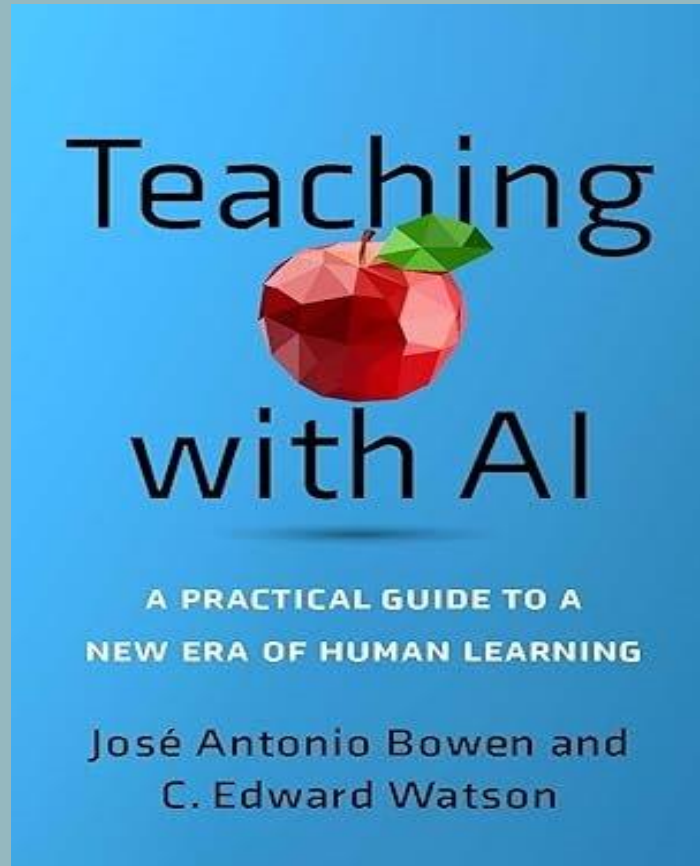
Small improvements can lead to big changes

**One Useful Thing**  
Trying to understand the implications of AI for work, education, and life. By Prof. Ethan Mollick

**Recommendations** [VIEW ALL 8](#)

- ByteByteGo Newsletter**  
Alex Xu
- Ground Truths**  
Eric Topol
- Strange Loop Canon**



Introduction 1

**PART I THINKING WITH AI**

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for Human Effort 184

# Two industry examples that show how AI (including generative AI) is already being used to innovate

["AI-supported mammogram screening increases breast cancer detection by 20%, study finds," CNN, reporting on researched published in \*The Lancet\*](#)

Aug. 1, 2023

["Before and after: See how ChatGPT helped local doctors make medical forms easier to understand," \*Boston Globe\*](#)

Aug. 23, 2023

# Two research snapshots show why integrating AI might be important

Ethan Mollick, "[Superhuman?](#)" *One Useful Thing*  
May 12, 2024

- If you debate with an AI, [they are 87% more likely to persuade you](#) to their assigned viewpoint than if you debate with an average human
- GPT-4 helps people reappraise a difficult emotional situation [better than 85% of humans](#), beating human advice-givers on the effectiveness, novelty, and empathy of their reappraisal.
- GPT-4 [generates startup ideas that outside judges find to be better](#) than those of trained business school students.

"[Majority of Grads Wish They'd Been Taught AI in College](#)," *Inside Higher Ed*  
July 23, 2024

- 70% of graduates think generative AI should be incorporated into courses.
- 55% said their degree programs did not prepare them to use AI tools.
- Employers report a skills gap in the ability of workers to use genAI. Half of 1,000 employers polled expect hires to lack genAI skills.
- 62% believe both prospective and current hires should have foundational knowledge of genAI tools, while 58% said they are more likely to interview and hire candidates with AI experience.

# Two important conversations to have with students:

## #1: Critical AI Literacy

- **Best practice:** Canvas module (or part of one) on AI literacy--the teaching excellence center at Rush University has created a Canvas Commons (open access) module \*
- **AI risks and harms:** Empower students to make ethical choices and understand environmental impacts, bias, and copyright
- **Privacy:** What content should students enter into the tool? (syllabi, writing assignment prompts, PDFs, etc.)
- **Katie Conrad, "Blueprint for an AI Bill of Rights for Education"**
- **Elon University/AAC&U AI/U: "A Student Guide to Navigating College in the AI Era"**

### Quick environmental facts:

- ChatGPT consumes over half a million kilowatts of electricity each day, an amount staggering enough to service about two hundred million requests
- ChatGPT's daily power usage is nearly equal to 180,000 U.S. households, each using about twenty-nine kilowatts.
- A single ChatGPT conversation uses about fifty centilitres of water, equivalent to one plastic bottle--[Forbes](#)
- The carbon footprint of a single GenAI model used in corporate business generates almost five times the carbon emissions of an average US car over its entire lifetime--[Forbes](#)
- On the other hand . . .
- The use of artificial intelligence (AI) can contribute to the fight against climate change.
  - Existing AI systems include tools that predict weather, track icebergs and identify pollution.
  - AI can also be used to improve agriculture and reduce its environmental impact--[World Economic Forum](#)

\*--Please write to Cydney Alexis, [calexis@ksu.edu](mailto:calexis@ksu.edu) for information on accessing this module



# Two important conversations to have with students:

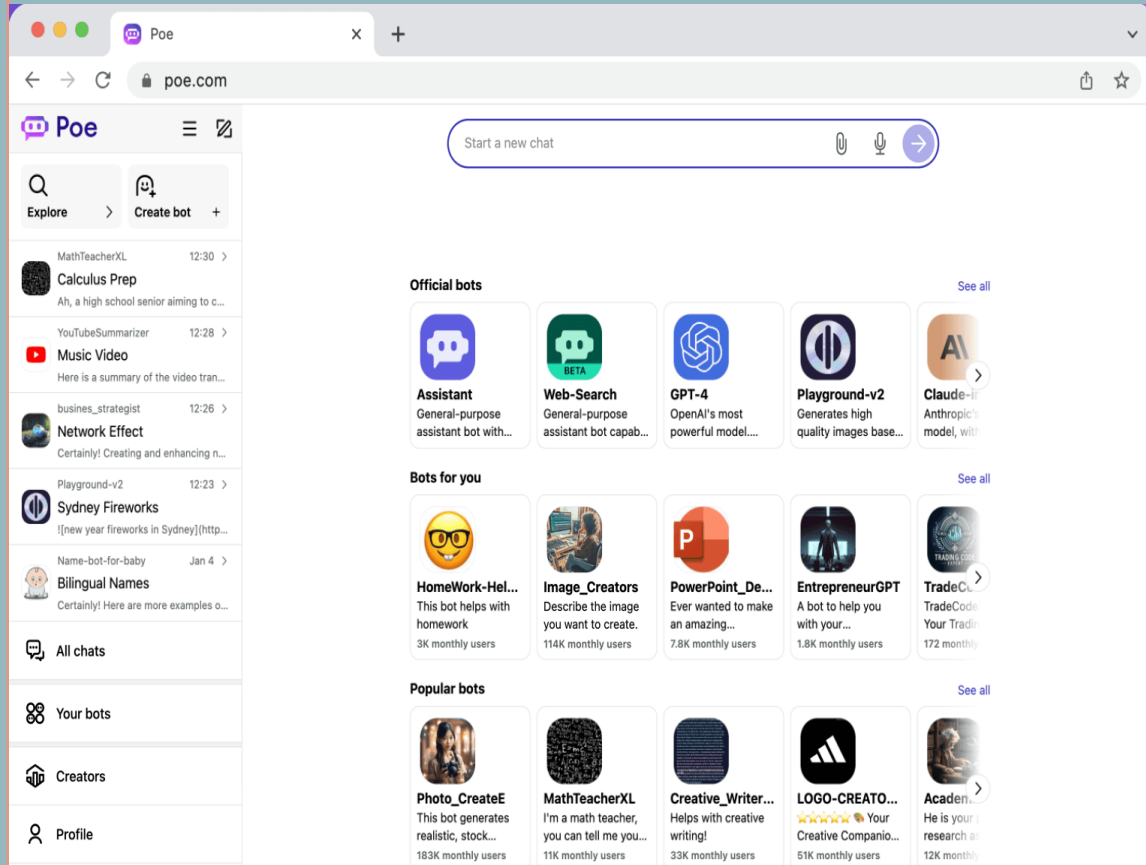
## #2: Limitations that could impact coursework

### Discussing limitations

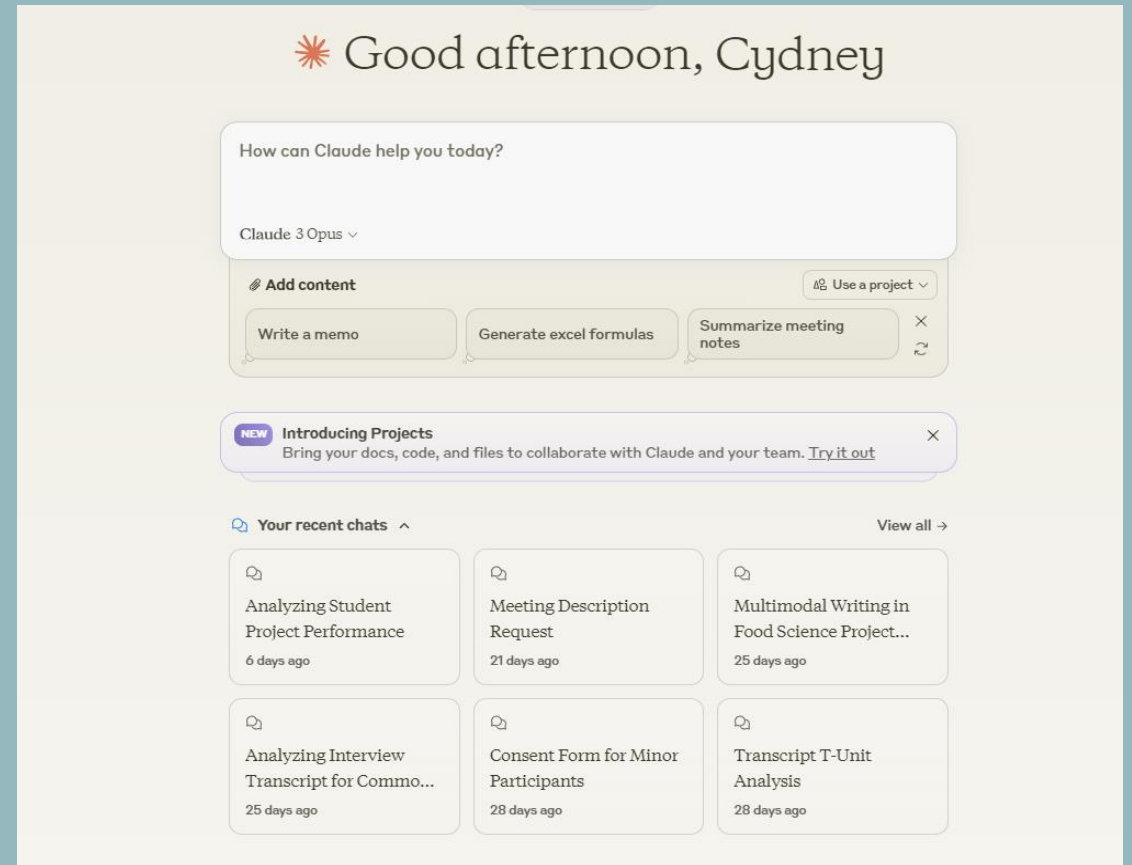
- Hallucinations
- Inaccurate citations
- Limitations in corpus source material (bias/language discrimination/homogeneity of source material)
- Does the tool have a pro version? How accessible is it to students?
- Do you want to provide an "opt-out?"

# Two LLMs besides ChatGPT

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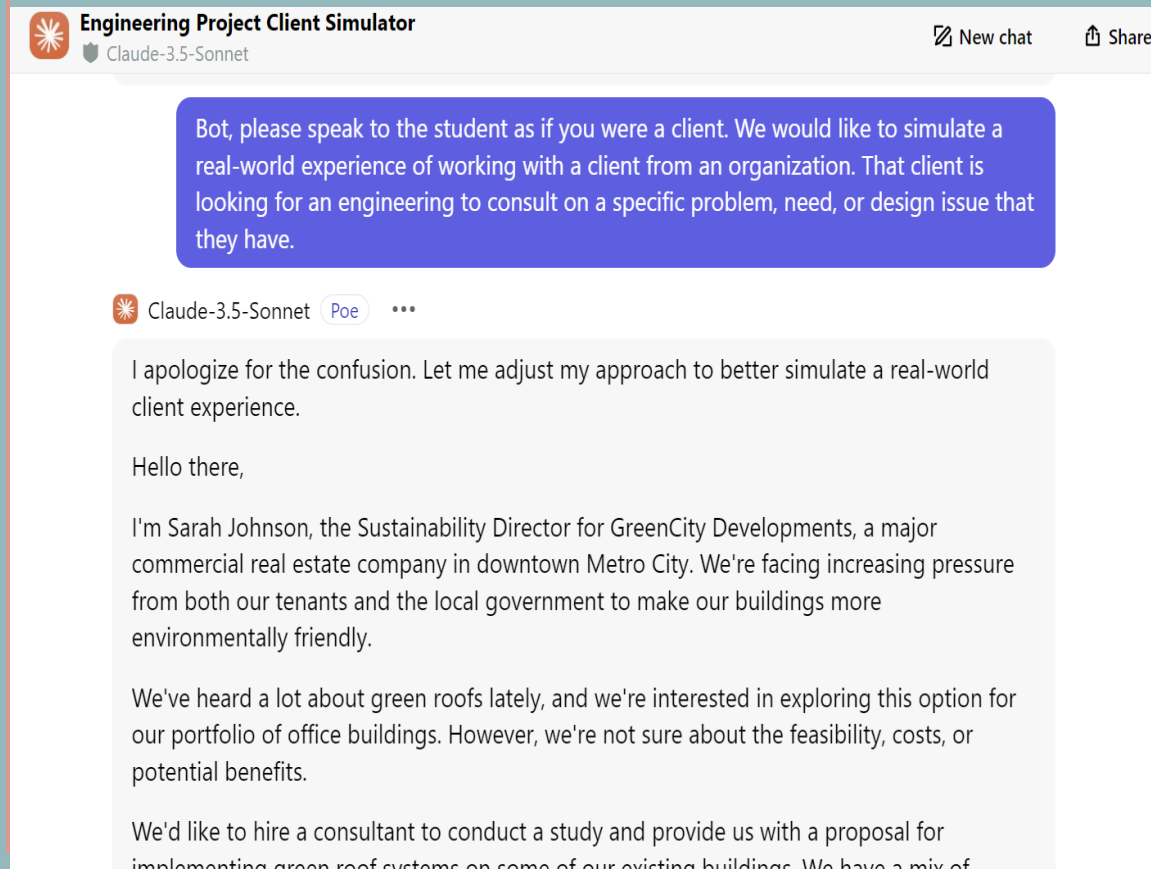


Poe



Claude

# Two ways we have utilized AI as writers and teachers



The screenshot shows a chat window titled "Engineering Project Client Simulator" with the model name "Claude-3.5-Sonnet". The user's prompt is: "Bot, please speak to the student as if you were a client. We would like to simulate a real-world experience of working with a client from an organization. That client is looking for an engineering to consult on a specific problem, need, or design issue that they have." The AI's response is: "I apologize for the confusion. Let me adjust my approach to better simulate a real-world client experience. Hello there, I'm Sarah Johnson, the Sustainability Director for GreenCity Developments, a major commercial real estate company in downtown Metro City. We're facing increasing pressure from both our tenants and the local government to make our buildings more environmentally friendly. We've heard a lot about green roofs lately, and we're interested in exploring this option for our portfolio of office buildings. However, we're not sure about the feasibility, costs, or potential benefits. We'd like to hire a consultant to conduct a study and provide us with a proposal for implementing green roof systems on some of our existing buildings. We have a mix of

In an earlier part of this conversation, you mentioned that I could ask food science graduate students to write a technical report on a food processing method, food safety issue, or quality control procedure, emphasizing clear and concise communication of complex information. Here are three possible technical report writing assignment ideas for this same body of students:

- 1. Emerging Food Preservation Technologies:** Have students write a technical report on a novel food preservation method, such as high-pressure processing, pulsed electric field treatment, or cold plasma technology. The report should cover the principles of the technology, its applications in food preservation, advantages and limitations, and potential impacts on food quality and safety.
- 2. HACCP Implementation in a Specific Food Production Line:** Ask students to develop a technical report detailing the implementation of a Hazard Analysis and Critical Control Points (HACCP) system for a specific food product (e.g., canned vegetables, dairy products, or ready-to-eat meals). The report should include hazard analysis, identification of critical control points, establishing critical limits, and monitoring procedures.
- 3. Novel Food Packaging Materials and Their Impact on Shelf Life:** Have students write a technical report on innovative food packaging materials, such as active packaging, intelligent packaging, or biodegradable materials. The report should discuss the

# Two approaches to AI course policies

#1: Perkins, Furze, et al.: "[The AI in Assessments Scale](#)"

#2: Build a policy with your students

|   |   |   |
|---|---|---|
| 1 | NO AI                                       | The assessment is completed entirely without AI assistance. This level ensures that students rely solely on their knowledge, understanding, and skills.<br><b>AI must not be used at any point during the assessment.</b>   |
| 2 | AI-ASSISTED IDEA GENERATION AND STRUCTURING | AI can be used in the assessment for brainstorming, creating structures, and generating ideas for improving work.<br><b>No AI content is allowed in the final submission.</b>   |
| 3 | AI-ASSISTED EDITING                         | AI can be used to make improvements to the clarity or quality of student created work to improve the final output, but no new content can be created using AI.<br><b>AI can be used, but your original work with no AI content must be provided in an appendix.</b>   |
| 4 | AI TASK COMPLETION, HUMAN EVALUATION        | AI is used to complete certain elements of the task, with students providing discussion or commentary on the AI-generated content. This level requires critical engagement with AI generated content and evaluating its output.<br><b>You will use AI to complete specified tasks in your assessment. Any AI created content must be cited.</b> |
| 5 | FULL AI                                     | AI should be used as a "co-pilot" in order to meet the requirements of the assessment, allowing for a collaborative approach with AI and enhancing creativity.<br><b>You may use AI throughout your assessment to support your own work and do not have to specify which content is AI generated.</b>   |

Table 1 The AI Assessment Scale

- More possible with in-person courses
- Build a policy in general and/or per assignment
- Ask students which tools they use—and why
- Lead (or ask students to lead) in-class sandboxes

# Two reasons AI detectors are problematic

## Accuracy

- Turnitin it says its AI detection scores with 98% confidence but appears to have a margin of error of plus or minus 15 percentage points. A
  - A score of 50 could actually be 35 to 65.  
[KU Center for Teaching Excellence](#)
- [Research indicates](#) detectors have 39.5% accuracy rates. When confronted with machine-generated content that has been modified using techniques designed to evade detection by these tools (n=805). The already low accuracy rates drop to 17.4%
- Difficulty distinguishing AI tools from AI-adjacent tools (e.g. Grammarly)

## Equity

- While detectors were “near-perfect” in evaluating essays written by U.S.-born 8th graders, they classified more than half of TOEFL essays (61.22%) written by ELL students as AI-generated—[Stanford University HAI](#)
- Economically advantaged students can afford genAI technology that helps to evade detection tools

# Two approaches to discussing academic honesty with students

## Documenting AI Use?

We can ask students to **document** their use of AI tool use in the writing process—while acknowledging these tools are so ubiquitous they might resist/be unable

This is different from being asked, as writers, to cite AI tools—which have been programmed to take zero care with citing us—we have to adapt to the idea that people are building new identities as writers, using AI tools

### ACADEMIC HONESTY & INTEGRITY WITH AI

**STUDENT created**

- I wrote all the assignment content without consulting AI or the internet.
- I consulted AI/internet for ideas, then wrote and submitted the assignment.
- I generated a draft and AI offered feedback for improvement.
- I prompted AI for multiple responses, used the best parts, edited, and submitted.
- AI created a response. I read, edited, adjusted, and submitted.

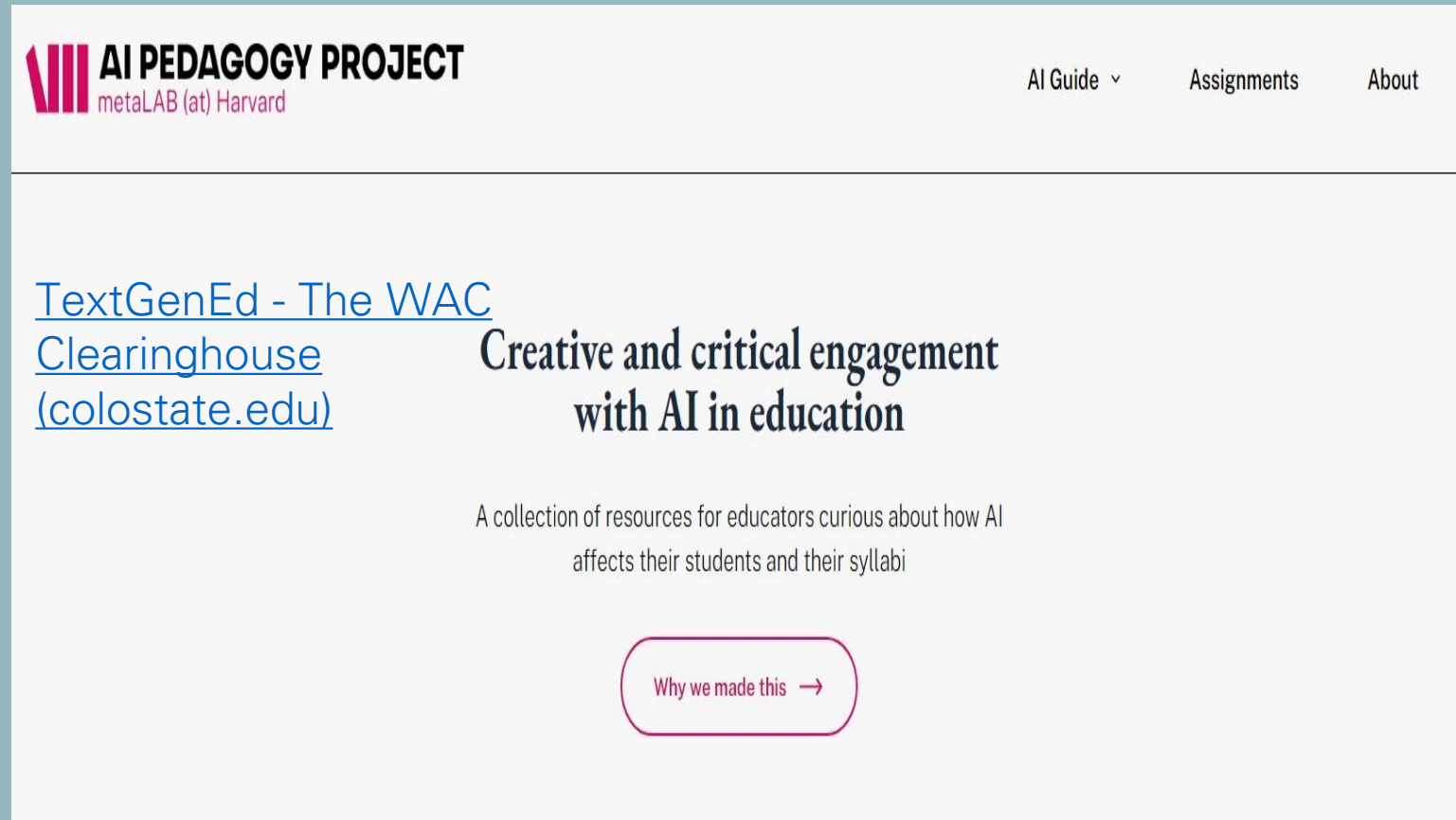
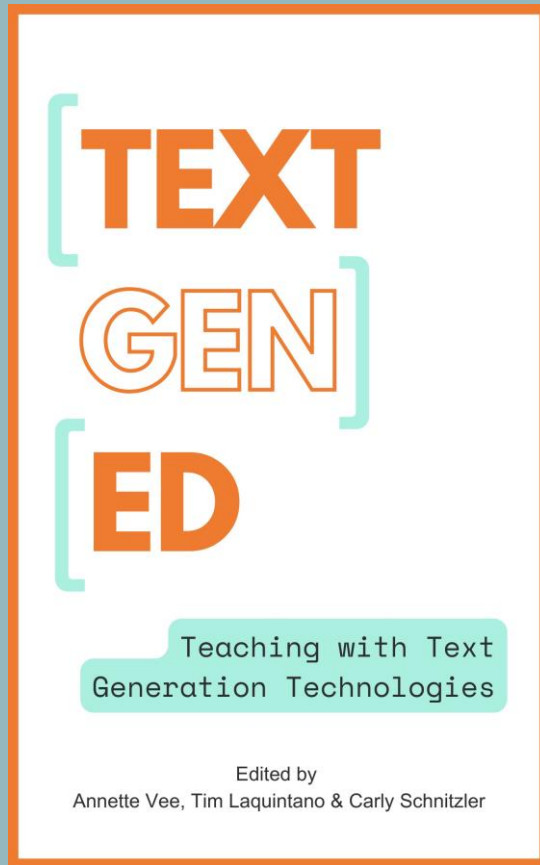
**BOT created**

- I plugged a prompt into AI, copied the response and submitted it.

Why

# Two open-source resources with sample assignments: [Text Gen Ed](#) and [Harvard AI Pedagogy Project](#)

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Theresa Merrick Cassidy





## Immersive History

Leverage text-and image-based AI tools to craft an immersive educational journey through significant historical events, cultivating meaningful engagement with and nuanced comprehension of specific time periods.

By [Tim Mousel](#)



[Harvard AI Pedagogy Project](#)



## AI Image Remixing

Work with an AI image mixer tool to explore the possibilities and limits of creative collaboration.

By [Mohsin Yousufi](#)



[Harvard AI Pedagogy Project](#)



# Translating a Policy Document into Plain English

Timothy Laquintano  
Lafayette College

*This assignment asks undergraduate students to translate a complex policy document into plain English and then compare their output to the output of a large language model asked to do the same task. Students critically compare the semantic choices and sacrifices they made during the translation with the meaning lost during the machine translation, which attunes them to the risks and benefits of LLM output. It can be adapted to most disciplines and course levels.*

## Learning Goals:

- Students will learn to translate complex or technical information contained in policy documents to a reading level accessible to the majority of the American population.
- By comparing their output to the output of a LLM given the same task, students have the opportunity to understand the benefits and risks of using AI to summarize and translate tasks. Although the output of the LLM tends to be good, students will also occasionally notice the LLM drops crucial bits of information.

*Original Assignment Context:* Mid-level undergraduate professional writing course

[Text Gen Ed](#)

# Generate and Enact a Writing Style Examining Writing Style Though Generative AI

John J Silvestro  
Slippery Rock University

*This assignment asks students to develop a more critical and actionable understanding of the concept of writing style through the use of AI text generators. Writing style is a difficult concept to teach given the challenges of concretely presenting it to students. AI text generators offer tools for quickly generating multiple versions of sentences and paragraphs. Students can use multiple versions of a sentence to closely examine individual aspects of their own and others' writing styles. This assignment enables students to develop and define writing style more concretely.*

## Learning Goals:

- Develop and enact a critical definition of writing style
- Understand when to use AI text generators in the writing process
- Analyze others' writing, including that created by AI text generators, through defining writing style

## Materials Needed:

- Students having reached the first draft phase of a writing project
- Essay "The Evolution of Imitation: Building Your Style" by Craig A Meyer (available in *Writing Spaces* textbook collection)
- Example paragraphs in a distinct writing style, such as Didion, Hemmingway, Morrison
- Access to an AI text generator, such as ChatGPT, Bing, or Sudowrite

*Original Assignment Context:* middle of academic research essay project in a first-year writing course

*Timeframe:* ~1 week

[Text Gen Ed](#)



## AI Sandwich

Use AI tools for the beginning and end of an assignment, with the middle being grounded in human knowledge and expertise.

By **Jon Ippolito**

- AI Literacy
- Education
- History
- Journalism
- Writing
- ...



## Simulated Telephone Triage Calls

Rehearse telephone triage calls with an AI chatbot to practice clinical reasoning and decision-making skills and effectively address patient needs.

By [Stacey Hobbick](#)

AI Literacy

Education

Ethics

Medicine

Text Generation

...

[Harvard AI Pedagogy Project](#)



## Rock, Paper, Scissors, Code!

Introduce students to the fundamentals of Python programming through a text-based rock, paper, scissors game, using ChatGPT as a code evaluation tool to find the edge cases of their program.

By [Sebastian Rodriguez](#)

AI Literacy

Education

Computer Science

Logic

Code Generation

...

[Harvard AI Pedagogy Project](#)

# Two resources for prompt engineering

## Prompt Library

Prompts on this page (but no other content on the site) are licensed under Creative Commons License [Attribution 4.0 International](#). This license requires that reusers give credit to the creators (Ethan Mollick and Lilach Mollick). It allows reusers to distribute, remix, adapt, and build upon the material in any medium or format, even for commercial purposes. Use prompts at your own risk, outputs may not be correct.

### Instructor Aids

For use in classrooms to help instructors with preparation and teaching.

### Student Exercises

Prompts that can be used as part of student exercises.

### Other Prompts

Prompts for other uses besides classrooms

## [More Useful Things](#)

### AI as MENTOR, RESEARCH ASSISTANT and FEEDBACK

- Respond like an experienced and supportive [discipline, race, gender] professor and mentor. Read my CV, LinkedIn, evals and X. Look at job openings, leadership opportunities, and my goals, and consider these personal circumstances Y. Lead me through a dialogue that will help me decide what to do in this situation Z. Ask me one question at a time and respond with further questions to help me decide what I should do.
- Act like a friendly but experienced scientist. Read my research plan and lead me through a dialogue that will challenge my perspectives. Ask me one question at a time to help me anticipate problems and refine my plan.
- Act as my personal tutor and teach me about the uploaded content. Start by asking me questions that help you gauge my level of understanding. Ask me question at a time and wait for a response before moving one. Once you have calibrated my current level of knowledge provide explanations, examples, and analogies about the ideas and content that are tailored specifically to me, but do not provide answers. Ask me to explain my thinking and use my own words. Help me understand by asking leading questions. Be encouraging but keep going until I have mastered the content.

## [Teaching Naked](#)

# Two ways AI can support inclusive teaching

To assist with reading and studying

- Tools such as Speechify that read content in a selected voice
- Tools used by students with ADHD to help them summarize/learn content
- Tools for dyslexia: website summarization and decluttering tools
- Tools for hearing impairment: AI-powered captioning and transcription tools (already in GPT/Claude and apps such as TurboScribe) that can be used during conferences and presentations

To assist with language barriers

- Tools that simplify academic jargon
- Tools that help with long-term grammar learning
- Tools that paraphrase

# Two podcast episodes about creatives using AI

Cydney Alexis and  
Theresa Merrick Cassidy



51 min



## 'Artificial Intelligence?' No, Collective Intelligence.

[The Ezra Klein Show](#)

Society & Culture

[Listen on Apple Podcasts](#)



A.I.-generated art has flooded the internet, and a lot of it is derivative, even boring or offensive. But what could it look like for artists to collaborate with A.I. systems in making art that is actually generative, challenging, transcendent?

Holly Herndon offered one answer with her 2019 album "PROTO." Along with Mathew Dryhurst and the programmer Jules LaPlace, she built an A.I. called "Spawn" trained on human voices that adds an uncanny yet oddly personal layer to the music. Beyond her music and visual art, Herndon is trying to solve a problem that many creative people are encountering as A.I. becomes more prominent: How do you encourage experimentation without stealing others' work to train A.I. models? Along with Dryhurst, Jordan Meyer and Patrick Hoepner, she co-founded Spawning, a company figuring out how to allow artists — and all of us creating content on the internet — to "consent" to our work being used as training data.

In this conversation, we discuss how Herndon collaborated with a human chorus and her "A.I. baby," Spawn, on "PROTO"; how A.I. voice imitators grew out of electronic music and other musical genres; why Herndon prefers the term "collective intelligence" to "artificial intelligence"; why an "opt-in" model could help us retain more control of our work as A.I. trawls the internet for data; and much more.

[The Ezra Klein Show](#)



## will.i.am on AI – and the future of creativity (from ReThinking with Adam Grant)

[The TED AI Show](#)

Technology

You may know will.i.am as the 7-time Grammy-award winning singer, songwriter, producer, and frontman of The Black Eyed Peas. But his interests beyond music have also taken him down a surprising and creative path – from serving as the director of creative innovation at Intel, to becoming the first artist to stream a song from the surface of Mars, to hosting the first radio show with an AI co-host. In this episode of ReThinking with Adam Grant, organizational psychologist Adam Grant asks about will.i.am about his creative process and digs into how he turns his expansive ideas into reality. will.i.am also shares his hopes and fears about the future of technology and entertainment, and the two debate what AI can and can't do for human creativity. Transcripts for ReThinking are available at [go.ted.com/RWAGscripts](https://go.ted.com/RWAGscripts)

[The Ted AI Show](#)

# Two podcasts that show how AI is being employed in our lives

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Theresa Merrick Cassidy

Podcast Episode

## AI therapy is here. What does it mean for you? w/ Dr. Alison Darcy and Brian Chandler

 [The TED AI Show](#)

Jun 25 • 40 min 17 sec



### Episode Description

We may think the complexities of the human mind can only be understood by other humans. Yet research on chatbots and psychology suggests non-human bots can actually help improve mental health. Bilawal talks with Dr. Alison Darcy, the founder of mental health app Woebot, and Brian Chandler, an app user, to learn what chatbots reveal about our inner lives and what they can (and can't) do when it comes to emotional wellness.

[The TED AI Show](#)



JUN 25 - 29 MIN

### How Roblox Uses Generative AI to Enhance User Experiences - Ep. 227 [The AI Podcast](#)

[▶ Play](#)

Roblox is a colorful online platform that aims to reimagine the way that people come together — now that vision is being augmented by generative AI. In this episode of NVIDIA's AI Podcast, host Noah Kravitz speaks with Anupam Singh, vice president of AI and growth engineering at Roblox, on how the company is using the technology to enhance virtual experiences with features such as automated chat filters and real-time text translation, which help build inclusivity and user safety. Singh also discusses how generative AI can be used to power coding assistants that help creators focus more on creative expression, rather than spending time manually scripting world-building features.

[The AI Podcast](#)

# Two takeaways to consider

You can exist in a grey area on AI and still explore and teach AI literacy.

Your approach to AI with students can be open, uncertain, and evolving.

# Sneak Peek: the 2024-25 Teaching with AI Series

**Mon, Sept. 23:**

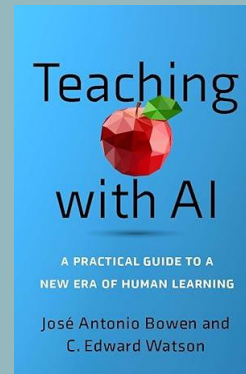
Playing in the genAI Sandbox—getting started with ChatGPT, Claude, and Poe

**Wed, Oct. 16:**

Teaching with AI: Best practice takeaways—for your assignments and class teaching

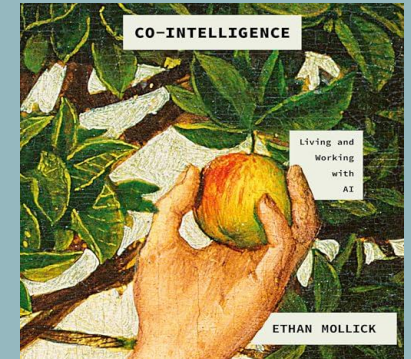
**Thurs, Nov. 14:**

Book club—*Teaching with AI: A Practical Guide to a New Era of Human Learning*



**February:**

Book club—*Co-Intelligence: Living and Working with AI*



**April:**

Intermediate GenAI Applications for the 2025-2026 Academic Year



We'd love to hear from you and support your navigation of AI in teaching.

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Theresa Merrick Cassidy, [tmcassidy@ksu.edu](mailto:tmcassidy@ksu.edu)