

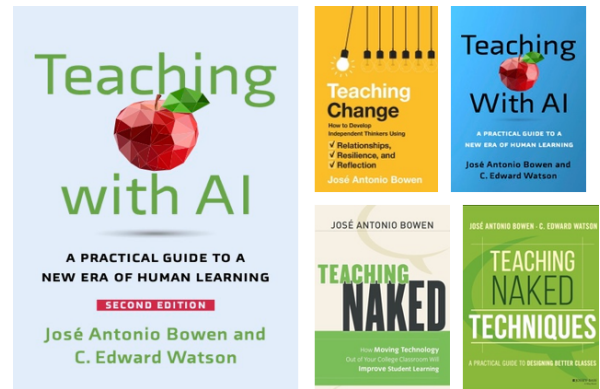
AI WORKSHOP B

SLIDES & CITATIONS

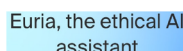
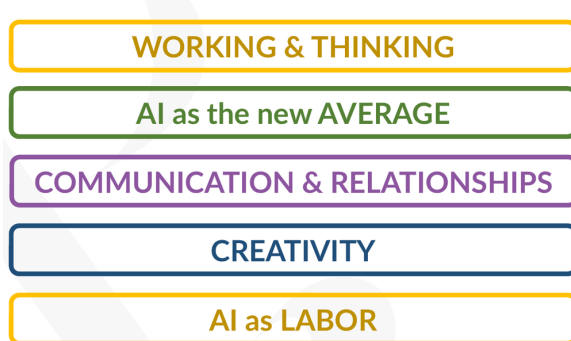
José Antonio Bowen

Get the [2nd Edition of Teaching with AI](#).
Discount code HTAI25 = 30% off at JHUP.
WebSite: <https://WeTeachWithAI.com/>

► [Workshop Prompts & Materials](#)



BASIC PROMPTING



Different AI models excel at different things. To learn more, open a fresh browser window and go to the models page; each tool opens in a new tab so you can compare. Talkie is included as a reminder that language models go back to 1930.

► [A range of AI models — WeTeachWithAI.com/models](#)

WeTeachWithAI.com/models

WORKSHOP Basic Prompting
[WeTeachWithAI.com/workshop](#)



- Provide 10 innovative ideas for how to introduce college students in year C to topic D in class E using examples or analogies they will find relevant.
- Ask me a series of 3 questions to then make recommendations about 10 obscure composers/experiments/research ideas I should know about.

WORKSHOP: Basic Prompting (slide 5)

Try a more complicated and customized prompt in more than one model. You can copy and paste all of these prompts (and many more that are NOT listed here) from the prompting page:

- [Basic Prompting — copy and paste prompts](#)
- [Workshop Prompts & Materials](#)

More prompts to try

What might be unclear about these instructions to a college [year] at a [type] of university?

How could I make this syllabus/assignment more inclusive?

Suggest a better title for this class/book/event that will attract [specific] students/audience.

Can you put this into simpler terms for beginning students?

Create a list of resources for a student at the University of X who is experiencing problem Y. Provide a verified link to each resource and three suggestions for how the student might use this resource.

What are 10 innovative ways other faculty have taught this subject/class?

ITERATION: Improve the Response (slide 6)

Write 150 words about... [CHOOSE A SUBJECT YOU KNOW!] Now make the response better:

Cite the evidence for & against. Investigate and apply a variety of frameworks. Search in language X and locally to Y. How do a variety of experts disagree about this?

Slow down and reason step-by-step. Read the prompt more carefully. Be more persuasive but witty. Create two different versions. Try a different approach. Create a smarter better answer. Read the question again. What did you miss? Follow all of these steps, even if you do not think you need to.

Ask for the model's best work:

Write a paragraph about X that will demonstrate to a college professor your most formidable capabilities using high quality verifiable sources. Explain your research and deep thinking.

Meincke, L., Mollick, E., Mollick, L., & Shapiro, D. (2025). Prompting science reports 1–3. Wharton Generative AI Labs. [controlled prompt experiments: politeness and threats rarely help; small wording changes can] <https://ssrn.com/abstract=5165270>

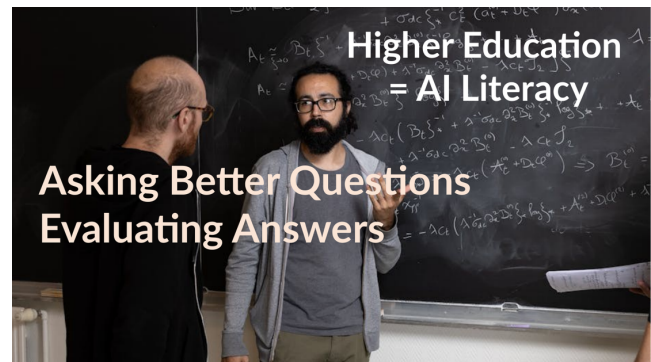
<https://ssrn.com/abstract=5165270>



PROMPTING IS WRITING

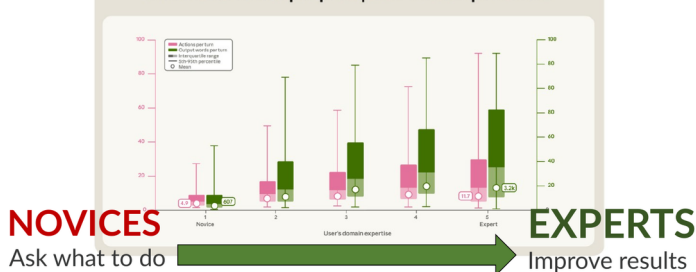
PRECISE & CLEAR LANGUAGE

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



AI is the new Average

Claude does more per prompt for more expert users



Hitzig, Z., Massenkoff, M., et al. (2026, June 16). Agentic coding and persistent returns to expertise. Anthropic. [vendor research]

<https://cdn.sanity.io/files/4zrzovbb/website/b93c7465925dc052b9102209b29b58f11df4fe55.pdf>

SEARCHING FOR IDEAS



Searching for IDEAS

- Find anything like this..
- Has anything **similar** ever happened to a previous patient?
- Search for patents **related** to Y?
- What might be **missing** from this?
- Read our book and identify all of the places where we **repeated** an idea.

Google (used to) want to send you elsewhere, but AI wants to create content. Using AI to find information is often not the best use of AI, but most of the foundational models now let you ask for a web search as part of your answer — which, paired with reasoning, can be very useful.

Massive-Scale Contextual Web Searching

Is there anything that Jose Bowen has posted in the last 10 years that is overly political and might have a negative impact if we hired him at X?

Searching for Jose Bowen +

- Biden
- Trump
- Gaza
- Israel
- Controversy
- Protest
- Politics
- Political Views
- Opinions
- Election...

Also searching for

- JB social media sites and activities
- Could JB past writing or speeches be considered a hiring risk?
- Would JB political activities pose any risks?
- JB coverage in media, blogs and websites

Web Search across the entire Internet

Academic Search academic papers

Social Discussions and opinions

Massive-Scale Contextual Web Searching

Search for everything I need to know to prepare for an excellent job interview for position A at B and prepare a briefing document with talking points.

- Current university/business strategy
- Recent financial performance & news
- Major initiatives
- Institutional values
- Market challenges and position
- Industry trends
- Primary competition
- Typical responsibilities
- Required technical skills
- Common interview questions & scenarios

Web Search across the entire Internet

Academic Search academic papers

Social Discussions and opinions

Search for everything I need to know to prepare for an excellent job interview for position A at B and prepare a briefing document with talking points.

YOU TRY: Searching for Ideas (slide 13)

What are the latest trends in...

Find me real examples of...

Has anything similar to X happened at Y...

► [Workshop Prompts & Materials](#)



Searching for CANDIDATES

- Search for candidates for our position X.
- Check CVs to make sure...
- Make a list with emails.
- Create a personalized email invitation to apply.
- Look especially for...

Search for candidates for our position X. Check CVs to make sure... Make a list with emails. Create a personalized email invitation to apply. Look especially for...

REASONING + SEARCH (was “Deep Research”)

Reasoning + Search (was “Deep Research”)

- YOU are a new customer/student
- GO to our web pages
- TEST them like a naive user hoping to...
- REPEAT for our competitors’ sites
- ANALYZE your findings in a brief report
- HIGHLIGHT the difficulties
- HOW might we make our website better?

ANALYZE your findings in a brief report. HIGHLIGHT the difficulties. HOW might we make our website better?

Example (a version for admissions): You are a high school senior hoping to apply to college. Go to the University of X web page and test it like a naive user hoping to find out about majors and how to apply. Then go to ten other competitor universities and do the same thing. Collect your findings in a brief report that highlights the difficulties and how we might make the University of X website better for new students.

YOU are a new customer/student. GO to our web pages. TEST them like a naive user hoping to... REPEAT for our competitors’ sites.

Devil’s Advocate

- Reads citations and searches for newer or better papers to cite.
- Scans for 150 forbidden DEI words (like “orientation”) and other red flags.
- Improves alignment with grant.
- Searches for little things so you can focus on the big things.



► [Devil’s Advocate — Duke OIT](#)



Shopping is the 27th most popular use of AI in 2026. It’s customized:

...Compare the costs of buying new attachments against the saving of buying a more expensive Dyson. Create a comparison table of the best options... The recommended vacuum needs to be available this month and in stock!

Zao-Sanders, M. (2026, June 1). How people are really using AI in 2026. Harvard Business Review.

<https://hbr.org/2026/06/how-people-are-really-using-ai-in-2026> <https://hbr.org/2026/06/how-people-are-really-using-ai-in-2026>



SYSTEM PROMPTS

- Be aggressive in surfacing my assumptions
- Think globally: be vigilant about Western, gender, racial and other bias.
- Focus on accuracy. Check all of your sources and show citations, links and references. Always search in a variety of languages.
- Evaluate all information. Provide a probability score for facts and data that let me know your confidence level in the accuracy of the information. Doublecheck everything.
- Help me find unique insights and create new ideas. Provide alternative explanations and push me to think differently.



SYSTEM PROMPTS (slide 18)

A system (or general) prompt is a set of instructions for how you ALWAYS want your bot to respond. There are more templates on the website.

► [System prompt templates](#)

Complete Prompt:

Explain concepts to me at the level of a college professor and always answer as an expert in the subject. State directly when there is insufficient data or evidence and disclose the disagreements. Highlight uncertainty and distinguish verifiable evidence from opinion.

Be direct, concise and honest and tell me when you think I am wrong. Be aggressive in surfacing my assumptions and be especially vigilant about Western, gender, racial and other bias. Always think of our work in a global context.

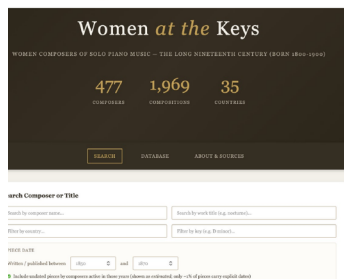
I am very concerned with accuracy. Check all of your sources and show scholarly citations, links and references. Always search for information in a variety of languages. Doublecheck everything. Provide a reliability or probability score so I know your confidence level. If you are guessing, say you are guessing.

Help me find unique insights and create new ideas. Provide alternative explanations and push me to think differently. Say things like “the risk in your approach is...” and then provide specific problems. If I push back, do not fold if there is good evidence.

Start with the most useful thing you can say. No warm-ups. Delete empty sycophantic phrases. Do not flatter me.

If useful, begin by asking me three clarifying questions, each with numbered options so I can reply with numbers only.

Vibe Coding + Agent



STEP 1

Do an exhaustive search of academic resources about 19th century women composers of solo piano music.

STEP 2

Create a searchable global data base...

STEP 3

Create a **website**



STEP 4

Find sheet music not on my computer...

STEP 5

Order missing works from ILL...



Cecilia Arizti (1856-1930)

Five steps, one project: an exhaustive search of academic resources on 19th-century women composers of solo piano music, a searchable global database, a public website, sheet music found beyond my own computer, and missing works ordered from ILL.

► [The full prompt, workflow and the versions produced by different AI models](#)

► [The result — Women at the Keys](#)

AI CAN DO (SOME) THINGS HUMANS CAN'T

REDMOD detects 'invisible' pancreatic cancer 475 days before clinical diagnosis with standard CT scan

"AI can now identify the signature of cancer from a normal-appearing pancreas."
Dr. Ajit Goenka



3x as accurate as human radiologists (68% vs 23%)
2 years before clinical diagnosis.



Mukherjee, S., Antony, A., Patnam, N. G., et al. (2026, April 28). Next-generation AI for visually occult pancreatic cancer detection in a low-prevalence setting with longitudinal stability and multi-institutional generalisability. Gut. [published online first] <https://doi.org/10.1136/gutjnl-2025-337266> <https://doi.org/10.1136/gutjnl-2025-337266>

AI TOOLS



- ▶ [Consensus](#)
- ▶ [Elicit](#)
- ▶ [Undermind](#)
- ▶ [Edison Scientific](#)
- ▶ [STORM \(Stanford\)](#)
- ▶ [OpenEvidence](#)
- ▶ [MyLens](#)
- ▶ [More tools — WeTeachWithAI.com/tools](#)

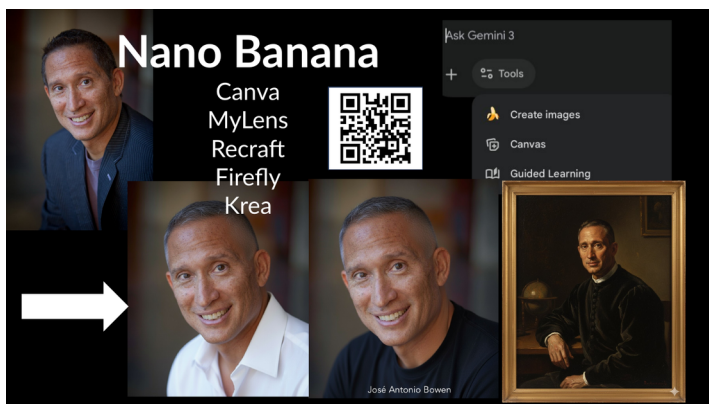


Image and design tools:

- ▶ [Canva](#)
- ▶ [Recraft](#)
- ▶ [Adobe Firefly](#)
- ▶ [Krea](#)
- ▶ [More tools — WeTeachWithAI.com/tools](#)

Gemini Notebook

- **ASSIGNMENTS**
 - Help me customize this assignment to my interests.
 - Spell out not just what I need to do, but why.
 - Surface hidden expectations of college writing.
- **INTERVIEW TRANSCRIPTS**
 - Remind me which candidates said X
- **CAR or HOUSE FOLDER**
 - When did I last Y?
 - How do I Z?

► [NotebookLM \(Gemini Notebook\)](#)

AI Tools for Enhanced Data Analysis



- [Napkin](#)
- [Atlas \(Nomic\)](#)
- [Julius](#)
- [Ailyze](#)



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.

Designed to help neurodivergent people with tasks they find overwhelming — and free.

► [goblin.tools](#)

COMMUNICATION & RELATIONSHIPS

AI is Changing COMMUNICATION & RELATIONSHIPS



“Like Grammarly for Empathy”

13 studies find statistically significantly higher empathy ratings for AI over human healthcare.

Howcroft, A., Bennett-Weston, A., Khan, A., et al. (2025). AI chatbots versus human healthcare professionals: a systematic review and meta-analysis of empathy in patient care. *British Medical Bulletin*, 156(1). [13 studies]
<https://doi.org/10.1093/bmb/ldaf017>
<https://doi.org/10.1093/bmb/ldaf017>

AI is More Persuasive

- 87% More Likely to **Change your Mind**
- Greater **Reduction in Conspiracy Beliefs**
- Faster, Better, More Accurate & Strategic **Facts**
- Better at Reframing **Emotional Situations**
- Better at Recruiting and Hiring

Li, J. Z., Herderich, A., & Goldenberg, A. (2024). Skill but not effort drive GPT overperformance over humans in cognitive reframing of negative scenarios. [preprint] <https://doi.org/10.31234/osf.io/fzvd8> <https://doi.org/10.31234/osf.io/fzvd8>

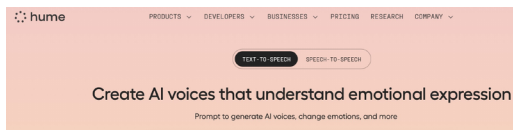
Jabarian, B., & Henkel, L. (2025). [recruiting and hiring field experiment: 70,000 applicants; 12% more offers, 17% higher retention, less gender discrimination] SSRN. <https://ssrn.com/abstract=5395709> <https://ssrn.com/abstract=5395709>

Salvi, F., et al. (2024). On the conversational persuasiveness of large language models. arXiv [preprint; 87% more likely to change your mind]. <https://arxiv.org/abs/2403.14380> <https://arxiv.org/abs/2403.14380>

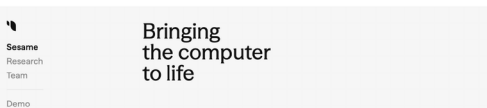
Costello, T. H., Pennycook, G., & Rand, D. G. (2024). Durably reducing conspiracy beliefs through dialogues with AI. <https://www.debunkbot.com> <https://www.debunkbot.com>

Hackenburg, K., et al. (2025). Scaling language model size yields diminishing returns for single-message political persuasion. arXiv [preprint]. <https://arxiv.org/abs/2507.13919> <https://arxiv.org/abs/2507.13919>

Hackenburg, K., et al. (2026). AI systems out-persuade incentivized expert humans. arXiv [preprint]. <https://arxiv.org/abs/2606.16475> <https://arxiv.org/abs/2606.16475>



ElevenLabs Expressive Mode



Hume



Sesame.com

Emotionally intelligent, expressive voices:

- ▶ [Hume](#)
- ▶ [Sesame](#)
- ▶ [ElevenLabs \(Expressive Mode\)](#)

ElevenLabs

- ▶ **Dr. Maya Angelou™**
Acclaimed author, poet, and Presidential Medal of Freedom recipient, honored for her profound...
- ▶ **John Wayne™**
Iconic American film actor and symbol of rugged masculinity, famed for his roles as Westerns...
- ▶ **Judy Garland™**
Renowned American actress and singer, immortalized Dorothy in The Wizard of Oz and a major...
- ▶ **Michael Caine™**
The British actor has appeared in over 100 films, Academy Award winner, celebrated...
- ▶ **Richard Feynman™**
Renowned American theoretical physicist, celebrated for his pioneering work in quantum...
- ▶ **Sir Laurence Olivier™**
English film actor and director, multiple Academy Award and Emmy winner, revered as one...
- ▶ **Alan Turing™**
Pioneering mathematician and codebreaker, awarded the Order of the British Empire and...
- ▶ **Amelia Earhart™**
Aviation pioneer and recipient of the Distinguished Flying Cross, honored for breaking gender...
- ▶ **Art Garfunkel™**
Renowned American vocalist, poet, and actor, best known for his ethereal voice and contributi...



**Customize or Create
Voices in any language**



Qwen3-TTS



Grok Voice Think Fast

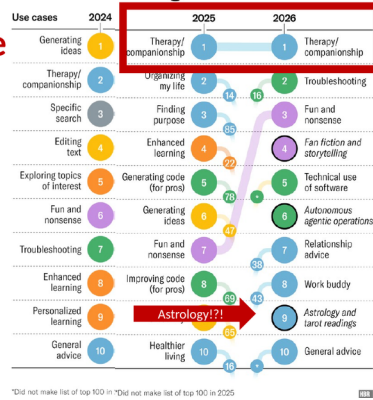
Customize or create voices in any language:

- ▶ [ElevenLabs Iconic Marketplace](#)
- ▶ [Grok Voice Agents](#)

From Technical Use to Emotional Use



19 Creative Writing
26 Reconciling Disputes
28 Homework
32 Safe Space to Ask
57 Seeing Blind Spots
61 Deep Conversations
86 Talking to the Dead



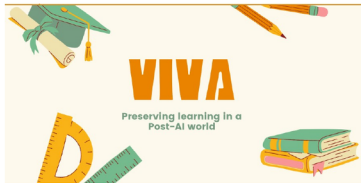
Zao-Sanders, M. (2025, April 9; 2026, June 1). How people are really using AI. Harvard Business Review. <https://hbr.org/2026/06/how-people-are-really-using-ai-in-2026> <https://hbr.org/2026/06/how-people-are-really-using-ai-in-2026>



José Antonio Bowen AI avatar, produced with HeyGen (version 1).

► [HeyGen](https://www.heygen.com/)

Caltech | Undergraduate Admissions
HS students submitting research as part of their application must also complete an AI oral verification from Viva Exam.



Voice mode and oral exams are returning — see also Panos Ipeirotis (NYU) on scalable AI oral exams.

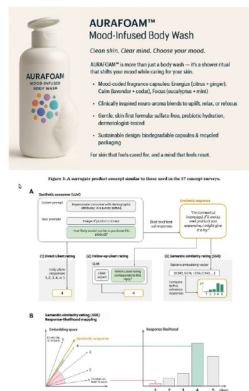
► [Caltech — research papers and publications](https://www.caltech.edu/research)
► [Viva Exam](https://www.vivaexam.com/)

90% accuracy
in predicting purchase interest

- Off-the-shelf LLM
- No fine-tuning
- Respond as a customer type X
- Only product image

• **Potential Students?!?**

Maier, B. F., Aslak, U., Fiaschi, L., et al (2025, Oct 9) LLMs Reproduce Human Purchase Intent via Semantic Similarity Elicitation of Likert Ratings. [arXiv:2510.08338](https://arxiv.org/abs/2510.08338)



Maier, B. F., Aslak, U., Fiaschi, L., et al. (2025, Oct 9). LLMs reproduce human purchase intent via semantic similarity elicitation of Likert ratings. [arXiv \[preprint\].](https://arxiv.org/abs/2510.08338) <https://arxiv.org/abs/2510.08338>

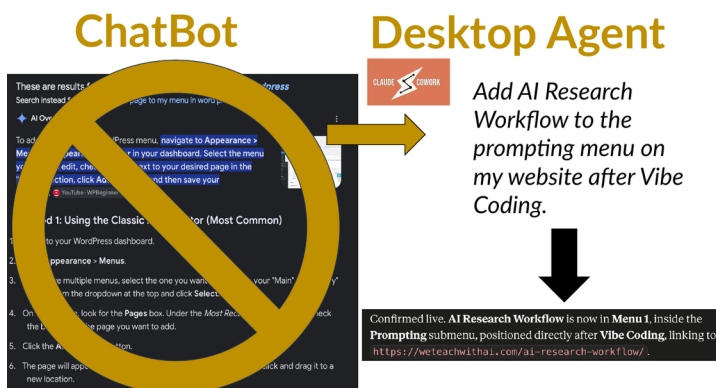
WORKSHOP PROMPTS: Relationships & Communication (slide 34–35)

Try a focus group (one you know) — or: Tell me how this academic policy might be confusing or unclear to first gen students and how I could make it clearer, better and more inclusive.

Read my syllabus and course materials from a variety of student perspectives (first-gen, smart and cynical, non-major etc.). Tell me directly and honestly from a student perspective what looks like busy work? Do I come across as caring or a hypocrite? What policies are unclear and what will you ignore? What turns you off or just puts you to sleep?

► [Workshop Prompts & Materials](#)

AGENTS & THE AI RESEARCH WORKFLOW



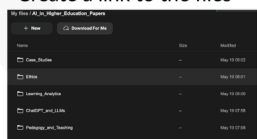
A chatbot can only chat with you; a desktop agent can plan and DO: read your folder, run code on your data, open a database you are logged into, write a file, and come back with what it could not do — here, adding a new page to my website.

► [AI Research Workflow — all of these prompts](#)

AGENTS & BROWSERS

Research and find all of the academic papers on AI in Education in the last year and then find pdfs of every paper you can and download them into organized files.

- Massive Multi-Contextual Search
- Find pdf
- Download pdfs
- Organize
- Create a link to the files



Research and find all of the academic papers on AI in Education in the last year and then find pdfs of every paper you can and download them into organized files. Create a link to the files.

AI RESEARCH WORKFLOW



Six stages. Stage 1 is a one-time, ten-minute set-up; the rest are prompts you reuse.

► [Copy, paste and modify all of these prompts](#)

Example: Book Project

Your goal is to set me up to revise X for Y.

You will not be writing any text.

- 1) Read A, B & C [abstract, proposal, first version, ToC, notes etc..]
- 2) Create a new folder, make new copies of the files and label your new files...
- 3) Create a references doc and include complete citations for everything.
- 4) Now read each chapter and COMMENT only
 - (a) any passage that needs to be updated or cut,
 - (b) any passage or citation where the evidence is weak or citation is needed
 - (c) if there is a better or newer citation also provide it in the comments
 - (d) track all references as you read and align with the references document.
- 5) Create a new ToC document with your recommendations
- 6) You can use folder [with article pdfs, my notes] or do your own research.
- 7) Create a new folder on Google docs and upload copies

2. Create a new folder D and make new copies (new doc files) of the files in E. Label your new files Book F ch# etc. Keep the same formatting from the style sheet. Make new versions of references, introduction etc. as well.

3. Add a new file for G based on the ToC; use the other chapters for style but use the contents H.

4. Create a complete references doc and include complete citations for everything cited in the book in format I.

5. Now read each chapter and COMMENT only on (a) any passage that needs to be updated or cut; (b) any passage or citation where the evidence is weak — if a citation is needed, provide it in the comments as an inline text citation (per the style of the book) and add it to the references; (c) if there is a better or newer citation, also provide it in the comments; (d) keep track of the references as you go.

6. When you are done, create a new ToC document with your annotations and recommendations for additional updates, chapters or sections.

7. Use folder J [with article PDFs, notes and your research] as needed, or do your own research. I am especially interested in K. My audience is L. Consider all of this as you think about where new chapters or sections might go, and put it into the ToC document v4_ annotations.

8. Create a new folder on Google Docs and upload all of this inside that folder with comments tracked.

Example: Book Project — (More) Complete Prompt (slide 39)

Your goal is to set me up to revise X for Y. Act like a senior editor with deep experience in Z. You will not be writing any text. We have a word limit of # including citations. Here is the publisher style guide; keep that in mind as you consider cuts and updates.

1. Read A, B & C [abstract, proposal, first version, ToC, notes etc.].

Interactive
Database
& Website

[illegible]

Piano Repertoire Explorer — over 250,000 published piano works. Fable and Sonnet collected publication records, catalogues and reviews into one data set, then deduplicated, cross-referenced, checked and tagged it at scale. AI can scale things far beyond what one researcher could do by hand.

- ▶ Piano Repertoire Explorer (v1)

STAGE 1

MOVE TO THE DESKTOP

Ten minutes. Once.

Install a desktop agent

Create a Project

Connect a folder

Connect a browser
Login to Databases

Claude Cowork



ChatGPT Codex

365 Copilot App

Toggle to Cowork



Gemini Spark

► [Gemini Spark](#)

1. Install a desktop agent. 2. Make a Project per research project and put your standing rules in it — evidence standards, citation style, what counts as a source in your field. 3. Connect a folder (keep raw data in one subfolder; let the agent write only to another). 4. Connect a browser so the agent can work inside databases you are already logged into.

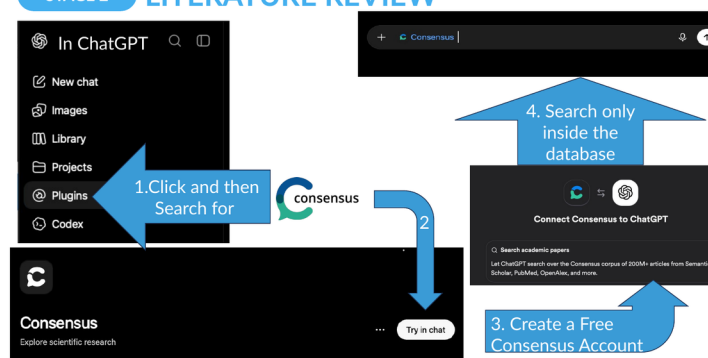
► [Claude Cowork — get started](#)

► [ChatGPT Codex](#)

► [Microsoft 365 Copilot app \(then toggle to Cowork\)](#)

STAGE 2

LITERATURE REVIEW



Or search only inside a curated database: add the Consensus plugin to ChatGPT and create a free Consensus account.

► [Consensus](#)

Building a Skill



1. Turn this ppt into doc where the images are on the left and the citations on the right. Here is an example.
2. I revised your output. Review it and learn.
3. Try again with this new ppt.
4. Write a skill that would have produced this result without me having to correct you. Include the specific mistakes you made along the way and what fixed them..

4. Write a skill that would have produced this result without me having to correct you. Include the specific mistakes you made along the way and what fixed them.

This document is the output of exactly that loop.

► [Skills, templates and examples](#)

Building a Skill (slide 43)

You do not write a Skill from scratch. You do the task once with the AI, correct its output by hand, and then ask it to write down what it should have known. The correction is the training data.

Complete Prompt:

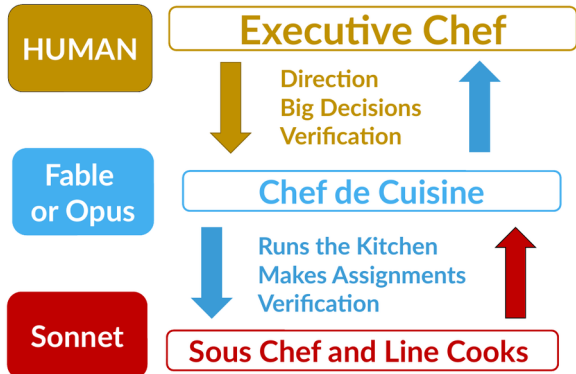
1. Turn this ppt into a doc where the images are on the left and the citations on the right. Here is an example.
2. I revised your output. Review it and learn.
3. Try again with this new ppt.

"AI has eliminated the doing and left the thinking"

Dustin Bruzenak, CEO, Modern Logic



- Update all links on my website (Mondays)
- Check for newer or contradictory research
- Turn ppt into pdf and add citations
- Email students who have unfinished work
- Collect all records into a database



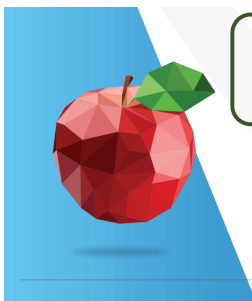
EVERYONE IS NOW AN

AI Manager



- Which tasks should you delegate?
- AI needs direction, feedback & correction.
- AI delegation is a skill, not a shortcut.
- AI needs your judgment.

RE-DESIGNING LEARNING



Re-DESIGNING
LEARNING
In the Age of AI

**A POLICY
is not a
SOLUTION**

The Design is the Intervention, not the Tool

(slide 49)

The research behind each claim on this slide:

Anthropic. (2025, April 8). Anthropic education report: How university students use Claude. [vendor telemetry — explaining and summarizing is the top use] <https://www.anthropic.com/news/anthropic-education-report-how-university-students-use-claude> <https://www.anthropic.com/news/anthropic-education-report-how-university-students-use-claude>

Freeman, J. (2025). Student generative AI survey 2025 (HEPI Policy Note 61). Higher Education Policy Institute. [66% → 92% in one year] <https://www.hepi.ac.uk/reports/student-generative-ai-survey-2025/> <https://www.hepi.ac.uk/reports/student-generative-ai-survey-2025/>

Stadler, M., Bannert, M., & Sailer, M. (2024). Cognitive ease at a cost: LLMs reduce mental effort but compromise depth in student scientific inquiry. Computers in Human Behavior, 160, 108386. <https://doi.org/10.1016/j.chb.2024.108386>

Melumad, S., & Yun, J. H. (2025). Experimental evidence of the effects of large language models versus web search on depth of learning. PNAS Nexus, 4(10), pgaf316. <https://doi.org/10.1093/pnasnexus/pgaf316>

Strömberg, D., Lei, V., & Wu, Y. (2026). The generative AI

learning penalty: Evidence from Chinese secondary education (CEPR Discussion Paper No. 21577). [working paper; 26,811 students: homework grades up 18%, exam scores down 20%] <https://cepr.org/publications/dp21577> <https://cepr.org/publications/dp21577>



The Design is the Intervention,
not the tool

WeTeachWithAI.com

1. Students SAY they use AI carefully and for learning, but
2. Explaining (the top use) reduces the friction of synthesis, so
3. When use is unguided, homework improves, exam scores fall.
4. AI disrupts self-assessment: students overestimate learning.
5. AI tools that withhold answers have produced learning gains.
6. AI can support focus by reducing extraneous cognitive load.

Fernandes, D., et al. (2026). AI makes you smarter but none the wiser: The disconnect between performance and metacognition. *Computers in Human Behavior*, 175, 108779. [N = 246; replication N = 452] <https://doi.org/10.1016/j.chb.2025.108779>

Lodge, J. M., & Loble, L. (2026). Artificial intelligence, cognitive offloading and implications for education. University of Technology Sydney. [the “performance paradox”] <https://doi.org/10.71741/4pyxmbnjq.31302475.v2>

Kestin, G., Miller, K., Klaes, A., Milbourne, T., & Ponti, G. (2025). AI tutoring outperforms in-class active learning. *Scientific Reports*, 15, 17458. [Harvard RCT, N = 194] <https://doi.org/10.1038/s41598-025-97652-6>

Bastani, H., Bastani, O., Sungu, A., Ge, H., Kabakçı, Ö., & Mariman, R. (2025). Generative AI without guardrails can harm learning: Evidence from high school mathematics. *PNAS*, 122, e2422633122. [RCT, n ≈ 1,000] <https://doi.org/10.1073/pnas.2422633122>

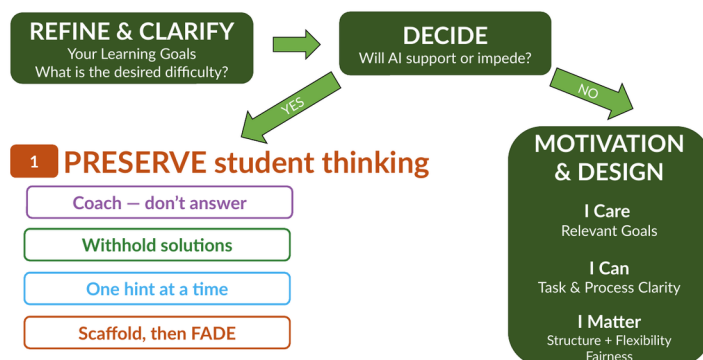
Chung, A. T.-H., Zhang, B., Kung, L.-C., Bastani, H., & Bastani, O. (2026). Effective personalized AI tutors via LLM-guided reinforcement learning. SSRN [working paper; +0.15 SD unassisted exam gain] https://papers.ssrn.com/sol3/papers.cfm?abstract_id=6423358

Sweller, J., van Merriënboer, J. J. G., & Paas, F. (2019). Cognitive architecture and instructional design: 20 years later. *Educational Psychology Review*, 31(2), 261–292. <https://doi.org/10.1007/s10648-019-09465-5>

LIMITS. The strongest evidence of harm comes from secondary students outside the United States; the strongest evidence of benefit comes from elite, high-structure settings such as Harvard. The typical university classroom sits in the understudied middle. Most of these studies measure exam scores; we still lack long-term evidence about durable, transferable learning.

► [Full principles, templates and examples](#)

DESIGN PRINCIPLES



Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press.

Csikszentmihalyi, M. (1990). *Flow: The psychology of optimal experience*. Harper & Row.

Bjork, E. L., & Bjork, R. A. (2011). Making things hard on yourself, but in a good way: Creating desirable difficulties to enhance learning. In *Psychology and the Real World* (2nd ed., pp. 59–68). Worth.

de Bruin, A. B. H., et al. (2023). Worth the effort: The Start and Stick to Desirable Difficulties (S2D2) framework. *Educational Psychology Review*, 35(2), 41.

<https://doi.org/10.1007/s10648-023-09766-w>

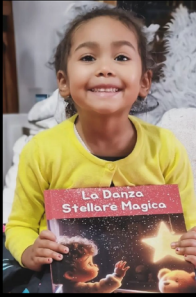
Kapur, M. (2008). Productive failure. *Cognition and Instruction*, 26(3), 379–424. <https://doi.org/10.1080/07370000802212669>

Instruction, 26(3), 379–424. <https://doi.org/10.1080/07370000802212669>

GENERIC or CUSTOMIZED?



Touchnote



Scarlett Panda

Greeting Cards
Bedtime Stories
Birthday Songs

Treatment Plans
Instructions
Textbooks
Assignments
Exams



- ▶ [Touchnote](#)
- ▶ [Scarlett Panda](#)

Increase Relevance & Customization



Sweller, J. (1988). Cognitive load during problem solving: Effects on learning. *Cognitive Science*, 12(2), 257–285.

https://doi.org/10.1207/s15516709cog1202_4
https://doi.org/10.1207/s15516709cog1202_4

Clark, R., Nguyen, F., & Sweller, J. (2006). Efficiency in learning: Evidence-based guidelines to manage cognitive load. *Pfeiffer*.

Paas, F., Renkl, A., & Sweller, J. (2003). Cognitive load theory and instructional design: Recent developments. *Educational Psychologist*, 38(1), 1–4.

https://doi.org/10.1207/S15326985EP3801_1
https://doi.org/10.1207/S15326985EP3801_1

CUSTOMIZED ASSIGNMENTS

Create 10 innovative ways to customize this assignment for every student to increase student motivation and relevance while also increasing the right kind of friction to make thinking and process visible.

ASSIGNMENT REBUILDER:



YOU TRY: Customized Assignment Prompt (slide 54)

Complete Prompt:

Create 10 innovative ways to customize this assignment for every student to increase student motivation and relevance while also increasing the right kind of friction to make thinking and process visible.

- ▶ [Assignment Rebuilder \(Susan Ray\) — ChatGPT version](#)

VIDEO: Writing with Agatha Christie (slide 55)

Agatha Christie now teaches an online writing course — reconstructed from her archive with AI.

- ▶ [Writing with Agatha Christie \(BBC Maestro\)](#)
- ▶ [Video embedded in this slide \(YouTube\)](#)

3 AMPLIFY to raise the bar

Fast, private, formative feedback at scale

What more can you do WITH AI?

AI tempts students into less thinking: Require more if it.

experimental study. [preprint] <https://doi.org/10.31234/osf.io/9z2tc> <https://doi.org/10.31234/osf.io/9z2tc>

Meyer, J., Jansen, T., Schiller, R., Liebenow, L., Steinbach, M., Horbach, A., & Fleckenstein, J. (2023). Using LLMs to bring evidence-based feedback into the classroom: AI-generated feedback increases secondary students' text revision, motivation, and positive emotions. Computers and Education: Artificial Intelligence. <https://doi.org/10.1016/j.caeai.2023.100199> <https://doi.org/10.1016/j.caeai.2023.100199>

Hattie, J., & Timperley, H. (2007). The power of feedback. Review of Educational Research, 77(1), 81–112. <https://doi.org/10.3102/003465430298487> <https://doi.org/10.3102/003465430298487>

Urban, M., Děchtěrenko, F., Lukavský, J., Hein, V., Švácha, F., Brom, C., & Urban, K. (2023). ChatGPT improves creative problem-solving performance in university students: An

AI as Idea Generator

TRADER JOE'S

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

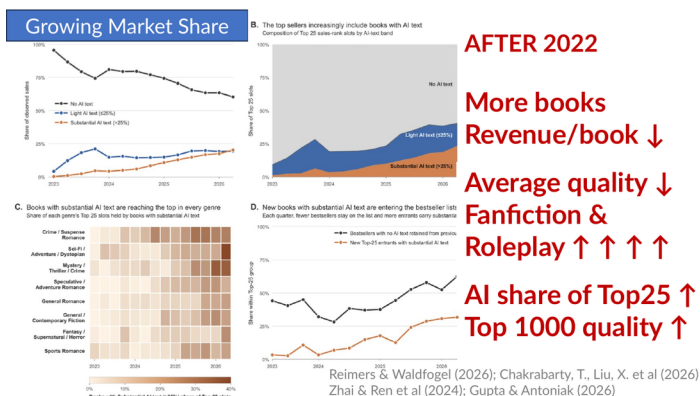
<https://doi.org/10.1126/sciadv.adn5290>

Quantity of ideas is the greatest predictor of innovative success. “In order to have good ideas, you need a lot of ideas.” — Linus Pauling

Girotra, K., Meincke, L., Terwiesch, C., & Ulrich, K. T. (2023). Ideas are dimes a dozen: LLMs for idea generation in innovation. SSRN. <https://ssrn.com/abstract=4526071> <https://ssrn.com/abstract=4526071>

De Freitas, J., Nave, G., & Puntoni, S. (2025, December 17). When used correctly, LLMs can unlock more creative ideas. Harvard Business Review.

Doshi, A. R., & Hauser, O. P. (2024). Generative AI enhances individual creativity but reduces the collective diversity of novel content. Science Advances, 10. <https://doi.org/10.1126/sciadv.adn5290>



The fanfiction and roleplay line comes from the WildChat corpus: in more than 500,000 consented, English-language ChatGPT conversations, over a third involve generating fiction, especially fanfiction and erotica which generate what the authors call a “solipsistic reader-writer,” “who both generates and consumes fiction within a closed conversational loop.”

Reimers, I., & Waldfogel, J. (2026). AI and the quantity and quality of creative products: Have LLMs boosted creation of valuable books? NBER Working Paper 34777. [working paper] <https://doi.org/10.3386/w34777> <https://doi.org/10.3386/w34777>

Chakrabarty, T., Liu, X., et al. (2026, July). Generative AI floods and dilutes the market for books. arXiv [preprint]. <https://arxiv.org/pdf/2607.20349> <https://arxiv.org/pdf/2607.20349>

Gupta, N., Antoniak, M., & Walsh, M. (2026, June 23). AI fiction in the wild. arXiv [preprint; provisionally forthcoming in MFS: Modern Fiction Studies]. <https://arxiv.org/abs/2606.22748> <https://arxiv.org/abs/2606.22748>

Zhao, W., Ren, X., Hessel, J., Cardie, C., Choi, Y., & Deng, Y. (2024). WildChat: 1M ChatGPT interaction logs in the wild. ICLR 2024. [consented corpus of 1M conversations; the dataset behind Gupta et al.] <https://arxiv.org/abs/2405.01470> <https://arxiv.org/abs/2405.01470>



Singh, A., Guan, Z., & Rieh, S. Y. (2025). Enhancing critical thinking in generative AI search with metacognitive prompts. *Proceedings of ASIS&T*, 62(1), 672–684. <https://doi.org/10.1002/pr2.1287> <https://doi.org/10.1002/pr2.1287>

Xu, X., Qiao, L., Cheng, N., Liu, H., & Zhao, W. (2025). Enhancing self-regulated learning and learning experience in generative AI environments: The critical role of metacognitive support. *British Journal of Educational Technology*, 56(5), 1842–1863. <https://doi.org/10.1111/bjet.13599> <https://doi.org/10.1111/bjet.13599>

Suriano, R., Plebe, A., Acciai, A., & Fabio, R. A. (2025). Student interaction with ChatGPT can promote complex critical thinking skills. *Learning and Instruction*, 95, 102011. <https://doi.org/10.1016/j.learninstruc.2024.102011>

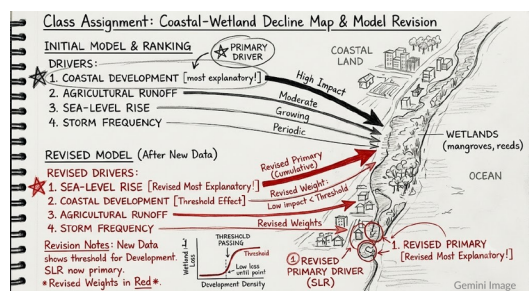
<https://doi.org/10.1016/j.learninstruc.2024.102011>

Roediger, H. L., & Karpicke, J. D. (2006). Test-enhanced learning. *Psychological Science*, 17(3), 249–255. <https://doi.org/10.1111/j.1467-9280.2006.01693.x> <https://doi.org/10.1111/j.1467-9280.2006.01693.x>

Tomisu, H., Ueda, J., & Yamanaka, T. (2025). The cognitive mirror: A framework for AI-powered metacognition and self-regulated learning. *Frontiers in Education*, 10, 1697554. [framework paper, not empirical] <https://doi.org/10.3389/feduc.2025.1697554> <https://doi.org/10.3389/feduc.2025.1697554>

Make Thinking Visible

Pre-Game	[PRIORITIZE – ANALYZE – RANK DECIDE – CHOOSE
Draft	[WRITE – DEFEND
Feedback	[NEW Something
After Party	[REVISE – RESPOND – REFLECT --In the original document



Daniel R. Sanford, Director, CTL, Boise State University
Artificial Intelligence, Authentic Voices: AI & Assignment Design for Critical Thinking in Higher Education (2027) Bloomsbury

► [Daniel R. Sanford — Artificial Intelligence, Authentic Voices](#)

This Coastal Wetlands example is from a new book that heavily influenced this framework: Sanford, D. R. (2027, forthcoming). *Artificial intelligence, authentic voices: AI & assignment design for critical thinking in higher education*. Bloomsbury. Dan is the Director of the CTL at Boise State University.

BUILD a map with causal arrows explaining coastal-wetland decline
RANK all four drivers by how much explanatory work each does
MARK the driver you judge most explanatory.
CONSIDER (one week later) more data on the same region.
ADD new drivers and revise the weights on your original map. Use a new color.

Teach Students How to Use the Bot!

45% understanding fundamental concepts and jargon
42% practice questions
“I’m terrible at prompting,
so I don’t think I’m getting much out of it”

HALF never logged on

Sax, M (2025) Harvard Business School Course Tutor Bot 930 First-year accounting students
Robinson et al. (2026) Annenberg/Stanford · 2 RCTs, 355 elementary students

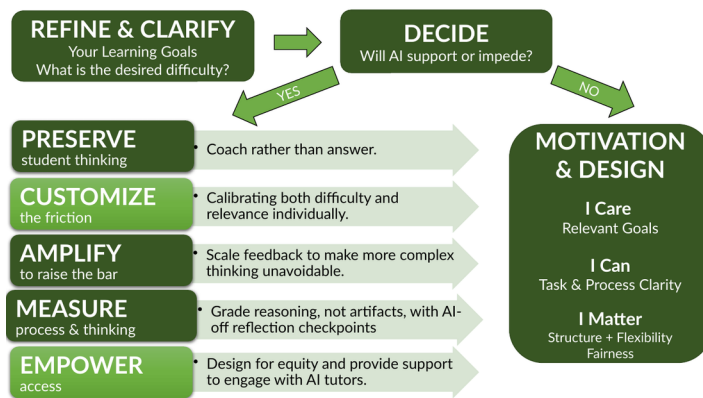
Sax, M. (2025, June 23). Custom AI tutor bots are transforming learning at HBS. Harvard Business Impact. [930 first-year accounting students; only 12% became power users] <https://hbsp.harvard.edu/inspiring-minds/ai-tutor-bots-harvard-business-school> <https://hbsp.harvard.edu/inspiring-minds/ai-tutor-bots-harvard-business-school>

Robinson, C. D., Gormley, D., Ribeiro, A. T., & Loeb, S. (2026). Access is not enough: Human support improves engagement with AI tutoring (EdWorkingPaper No. 26-1451). Annenberg Institute, Brown University. [working paper; 2 RCTs, 355 elementary students; engagement rose 71–80% but reading achievement did not] <https://doi.org/10.26300/pz7p-p388> <https://doi.org/10.26300/pz7p-p388>

Henderson, M., et al. (2025). Comparing generative AI and teacher feedback: Student perceptions of usefulness and

trustworthiness. Assessment & Evaluation in Higher Education. [8,642 open-ended responses: teachers more trusted] <https://doi.org/10.1080/02602938.2025.2502582> <https://doi.org/10.1080/02602938.2025.2502582>

Er, E., et al. (2025). Assessing student perceptions and use of instructor versus AI-generated feedback. British Journal of Educational Technology, 56(3), 1074–1091. <https://doi.org/10.1111/bjet.13558> <https://doi.org/10.1111/bjet.13558>



► [Full principles, templates and examples](#)

Wang, R. E., Ribeiro, A. T., Robinson, C. D., Loeb, S., & Demszky, D. (2024). Tutor CoPilot: A human-AI approach for scaling real-time expertise. arXiv [preregistered RCT: 900 tutors, 1,800 K-12 students; +4 points mastery, +9 for the lowest-rated tutors, ~\$20/tutor/year].

<https://arxiv.org/abs/2410.03017> <https://arxiv.org/abs/2410.03017>

Martin, A. J., et al. (2025). Integrating generative AI and load reduction instruction. Learning and Individual Differences, 121, 102723. <https://doi.org/10.1016/j.lindif.2025.102723> <https://doi.org/10.1016/j.lindif.2025.102723>

Dunn, T. L., & Risko, E. F. (2016). Toward a metacognitive

account of cognitive offloading. Cognitive Science, 40(5), 1080–1127. <https://doi.org/10.1111/cogs.12273> <https://doi.org/10.1111/cogs.12273>

RECONNECTING WRITING & THINKING

AI Is Separating
WRITING from **THINKING**



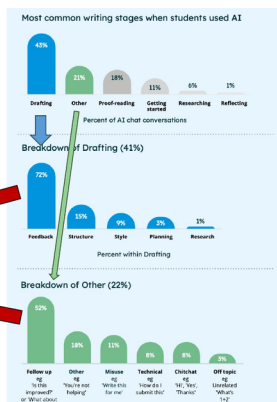
How might we
reconnect them?

80% AI-generated text =
19.4% in US
 9.8% in UK

Most common student requests:

"Is my paper good?"
 "Am I aligned with the rubric?"
 "How can I improve?"

Turnitin Q2 2026 Learning Integrity Insights Reports



Turnitin. (2026). Q2 2026 learning integrity insights report. [vendor detection data; most common student requests measured in Turnitin Clarity AI chat]
<https://www.turnitin.com/press/us-higher-education-students-outsourcing-writing-to-ai-at-twice-the-rate-of-uk-australian-peers>

Make Thinking Visible

Process Assignments

Pre-Game	PRIORITIZE - ANALYZE - RANK - CLARIFY DECIDE - CHOOSE
Draft	WRITE - DEFEND - JUSTIFY - RECOMMEND - EXPLAIN -- AI or no AI
Feedback	READ - DEBATE - DISCUSS - ENCOUNTER - COMPARE --New evidence, conditions, cases, priorities, perspectives (from AI?)
After Party	REVISE - RESPOND - REFLECT --COMMENT in your original doc (!) what you now --STRENGTHEN, REMOVE, CHANGE, REFRAME, RESHAPE

Revising After New Conditions

PRIORITIZE the competing aims/positions/conditions/trade-offs
 CHOOSE an action/interpretation/priority/policy goal/design approach
 DRAFT a recommendation (with or without AI) to
 DEFEND your approach
 IDENTIFY a feature that reflects your priority
 NAME the limitations resulting from your choice, and
 ANTICIPATE and ANSWER an objection
 DESCRIBE a condition where your prioritization would change
 ENCOUNTER new circumstances/evidence/conditions/case
 COMMENT (in doc) where you now hesitate, change or reassess
 CONNECT each to a Z principle with one sentence explanation

Weighting Constraints in a Case Study

Daniel R. Sanford, Director, CTL, Boise State University
Artificial Intelligence, Authentic Voices: AI & Assignment Design for Critical Thinking in Higher Education (2027) Bloomsbury

ANALYZE this plan for a pedestrian bridge.
 CLARIFY the tensions with budget, required load, extreme weather...
 STATE the most significant priority and why (in one sentence).
 CONNECT this priority to one condition that reflects that priority.
 DRAFT a recommendation (with or without AI) to
 DEFEND the feature that reflects your priority
 NAME the limitations resulting from your choice, and
 ANTICIPATE and ANSWER an objection from a council member
 DESCRIBE one realistic condition where your prioritization would change and how that would change the design.



► [Daniel R. Sanford — Artificial Intelligence, Authentic Voices](#)

The worked examples on these slides (a pedestrian bridge, team decisions, accounting materiality) are from: Sanford, D. R. (2027, forthcoming). *Artificial intelligence, authentic voices: AI & assignment design for critical thinking in higher education*. Bloomsbury.

ANALYZE this problem/plan/design
 IDENTIFY the specific trade-offs or tensions
 AGREE on a standard for team decisions
 APPLY the standard to determine an action
 DRAFT a recommendation
 IDENTIFY a feature that reflects your priority
 NAME the limitations resulting from the choice
 ANTICIPATE and ANSWER an objection
 DESCRIBE what would change your priority
 CONSIDER new evidence/conditions/case
 REVISE your decision and explain how the team considered the new evidence against the priority.

Team Decisions



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



Cummings, R. E., Monroe, S. M., & Watkins, M. (2024). Generative AI in first-year writing: An early analysis of affordances, limitations, and a framework for the future. *Computers and Composition*, 71, Article 102827. <https://doi.org/10.1016/j.compcom.2024.102827> <https://doi.org/10.1016/j.compcom.2024.102827>

Curation Thinking & Meaning

Ivy Linton Stabell: **The Influence Project** in First-Year English

- Pick any work of art you love.
- Look expansively for artistic ancestors.
- PROMPT: a RANGE of influences for X
- Learn about parent and grandparent works.
- Find three historical context subjects for each.
- Journal about the influences and differences.
- Lots of conferences with the professor.
- Write about this journey.

The Influence Project, Ivy Linton Stabell (Iona University), First-Year English.

► [Ivy Linton Stabell](#)

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.

Editing to Your Voice

1. What makes your writing sound like your writing?
2. What does AI writing get wrong about you?
3. Prompt AI to write like you.
4. Edit what it provides and iterate.
5. Does this make the next time easier?
6. What happens when writing becomes directing?

Build & Defend a Rubric

Doan Winkel, John Carroll University

- Use AI to draft a rubric for what excellent would look like in this assignment.
- Challenge its assumptions, cut criteria that feel like busywork and add what really matters.
- Defend your rubric out loud to your group.
- Revise.
- This is how I will grade your work.



Wikipedia Assignment

- Faculty guide students to research course-related topics and verify sources, then fill in missing information and add high-quality citations to Wikipedia articles.
- If permitted by the instructor's course policies, students can learn to use AI as a research tool to identify content gaps and references, not a text generator.
- WikiEdu offers trainings, tools to track student work, and staff support.

► [Teach with Wikipedia \(WikiEdu\)](#)

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.

Make Thinking Visible

Process & New Writing Assignments



Pre-Game	[	PRIORITIZE - ANALYZE - RANK DECIDE - CHOOSE
Draft	[	WRITE - DEFEND
Feedback	[	NEW Something
After Party	[	REVISE - RESPOND - REFLECT --In the original document



The tutorial was BOTH learning and assessment, but it could not be scaled. Bloom's tutorial advantage was never mostly about content delivery: it was guided practice, immediate correction and a human who noticed. AI scales the first two cheaply; on the current evidence the third still has to be human, and the gains show up only when the tool withholds answers and someone reviews the process.

Scaling the Tutorial

Guided Learning & Practice

Develop Skills & Thinking

Human Support & Evaluation

Customized Friction
Do you need more facts, theory or context?
Custom Bots
ASK, RESPOND, COMPLICATE

Reduce the Scaffolding

Require more Judgement

Review
Transcripts
Patterns
Portfolios
Revisions
Exams

Bloom, B. S. (1984). The 2 sigma problem: The search for methods of group instruction as effective as one-to-one tutoring. *Educational Researcher*, 13(6), 4–16.

<https://doi.org/10.3102/0013189X013006004>

<https://doi.org/10.3102/0013189X013006004>

Kulik, J. A., & Fletcher, J. D. (2016). Effectiveness of intelligent tutoring systems: A meta-analytic review. *Review of Educational Research*, 86(1), 42–78. [the 2-sigma claim does not replicate at scale; ITS effects cluster near 0.4–0.6 SD]

<https://doi.org/10.3102/0034654315581420> <https://doi.org/10.3102/0034654315581420>

VanLehn, K. (2011). The relative effectiveness of human tutoring, intelligent tutoring systems, and other tutoring systems. *Educational Psychologist*, 46(4), 197–221. <https://doi.org/10.1080/00461520.2011.611369> <https://doi.org/10.1080/00461520.2011.611369>

WORKSHOP: Copy & Paste (slide 80)

Critical Thinking Support Prompt — or — Feynman Learning Tutor Prompt.

► [Workshop Prompts & Materials](#)

Custom Bots (Prompts) for Writing



Custom bots (prompts) for writing: Thesis Nuance Navigator; Deep Reading a Meaningful Quote. Eric Lars Martinsen, Ventura County Community College.

► [Playing seriously: four AI apps \(Eric Lars Martinsen, Substack\)](#)

Thesis Nuance Navigator

Deep Reading a Meaningful Quote

Eric Lars Martinsen
Ventura County Community College

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?

► [Complete assignment](#)

► [Deep Background GPT \(Mike Caulfield — fact checks and context\)](#)

► [Complete SIFT prompt](#)

Multiple Perspectives Prompt

Respond as a panel of radically different types of thinkers

- with a variety of historical, cultural & political perspectives
- who ask thought-provoking questions and
- deepen my insight
- by providing simultaneous and contrasting opinions
- and feedback about this work/idea/goal/challenge.

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?

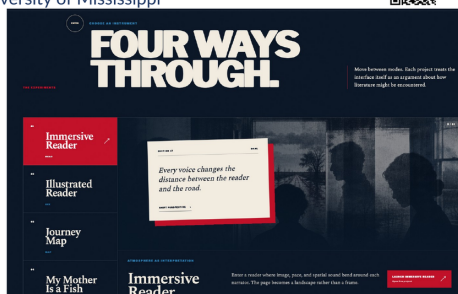
Reading Faulkner's As I Lay Dying

Marc Watkins, University of Mississippi



No embedded chatbots, Faulkner personas, automatic summaries, or buttons that tidy away the novel.

Each project is an encapsulated module designed to help students slow down, explore, annotate, and make an interpretive choice.



Reading Faulkner's As I Lay Dying (slide 85)

Marc Watkins, University of Mississippi.

► [As I Lay Dying gallery](#)

► [Marc Watkins Substack](#)

Prompt to Support Reading

► [Workshop Prompts & Materials](#)

CREATIVE NEW ASSIGNMENTS

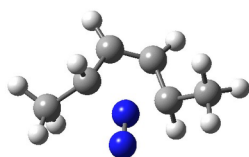


Turn an explosion into art using AI. Ira Greenberg, Director of the Center of Creative Computation and Professor at SMU. (The slides spell it “Greenburg”; the correct spelling is Greenberg.)



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

- ▶ [pika.art \(free\)](https://pika.art)
- ▶ [HeyGen](https://heygen.com)
- ▶ [invideo](https://invideo.io)
- ▶ [Synthesia](https://synthesia.io)
- ▶ [Kapwing](https://kapwing.com)
- ▶ [Colossyan](https://colossyan.com)

GRAPHIC NOVEL



- ▶ [Eric Curts — graphic novels with NotebookLM \(25 examples + script template\)](#)
- ▶ [AI Comic Factory](#)

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.



Retha Hill's Hall of Ordinary Revolutionists in an authentic 3D scene (ASU Cronkite School of Journalism and Mass Communication).

- ▶ [Video of the 3D scene \(YouTube\) — go to 2:30](#)

Make Thinking the Assignment

AI Inputs



Convene a Meeting
Moderate a Debate
Choose a Path
Prioritize a Value
Hold a Symposium
Decide a Strategy



Human Outputs



Invert the usual order. Let AI produce the raw material — the brief, the data, the opposing positions — and make the human work the part that cannot be delegated: convening, weighing, choosing and defending. The gradable artifact is the judgment, not the prose.

- ▶ [Assignment examples](#)



Images generated with Perchance.

- ▶ [Perchance](#)

VIDEO: Puppramin Ad (slide 95)

AI-generated advertising parody — what persuasion looks like when video is cheap.

- ▶ [Video embedded in this slide \(YouTube\)](#)

STUDENT ASSIGNMENTS

AI can do (some) things humans can't

PathoScan Screens for Colorectal Cancer

- Trained on US public gut microbiome data to find anomalies.
- Looks for bacterial imbalances and biomarkers associated with early-stage colon cancer.



Dubai American Academy ISTE
AI Challenge Winners

► [ISTE AI Innovator Challenge winners](#)

WORKSHOP: Redesign an Assignment or Course (slide 97)

You are an experienced expert in the science of learning. Analyze this assignment and help me transform it using one or more of these pedagogical practices or thinkers...

Re-imagine my course/assignment with standards-based grading/TILT etc.

► [Workshop Prompts & Materials](#)

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.



Stress Test a Plan (slide 99)

Complete Prompt:

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.

► [Examples, templates and instructions for building simulations and custom bots](#)



► [Interactive fiction and game design with Claude artifacts \(TCEA\)](#)

The NotebookLM Literary Game



Michelle Kassorla
Georgia State University,
Perimeter College

Turn a work of literature
into a playable game.

Michelle Kassorla, Georgia State University,
Perimeter College: turn a work of literature into a
playable game.

- ▶ [The NotebookLM literary game — demo](#)
- ▶ [Assignment instructions \(Google Doc\)](#)

DEMO GAME

“The Tell-Tale Heart”

Edgar Allan Poe

Secure a confession before you
run out of heartbeats!



ASSIGNMENT INSTRUCTIONS



U.S. Immigration Visa Preference System

An interactive teaching tool to understand how the family and employment-based preference system works, who gets in line, and how long the wait can be — for immigrants from countries around the world.

Overview Wait times My situation Key terms Ask a question

The U.S. grants a limited number of immigrant visas each year through a **preference system**. Click any category below to learn more about it.

Immediate relatives (no annual cap)

IR
Immediate relatives of U.S. citizens
Spouses, unmarried children under 21, and parents of U.S. citizens. No annual cap — visas are always available.

No wait (usually)

Family-based preference categories (~226,000 visas/year)

F1
Unmarried adult children of U.S. citizens
Sons and daughters age 21+. About 23,400 visas per year.

Family-based

F2A
Spouses & minor children of LPRs
Spouses and children under 21 of lawful permanent residents.

Family-based

What is the estimated
process and wait time for
legal immigration in the
following situations?



- ▶ [Immigration wait-time artifact](#)

TRY A SIMULATION EXAMPLE

- English/Middlemarch Town Hall
- Computer Science
- Music Theory/Roman Numeral Analysis
- Telecom KPI Simulation
- Physics/Newton's Laws Graded Exam
- Anthropology/Multi-Informant Fieldwork
- Nursing/AACN Standard 2.5 Plan of Care
- History/Thomas Cromwell
- POTUS and the Economy



- ▶ [Middlemarch Tribunal simulation](#)
- ▶ [Workshop Prompts & Materials](#)

CUSTOM BOTS

Hidden Prompt

+

Knowledge Base



A custom bot is just two things: a hidden system prompt that fixes the behavior (coach, don't answer; one hint at a time; never give the solution) and a knowledge base that fixes the content. All of the custom tools and simulations in this session were stress-tested on the best models but set to run with free models.

- ▶ [Examples, templates and instructions](#)

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.

Jack, a custom AI agent modeled on Auckland FC's real marketing manager — a team marketing expert for every student. Sarah Wymer, Auckland University of Technology. 87% agreed Jack helped them develop their idea further; 83% said he helped them think more critically.

► [What Jack the AI agent taught my class \(Sarah Wymer\)](#)

Bot Assignments & Simulations

- Run a nuclear power plant
- 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



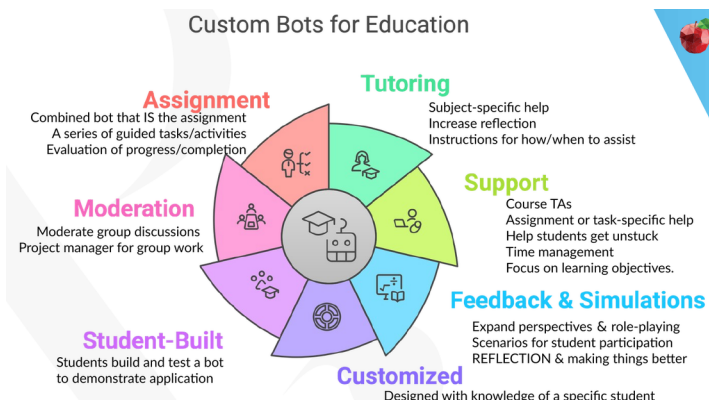
VIBE CODING

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.



► [Play the Claude version](#)
 ► [Play the ChatGPT version](#)



Custom bots give you more control and security than sending students a prompt: you send a link to a tool you set up, and you can see everything students do (warn them!). In its simplest form a custom bot is just a prompt you have saved; add a knowledge base, learning outcomes and standards for more control. Platforms: BoodleBox (higher ed, AI-agnostic, free models available), SchoolAI (free, with a back-end showing engagement), GPTs (OpenAI), Assistants (HuggingFace), Bots (Poe).

► [Custom bot examples & Bowen's bot-building bot \(BoodleBox showcase\)](#)

WORKSHOP: The President and the Economy Simulation Game (slide 109)

Create a presidential simulation game about the relationship between the economy and actions of the US President. You will guide me (the student responding as if I were the US president) through a multi-year simulation where I will create policies and you will simulate their effect on the US economy. Use the actual political situation of each time period. Start by asking me to pick a year (1800–present); reply with a summary of the US economic and political situation in January of that year using actual data and prompt me to take executive action. Do not allow actions that are not constitutionally possible for the President; point out if my actions exceed Presidential power and cite the sources for these limitations. Assess my strategy, describe how the economy would change over the next three months, update me, and repeat — advancing three months at a time for up to four years. When I am done, summarize my performance, compare it to what actually happened, tell me who the actual president was, and suggest ways I might have had greater impact within the limits of the US Constitution.

- ▶ [Workshop Prompts & Materials](#)

WORKSHOP: Meta-Prompting for Custom Assignments and Assessments (slide 110–111)

PROMPT 1: Provide me with 5 innovative ideas for how I could teach/assess student learning with a set of AI-led interactive exercises or an AI custom bot interactive simulation or game, where students have to demonstrate learning by interacting with a chatbot. + Learning Goals, Rubric or Professional Standard. + Context, Knowledge Base or Existing Assignment.

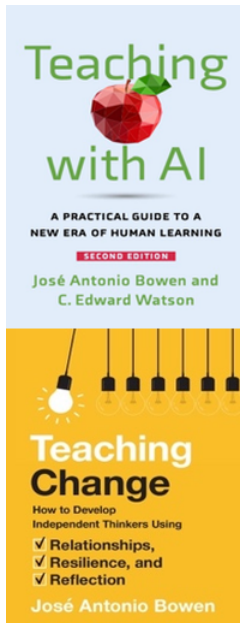
PROMPT 2 (iterate or pick your favorite idea): Now write an excellent prompt that will provide the instructions needed for an AI chatbot to create simulation #. The prompt should include instructions for customizing the experience for each student so that it is maximally motivating to individual student interests and will intellectually stretch the student. The assignment should be done in X number of parts...

- ▶ [Example conversation \(Claude\)](#)
- ▶ [Workshop Prompts & Materials](#)



Kranzberg, M. (1986). Technology and history: "Kranzberg's laws." *Technology and Culture*, 27(3), 544–560.

CITATIONS & RESOURCES



► [WeTeachWithAI.com](https://www.weteachwithai.com) contains many many more resources, prompts, assignments and links. It is updated weekly if not daily.

► **Buy the book at 30% off!**

► [Teaching with AI at Johns Hopkins University Press — code HTAI25 for 30% off](#)

► [Teaching with AI on Amazon](#)

► If you don't want to use AI, but want students to want to do things the hard way, then read **Teaching Change: How to Develop Independent Thinkers Using Relationships, Resilience and Reflection**.

► [Teaching Change at Johns Hopkins University Press — code HTWN for 30% off](#)

► [Teaching Change on Amazon \(often 25% off\)](#)