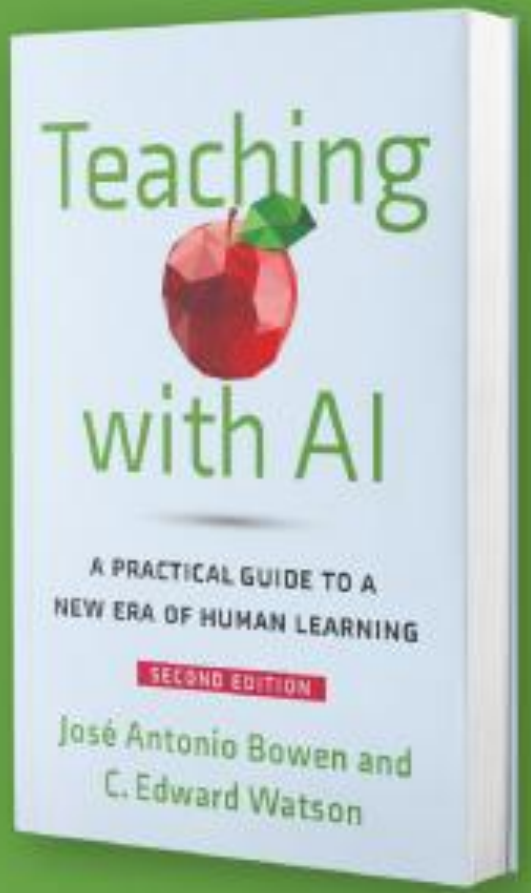
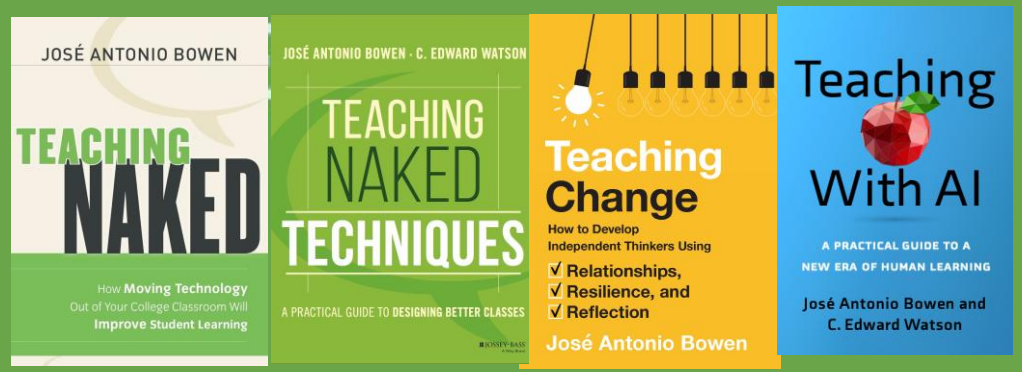


José Antonio Bowen

Teaching with AI

SECOND EDITION



Slides with Citations (100+ pages)

https://weteachwithai.com

WORKING & THINKING

AI as the new AVERAGE

COMMUNICATION & RELATIONSHIPS

CREATIVITY

AI as LABOR

ChatGPT

Gemini

Claude

Grok

LLaMA

deepseek

LATIMER

sesame

Sonus

Qwen

manus

MINIMAX

Genspark

weteachwithai.com/models

Basic Prompting

weteachwithai.com/basic-prompting/

Provide 10 innovative ideas for how to introduce college students to topic X in class Y using examples or analogies they will find relevant.

Ideas for Teaching Western Music History

CLAUDE

Social Media Platform Analogy

Baroque = Instagram's aesthetics
Classical = Facebook's clarity
Romantic = TikTok's personal stories

Composer Dating Profiles

Dating app profiles for composers
- Musical "turn-ons,"
- Signature styles

GROK

Technical Similarities

Layered Medieval Music = DJ Mixes

Renaissance = Singer-Songwriters

LATIMER

- Highlight how Beethoven's revolutionary spirit mirrors that of artists like Beyoncé or Kendrick Lamar

Discuss how Arabic choral music & Sufi singing had a profound influence on early Western choral music.

CLAUDE

Respond as if you were teaching Black students at an HBCU

Remix the Canon

- Reimagine classical pieces them through contemporary Black musical aesthetics – how Kendrick Lamar incorporated Beethoven in "To Pimp a Butterfly" or how Nina Simone reinterpreted Bach in her improvisations.

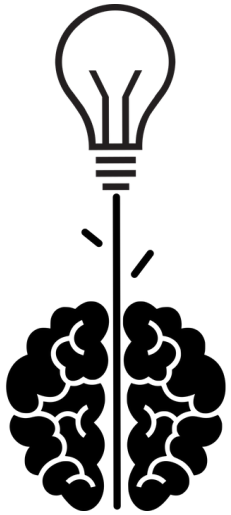
HBCU Band Legacy

- Connect the precision and grandeur of HBCU marching band traditions to the military bands and ceremonial music of European courts, exploring how both serve as cultural institutions.

TRY SOME PROMPTS

- Read this academic integrity policy like…
- Suggest ten ways to make this plan more…
- Create five excellent debate propositions that … equally divide a room of college students at institution Y. They should require content knowledge of Z…
- Read these 3 rejections of my article and create a table…
- Create a syllabus for subject X at using the appropriate template for university Y

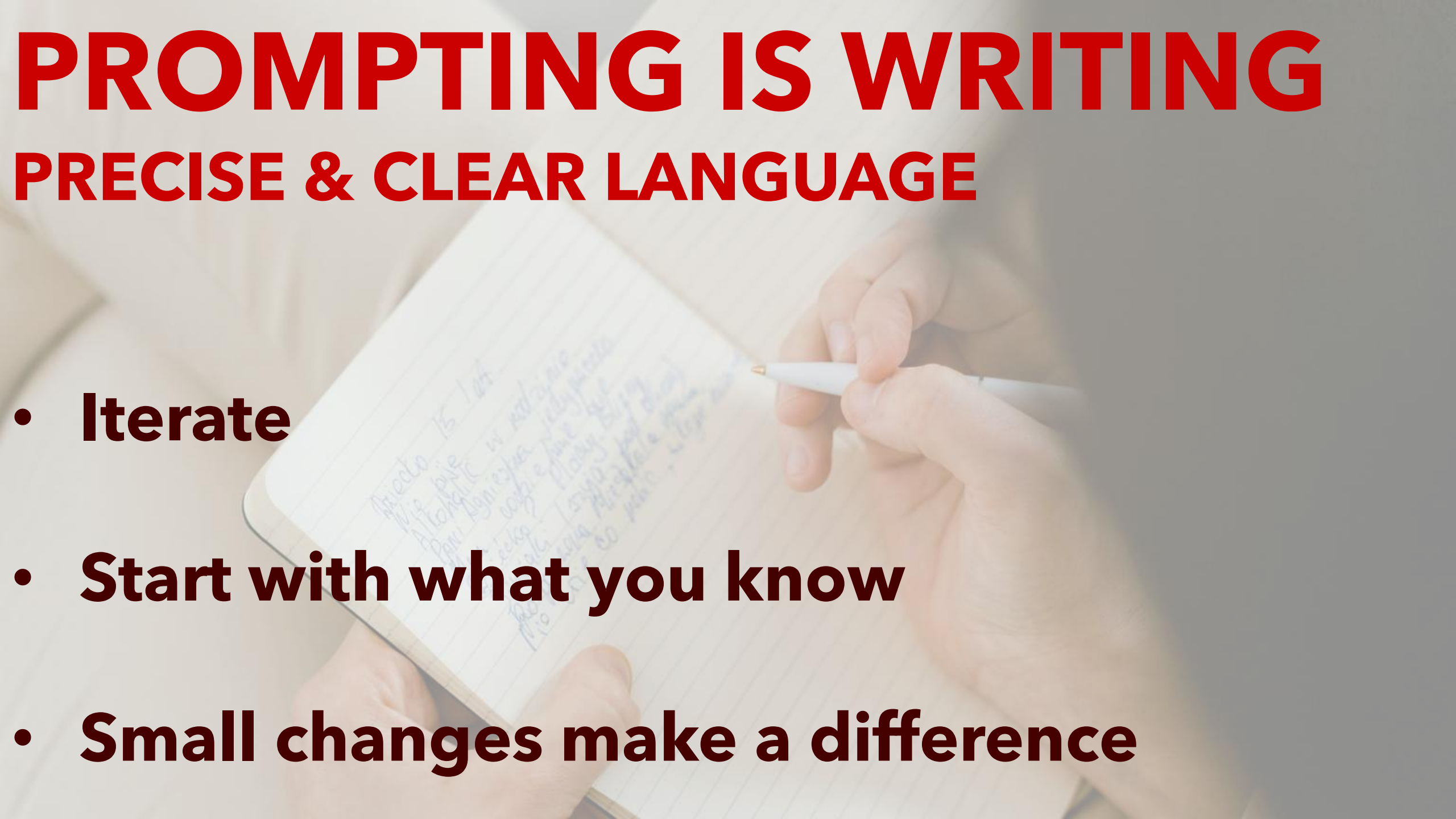
Make the response better



- Add context
- Respond like an expert in A with B.
- Design for audience C.
- Cite evidence for each of your claims.
- Be more persuasive but witty.
- Slow down and reason step-by-step.
- Check assumptions & create a better answer.
- Read the prompt more carefully.
- Go to the future and tell me what might go wrong.

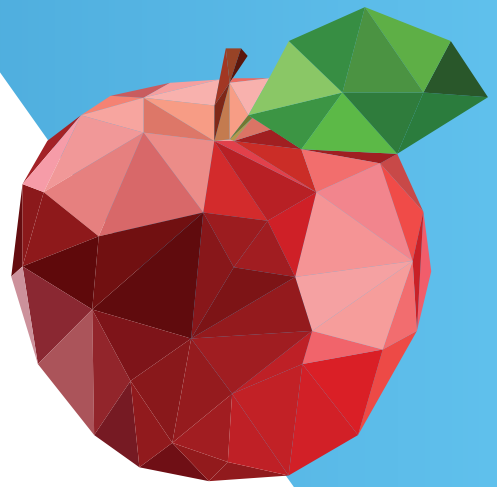
PROMPTING IS WRITING

PRECISE & CLEAR LANGUAGE



- Iterate
- Start with what you know
- Small changes make a difference

The 70% Problem

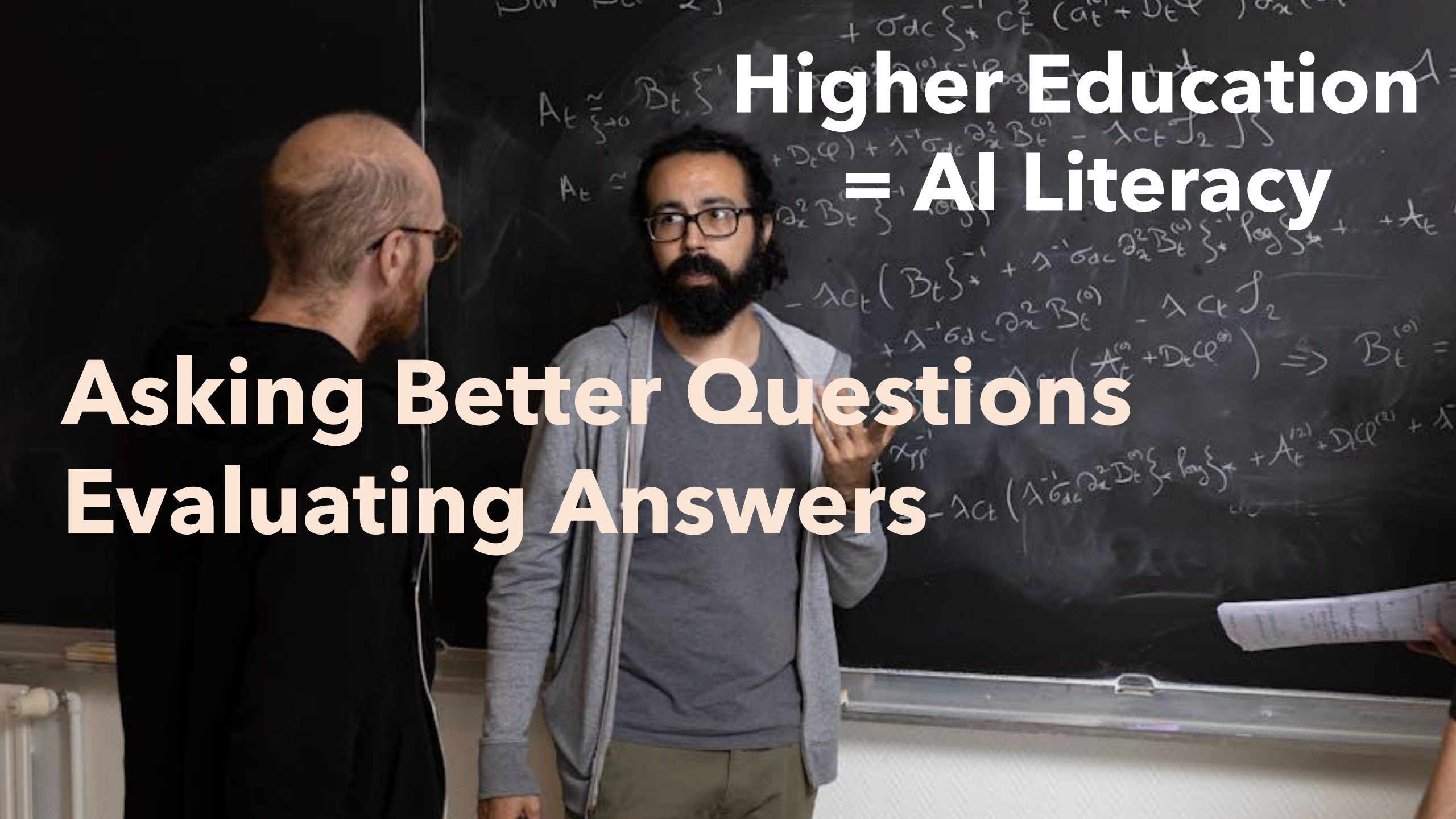


NOVICES

- Use AI to learn what to do
- Cannot evaluate or improve the results

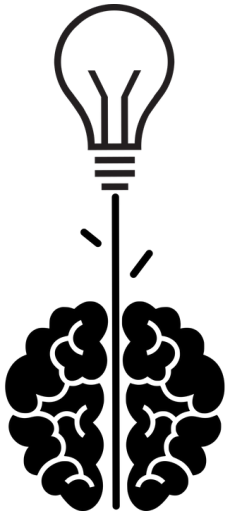
EXPERTS

- Use AI to accelerate what they already know
- Can judge and modify AI efforts



Higher Education = AI Literacy

Asking Better Questions
Evaluating Answers



START WITH STUFF YOU KNOW

API Tools

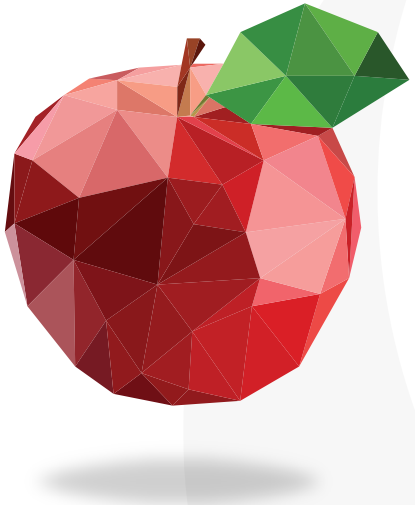
consensus

Elicit

Undermind

STORM

perplexity



NotebookLM

goblin.tools

goblin.tools - FREE

Designed to help neurodivergent people with tasks they find overwhelming

To Do: Break down this assignment into parts.

Task Estimator: How long will each part take?

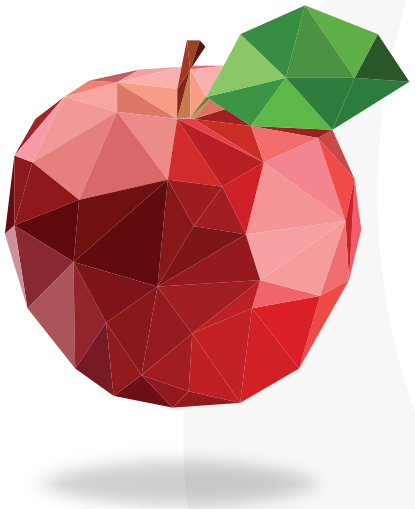
Formalizer: Change the tone of this writing.

Judge: Am I misreading the tone of this?

Professor: Explain and provide an example.

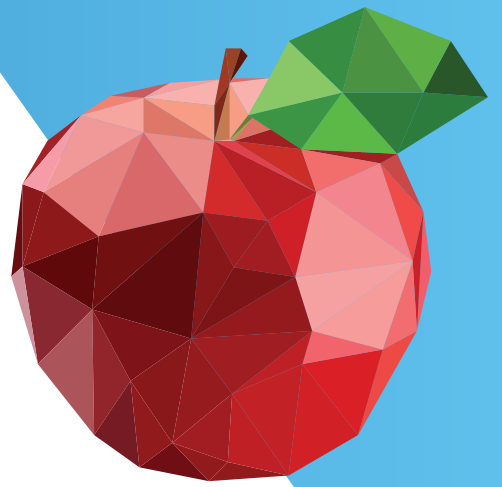
AI is a new form of

LABOR



Everyone is now an AI boss.

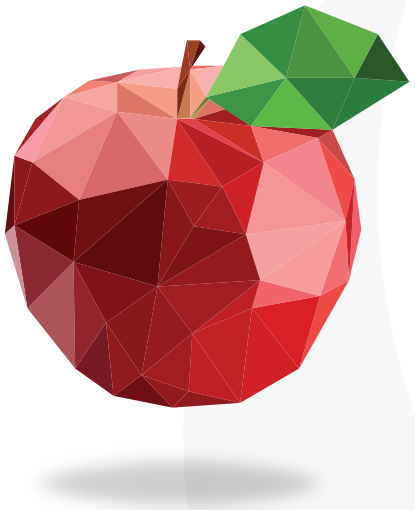
WHICH TASKS?
Journalism and AI



Transcription
Data Analysis
Translation

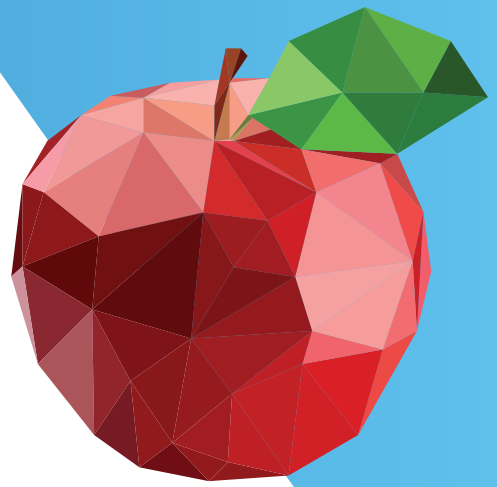
10% of Pulitzer Prize Winners used AI
(2024)

AI Is Separating **WRITING** from **THINKING**



How might we reconnect them?

Writing Assignments



D Define the stages of the project

E Evaluate which AI for each stage

Ex. Elicit for research; Copilot for editing

E Explore how the AI might help or hurt

Get feedback on your outline.

R Reflect if AI helped/hurt writing AND learning

Do you want AI to be the hero or the sidekick?

AI Is Changing

AVERAGE

Work with AI to RAISE STANDARDS

What more can I ask students to do?

AI as Idea Generator

Spicy Mango Jerky
Matcha Green Tea Popcorn
Gluten-Free Brazilian Cheese Bread Mix
Hibiscus Ginger Lemonade
Rose Petal Jam

- **Iterate & Improve**
- **Cost & Price**
- **Packaging & Size**
- **Market Test**
- **Supply Chain & Margin**
- **Propose the Best 10**

Reverse Outlining

- Read this and create an outline summarizing the main point of each paragraph with one sentence.

- How might I more persuasively organize or focus this to say X.

Journaling with a Bot

You are a kind and insightful assistant who guides students to reflect deeply and discover their own insights and passions from writing about their learning experiences.

1. Ask students to reflect on something they learned in the last day and how it might have changed their thinking or perspective.
2. Consider the student's response and then ask a series of supportive and insightful follow-up questions that will stimulate reflection and self-discovery.
3. Ask the student to respond again and repeat the process.

Custom Bots (Prompts) for Writing

Thesis Nuance Navigator

Deep Reading a Meaningful Quote

Eric Lars Martinsen
Ventura County Community College

Critical Thinking Support

Prompts for Learning

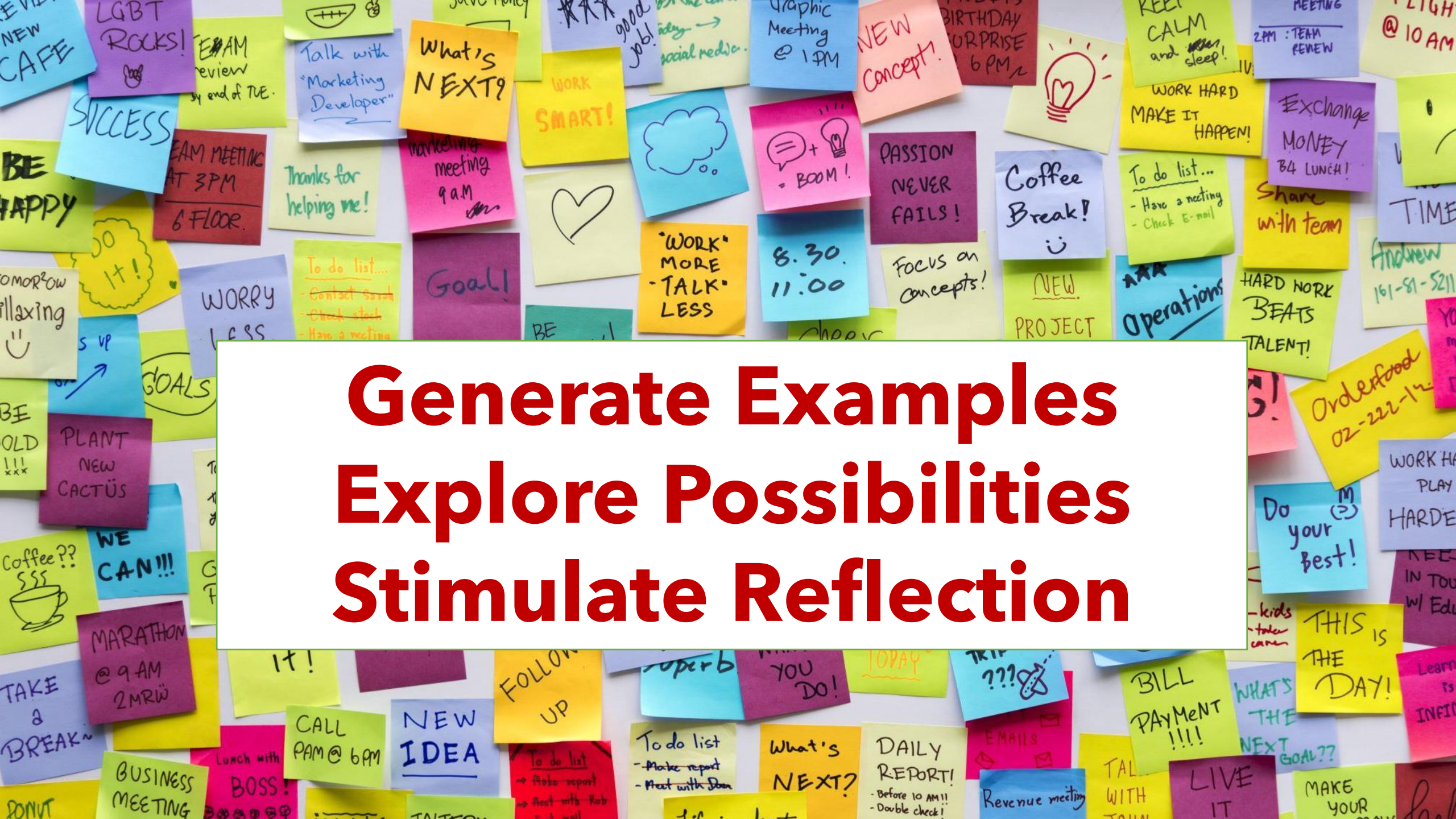
- You are a kind and intellectually-rigorous professor of critical thinking that helps students analyze and improve their work.
- Your goal is to help students identify hidden assumptions, challenge conventional wisdom, make sure contradictory evidence is considered, check for the reliability of sources, & look for alternative explanations…

Fact-Checking Prompt Contest

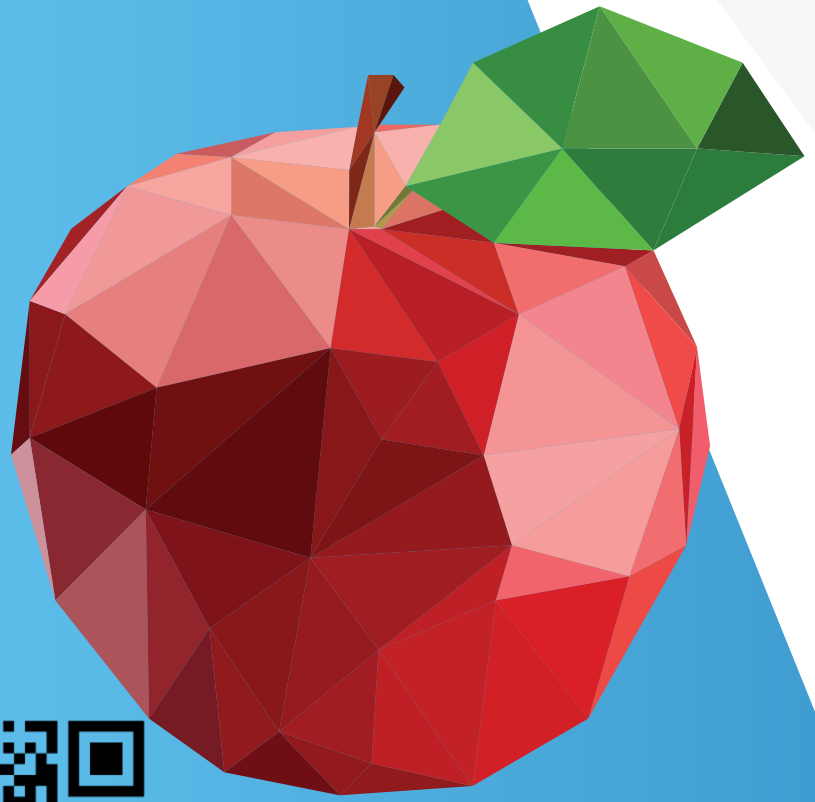
1. Contribute one claim to our shared document.
2. Write a prompt that verifies facts and sources.
3. Test it. Improve it. Explain why (comments).
4. Test prompts in pairs.
5. Compare to Mike Caulfield's Deep Background prompt/GPT.
6. Write a critical thinking process for yourself that uses AI.
7. Reflect (bot?): why is critical "doing" also important?

READING: FOUR CORNERS

1. Come up with four different points of view that relate to our reading.
2. Ask an AI to provide summaries of the reading from each POV.
3. Read the summaries and read the article.
4. Create a new set of questions.
5. Write your summary.
6. Reflect and write about why your summary was different?


Generate Examples
Explore Possibilities
Stimulate Reflection

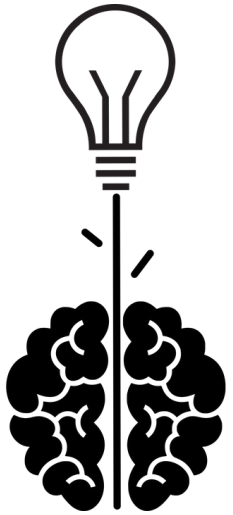
AI for Improving Teaching



- Course Design
- Inclusive Teaching
- Find and Create Materials
- Assignments
- Activity
- Assessment
- Grading and Feedback

Hacks for Teaching

Update a Syllabus



You are a kind, motivating and experienced professor. You are skeptical of AI but recognize that your students are using it, and you want to prepare them for a world where it is an essential job skill. Examine the structure, topics and assignments in my current syllabus [ATTACH]. Help me revise this syllabus by suggesting any new topics, content, readings, videos, activities, lessons, assignments or assessments that might help me create a more motivating and relevant course for my students who mostly want... [SOMETHING ABOUT YOUR STUDENTS]. Explain your reasons for each of these suggestions. [You can follow up with requests for variations, materials etc.]

CREATIVE NEW ASSIGNMENTS

Turn an explosion into art using AI.

European History to 1600

Invent a new saint and create an image using AI that tells the story through iconography.

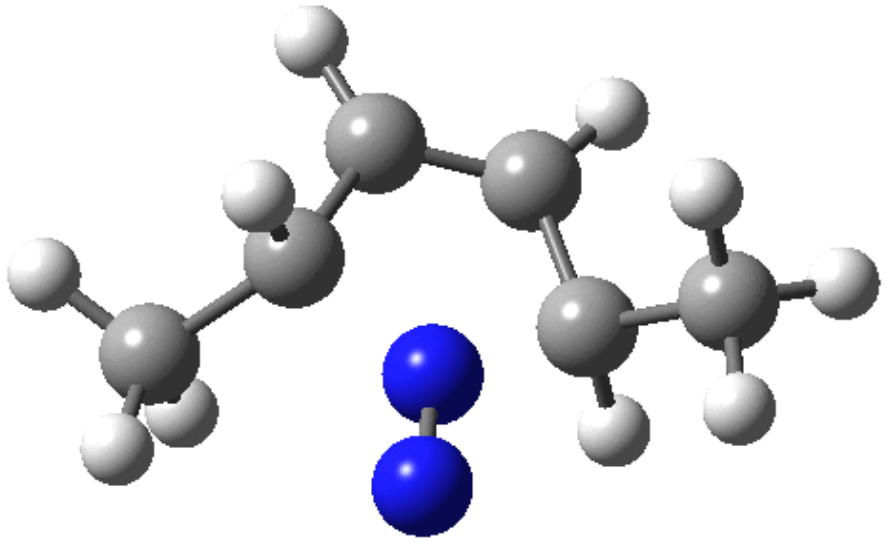
Create a medieval photograph using AI that displays 13th century tropes.

ART HISTORY FINAL: Teach an AI how to paint like John Constable.
Create a new image and clarify what stylistic elements are visible.

Ira Greenburg, Director of the Center of Creative Computation and Professor or Art at SMU

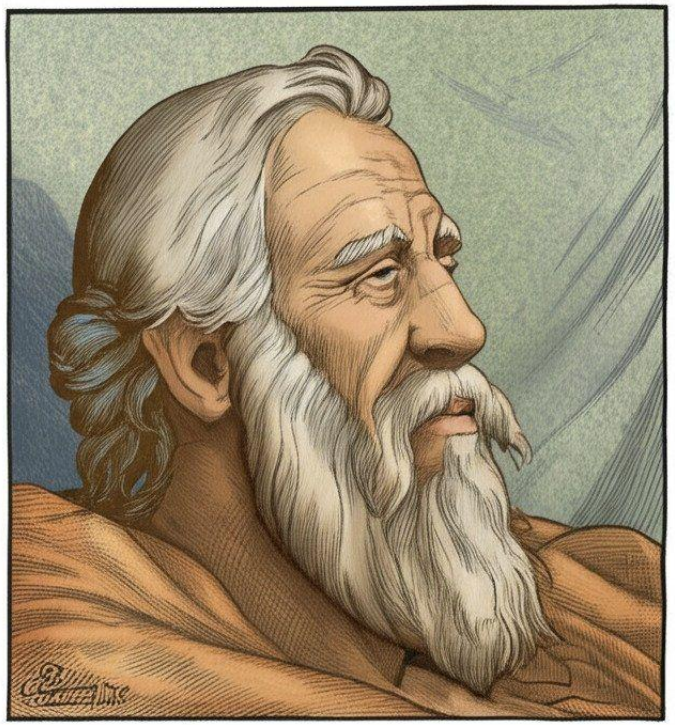
VIDEO

Transform the equation and molecular structures provided into a video that demonstrates the reaction and how bonds are broken and formed.

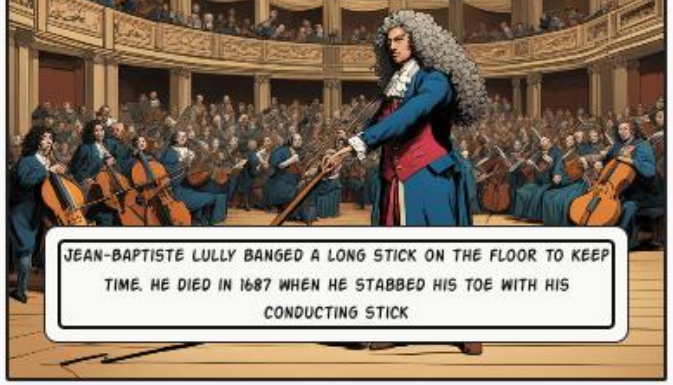


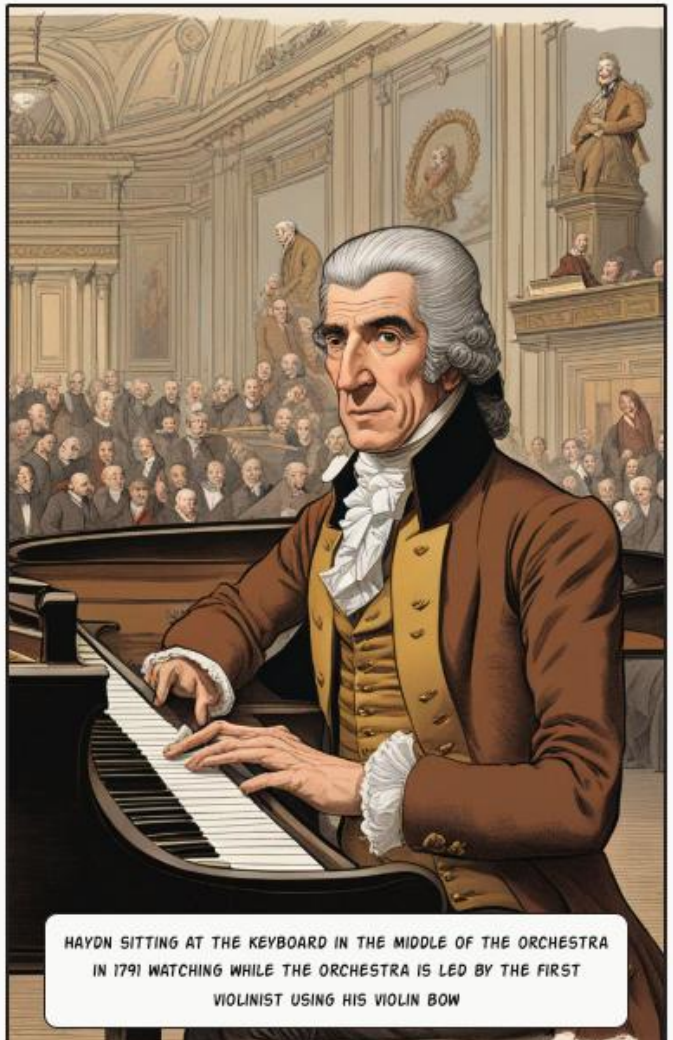
Sora (Open AI)
Veo (Google)
pika.art (free)
heygen.com
invideo.io
synthesia.io
kapwing.com
colossyan.com

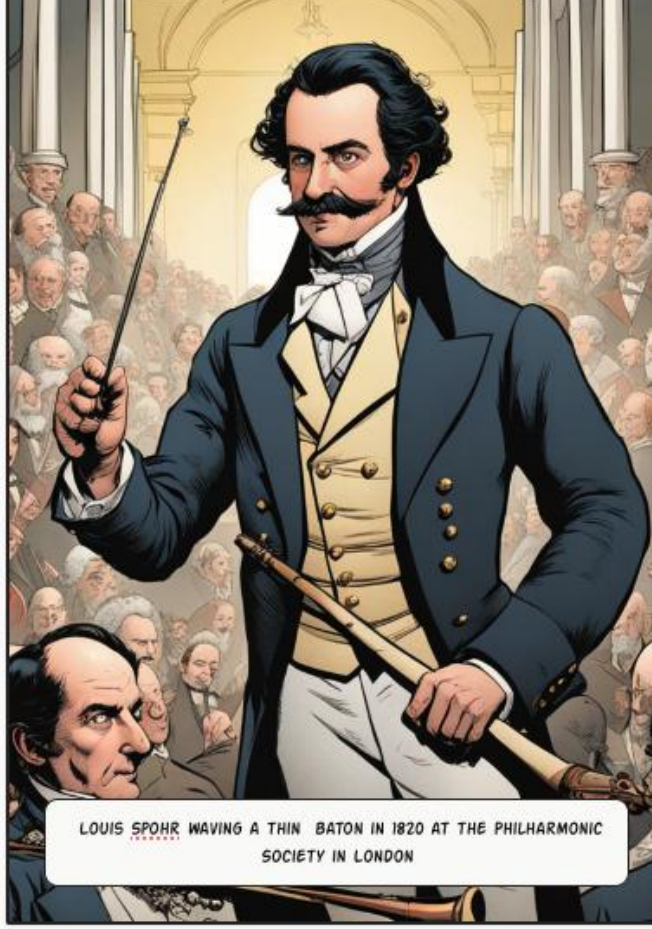
GRAPHIC NOVEL

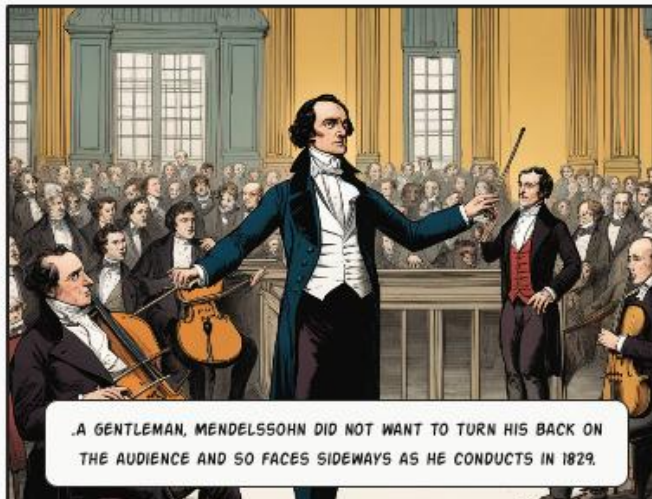


It little profits that an idle king,
By this atill hearth, among these barren crage,
Match'd with an aged wife, I mete and dole
Unequal laws unto a savage race,
That hoard, and sleep, and feed, and know not me.









Controversy Comparison

Susan Ray, Delaware County Community College

- **Free write on a controversial issue of your choice**
  - Should schools ban smartphones during the day?
- **Ask 5 AIs for a clear evidence-based solution**
- **Compare the outputs**
  - What's amplified?
  - What's left out?
  - How does each model frame the issue?
  - What do this reveal about the priorities & politics of the companies?
- **Essay: how does this complicate your views of LLMs?**

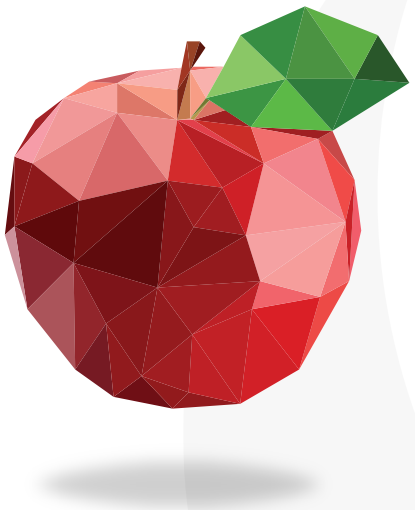
Controversy Comparison

Susan Ray, Delaware County Community College

LLM	Bottom-Line Policy	Evidence Emphasis	Equity & Accommodations	Corporate / Policy Framing	Underlying Beliefs & Tone
ChatGPT	**No** to full-day bans; **yes** to bell-to-bell bans with exceptions.	Mix of causal & policy evidence (LSE diff-in-diff; NL government data; "mere presence" lab studies; meta-analyses showing teacher-directed gains).	Explicit 504/IEP & health tech access (CGM apps); warns blanket bans drive disproportionate discipline for Black students.	Cites UNESCO, UK/FL guidance; favors "restrict in class" over blanket bans.	Liberal-progressive, rights-forward, anti–zero-tolerance; regulatory + evidence-synthesis tone.
Gemini	"No single right answer," but **makes a strong case for a full-day ban.**	Leans on LSE gains, attention/mental-health harms; presents counterarguments then downweights them.	Mentions emergency contact & ed-tech alternatives; no detailed disability carve-outs.	Classroom-order & wellbeing first; pragmatic policy vibe without deep legal nuance.	Moderate, corporate-polite, consensus-seeking; hedged directness but lands pro-ban.
Grok	**Yes**—ban during the school day.	Heavy on distraction/cognitive-load + mental-health + social effects; cites France & district pilots; adds neurodevelopment angles.	Allows medical exceptions; emphasizes clear storage/lock-away procedures & parent buy-in.	Implementation-first: lockers/Yondr; "what works" pragmatism over rights/frameworks.	Order/learning-outcomes framing; confident, directive, "case closed" tone.
Perplexity	**Yes**—ban during the day.	Accumulates stats (LSE + removal studies; % of schools restricting; global policy growth).	Flags equity benefits (less cheating/status signaling); teacher support data; little on disability carve-outs.	Cites UNESCO "global consensus" & educator polls—institutional consensus as warrant.	Technocratic majoritarianism: "the evidence & systems say ban," policy-friendly tone.
Claude	**Yes**—comprehensive bans during instructional hours; phones secured	LSE uplift + "brain drain," continuous-partial-attention, even neural-pathway claims; social &	Implementation playbook; acknowledges culture change; fewer explicit legal	Pouch/lock policy as norm; UNESCO cited; compliance metrics	Safety/attention maximalist; authoritative, "evidence is overwhelming" rhetoric.

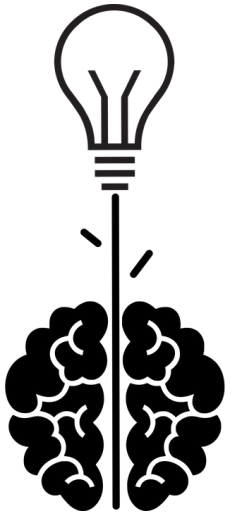
Hall of Ordinary Revolutionists

Retha Hill at ASU Cronkite school of Journalism and Mass Communication



Research records, diary entries, letters and ancestral photographs to bring the story of and underrepresented character to life in an authentic historical 3D scene. For example, Hannah Till, the pastry chef of George Washington during the encampment of Valley Forge.

1. Use ChatGPT and Transkribus to understand/inform the dialect.
2. Generate full-color images if you do not have color images.
3. Use D-id.com to make talking portraits.
4. Use Eleven Labs recreated the audio narration
5. Use Unity & Spatial to create historically accurate 3D settings.



Add an AI project, element, reflection or feedback to an assignment.

AI-Inclusive

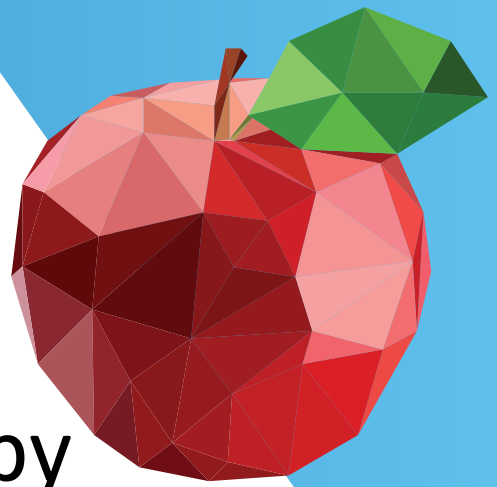
AI-Resistant

ALL Assignments are now AI Assignments

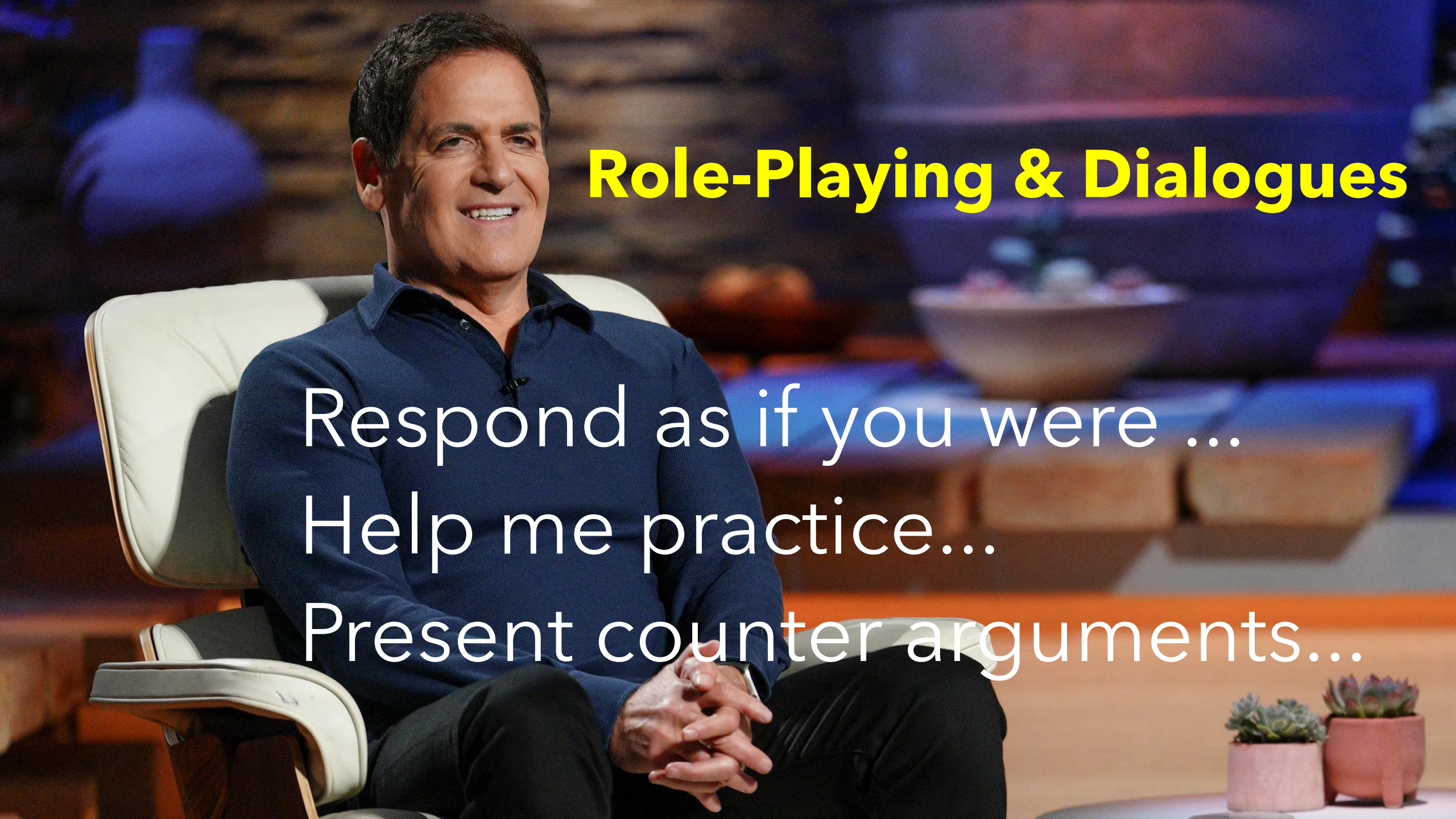
AI-Transparent

SIMULATIONS GAMES & ROLE-PLAYING

Stress Test A Plan



Help me stress test the attached business plan by simulating how our business might evolve over the next 2 years. I will play the CEO. You will simulate and describe economic, market and political challenges that might interfere with our plan. Every quarter you will update me and ask me to respond to new events and circumstances. You will then assess my actions and describe how the plan must change as a result.


Role-Playing & Dialogues
Respond as if you were ...
Help me practice...
Present counter arguments...

CUSTOM BOTS

Hidden Prompt

+

Knowledge Base

Be the President

Simulations, Games & Role-Playing

Jack: “He’s like you, but in the screen.”

Sarah Wymer, Auckland University of Technology

A team marketing expert for every student

87%

Jack helped refine my idea.

Bot Assignments & Simulations

Run a nuclear power plan
Teach a class
Run an experiment
Secure capital
Plan an exhibition
Manage a lab
Buy a car
Moderate a disagreement
Climb a mountain
Improve a service
Diagnose a problem
Verify a story

Genspark vs ChatGPT5

Create and deploy an interactive superhero-themed game to teach the Bingham plastic model through visual simulation to college students in both English and Arabic.

Got it — I'll deliver the game in **Arabic + English**, packaged as a **standalone web app** you can open in your browser or run locally without installing anything complicated.

Simulation Meta-Prompt Template

- I want to create a simulation to help my students learn about A and controversy B where they play the role of C.
- Give me an outline that describes the game play.
- The game should take about D minutes to play and will take place in context E.
- Write an internal, developer-facing prompt that an AI chatbot can use to build the simulation.

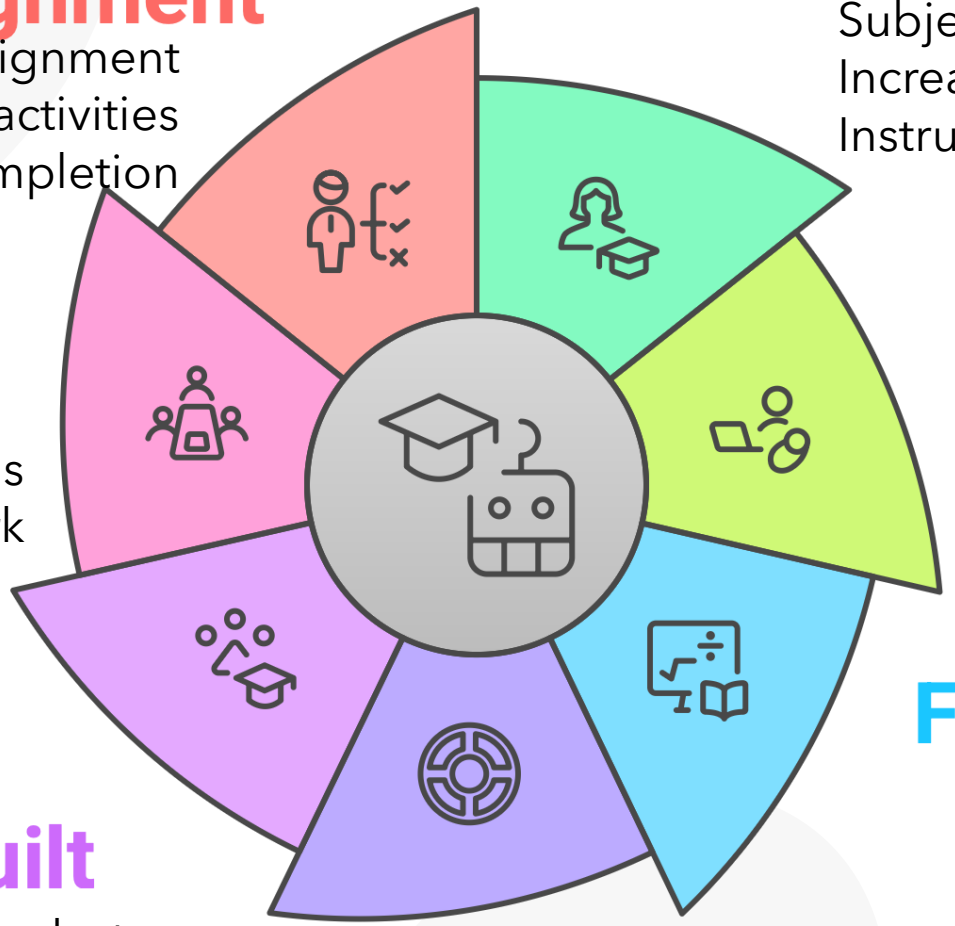
Custom Bots for Education

Assignment

Combined bot that IS the assignment
A series of guided tasks/activities
Evaluation of progress/completion

Tutoring

Subject-specific help
Increase reflection
Instructions for how/when to assist



Moderation

Moderate group discussions
Project manager for group work

Support

Course TAs
Assignment or task-specific help
Help students get unstuck
Time management
Focus on learning objectives.

Feedback & Simulations

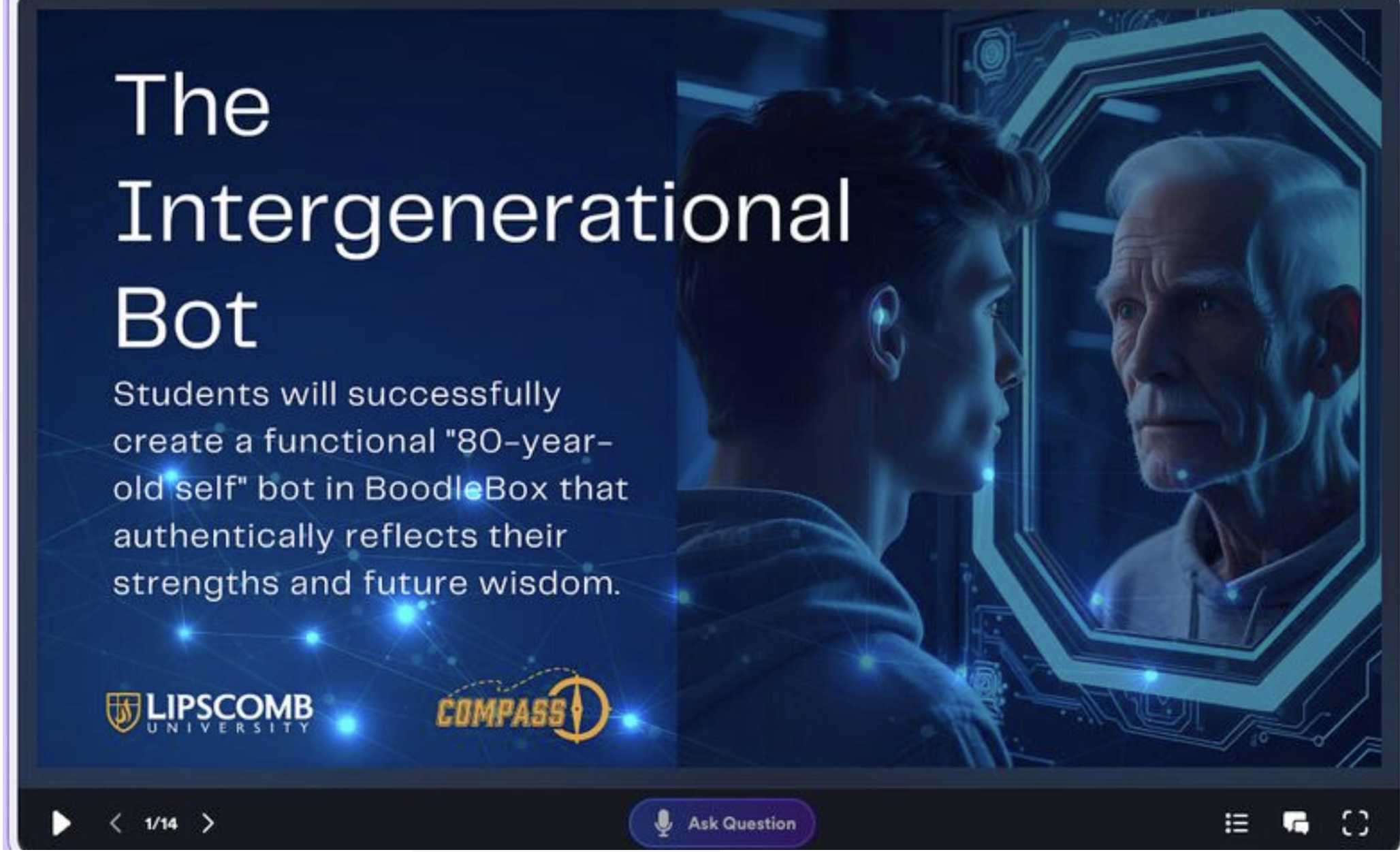
Expand perspectives & role-playing
Scenarios for student participation
REFLECTION & making things better

Student-Built

Students build and test a bot
to demonstrate application

Customized

Designed with knowledge of a specific student



Abby Bell
Lipscomb University

Build a bot to talk to your 80-year-old self

PALS (Personalized AI Learning Simulations)

Kyle Chalupczynski, Management Information Systems Penn State

PALS | **Assignment Hub** | Resources | Conversation Guides | Example Conversations | PALS Podcasts | More

View conversation guide

4 - Managing Your Company's Data

Following the successful development of

View conversation guide

5.1 - Visualizing Data with Dashboards

The company is experiencing rapid growth,

View conversation guide

5.2 - Developing CRM-GPT

Building on the company's earlier exploration of LLM technology, the customer service department is launching

View conversation guide

6.1 - Digital Presence Audit

As part of its ongoing digital transformation efforts, the company has decided to evaluate its online presence

Teach Students How to Use the Bot!

Harvard B-School Course Tutor Bot: 930 first-year accounting students
Better prepared and better midterms

45% understanding fundamental concepts and jargon

42% practice questions

12% became power users.

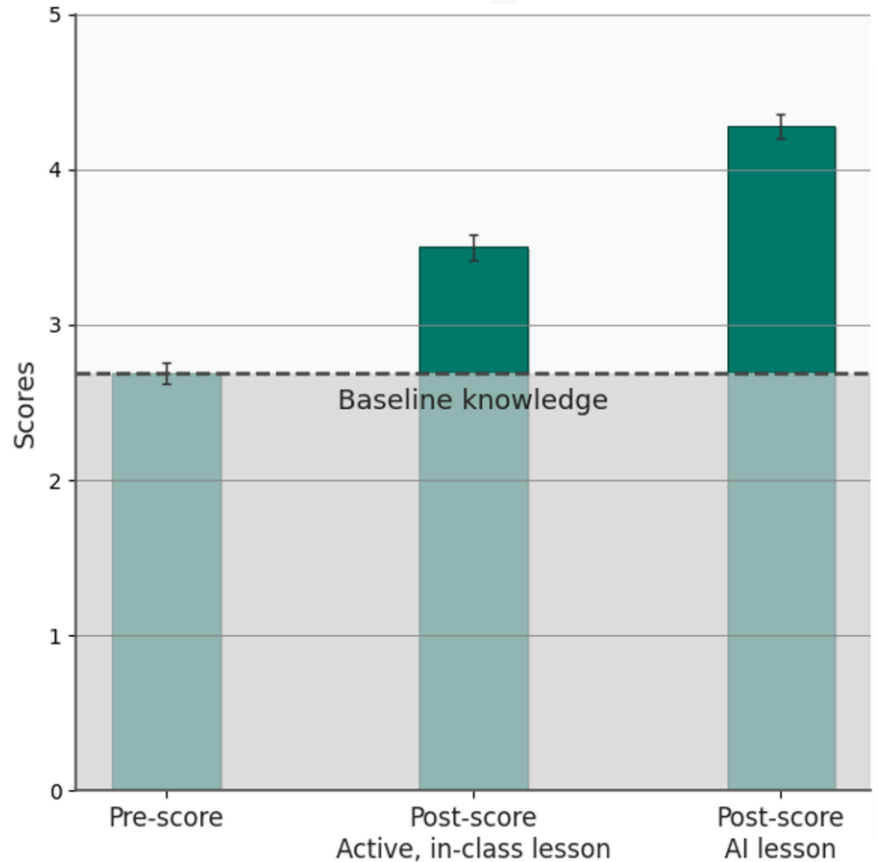
**“I’m terrible at prompting,
so I don’t think I’m getting much out of it”**

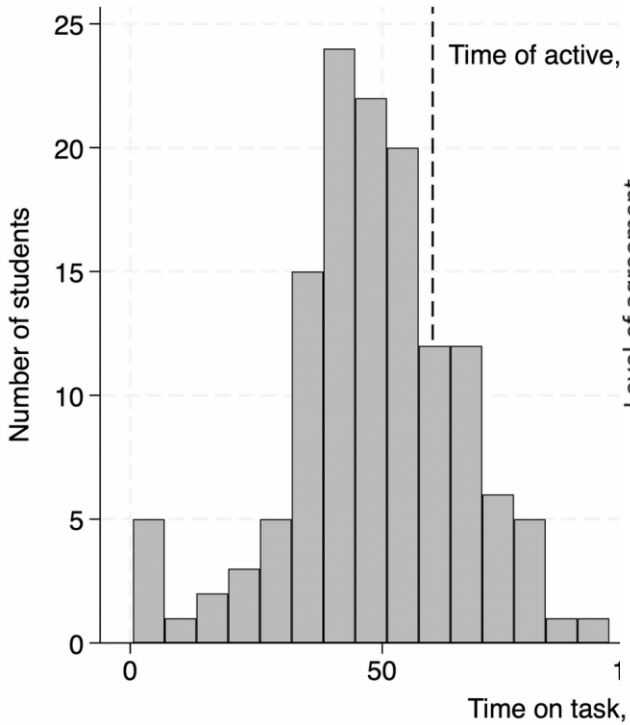
AI-Tutor vs Active Learning

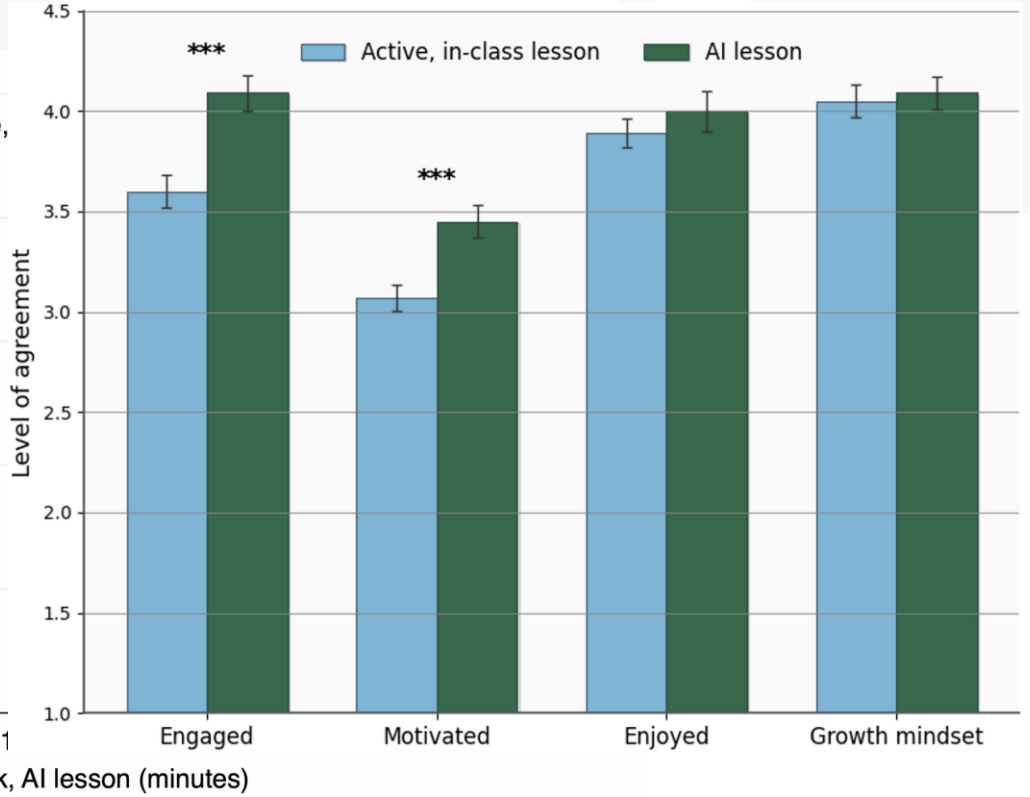
Kestin, *et al.* AI tutoring outperforms in-class active learning. *Sci Rep* **15**, 17458 (2025)

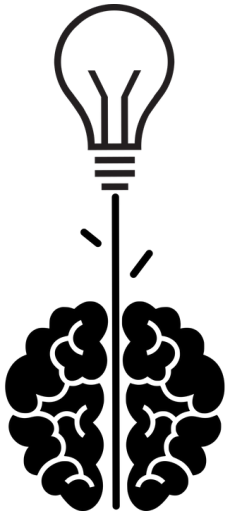
First RCT: N=194. Both got both 60m treatments.

Students **learned more** **faster** with **more engagement**





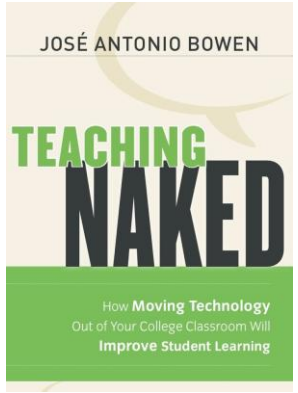


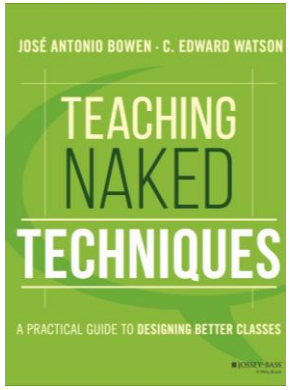


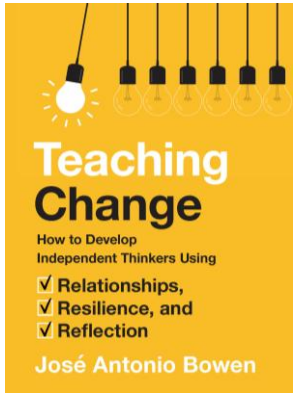
WHAT concepts or process could you teach WITH AI?

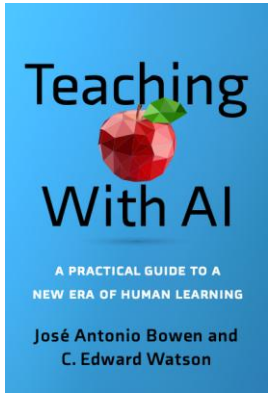
WHICH tasks are the MOST important for students to learn?

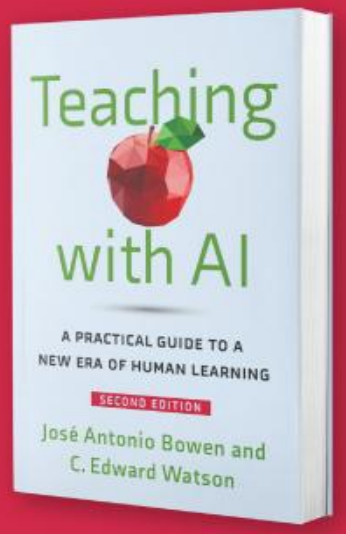
José Antonio Bowen











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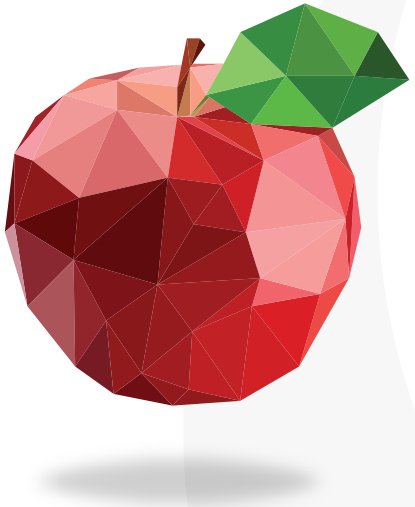
What Uses More?

Jon Ippolito, University of Maine

Compare the environmental footprint of digital tasks



https://what-uses-more.com