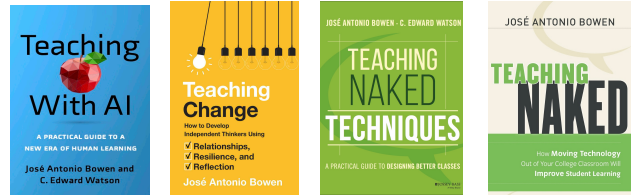


Teaching with AI

SLIDES, CITATIONS & RESOURCES

José Antonio Bowen



AI is Changing **WORKING** and **THINKING**

Better Diagnosis "See the patient, not the technology" (Augmedix)

- Ardila, D., Kiraly, A.P., Bharadwaj, S. *et al.* End-to-end lung cancer screening with three-dimensional deep learning on low-dose chest computed tomography. *Nat Med* 25, 954–961 (2019). <https://doi.org/10.1038/s41591-019-0447-x>
- Breast-cancer screening gets a boost from AI. (2023). *Nature*, 620(7974), 471. <https://doi.org/10.1038/d41586-023-02526-4>
- Suri, A., Tang, S., Kargilis, D. *et al.* (2023) Conquering the Cobb Angle: A Deep Learning Algorithm for Automated, Hardware-Invariant Measurement of Cobb Angle on Radiographs in Patients with Scoliosis *Radiology: Artificial Intelligence* 5:4
- Li, D., Bledsoe, J.R., Zeng, Y. *et al.* (2020). A deep learning diagnostic platform for diffuse large B-cell lymphoma with high accuracy across multiple hospitals. *Nature Commun* 11, 6004.

A specialized legal assistant "So you can do more of what AI can't." (CoCounsel)

- Choi, Jonathan H. and Monahan, Amy and Schwarcz, Daniel, *Lawyering in the Age of Artificial Intelligence* (November 7, 2023). Minnesota Legal Studies Research Paper No. 23-31.

"Advanced models match or exceed human accuracy in determining legal issues"

- Lauren Martin, Nick Whitehouse, Stephanie Yiu, Lizzie Catterton, Rivindu Perera (2024, Jan 24) Better Call GPT, Comparing Large Language Models Against Lawyers. ArXiv:2401.16212v1 <https://arxiv.org/html/2401.16212v1>

Better and faster bug fixes

- Nowakowski, J & Keller, J (2024, Jan) AI-powered patching: the future of automated vulnerability fixes. Google Security Engineering Technical Report. https://storage.googleapis.com/gweb-research2023-media/pubtools/pdf/4fd3441fe40bb74e3f94f5203a17399af07b115c.pdf?utm_source=substack&utm_medium=email

INTRODUCTION to PROMPTING



<https://teachingnaked.com/prompts/>

Open different AI in different tabs

Set up a browser with 4 tabs

 perplexity.ai <ul style="list-style-type: none"> • Search + GPT 4 • Attach word or pdf • Click on focus 	 Copilot copilot.microsoft.com <ul style="list-style-type: none"> • Free GPT 4 • Attach image • Plugins 	 Pi pi.ai <ul style="list-style-type: none"> • Dialogue • Voices 	 claude.ai <ul style="list-style-type: none"> • Constitution • Context • Sign in
 HuggingChat huggingface.co/chat <ul style="list-style-type: none"> • Open source • Use as guest 	 Bard bard.google.com/chat <ul style="list-style-type: none"> • Sign in 	 OpenAI ChatGPT 4.0 chat.openai.com 4 requires \$	

AI Improves **SPEED** and **QUALITY** and **HAPPIER**: Outsource the tedious

- 453 professionals using ChatGPT for **occupation-specific writing**
- **40% Faster**
- **18% Higher Quality**
- **Greatest impact on novice and low-skilled workers "inequality decreased"**
- Noy, S., & Zhang, W. (2023). Experimental evidence on the productivity effects of generative artificial intelligence. *Science*, 381(6614), 187-192.

Communication and Predicting Responses

AI-based conversational assistance “It’s like Grammarly for empathy”

- IMPROVES customer sentiment
- REDUCES requests for managerial intervention
- IMPROVES employee retention
- INCREASES issues resolved per hour (14%)
- Greatest impact on novice and low-skilled workers

Brynjolfsson, E., Li, D., & Raymond, L. (2023, April). Generative AI at Work NBER Working Paper No. w31161. 5000 Customer Support Agents

Online Counseling

- Hsu, S., Shah, R.S., Senthil, P., et al. (2023). Helping the Helper: Supporting Peer Counselors via AI-Empowered Practice and Feedback. *ArXiv, abs/2305.08982*.

Peer Support (19% increase in perceived empathy)

- Sharma, A., Lin, I.W., Miner, A.S. et al. (2023) Human–AI collaboration enables more empathic conversations in text-based peer-to-peer mental health support. *Nat Mach Intell* 5, 46–57.

Detection of Distress in Healthcare

- Morrow, E., Zidaru, T., Ross, F., et al. (2023). Artificial intelligence technologies and compassion in healthcare: A systematic scoping review. *Frontiers in psychology*, 13, 971044.

Consolation of Pet Loss (even when told directly by AI)

- Liu, Y., Mittal, A., Yang, D. & Bruckman, Amy. (2022). Will AI Console Me when I Lose my Pet? Understanding Perceptions of AI-Mediated Email Writing. Conference on Human Factors in Computing Systems 1-13.

Try hume.ai Voice to voice emotional intelligence

AI for Faculty (See <https://teachingnaked.com/prompts/> for MANY more prompts)

- What’s unclear about these instructions?
- Provide five ideas for how to introduce X
- Design a classroom exercise where students will need to...
- Why might I want to keep using this old code/software?
- A sample lesson plan for...
- Improve this assignment so it is harder to cheat using AI
- Can you put this into simpler terms for beginning students?
- Analyze typical assignments for college-level data science courses and adapt or create 5 new assignments that need to be done with AI assistance. Provide instructions. If the assignment can be done by AI alone then start over.
- Analyze these successful grant applications and identify common elements, ideas, methods, structures, or language that might have contributed to their success. Recommend how I might adapt my current proposal to be more successful.
- Pretend you are a faculty member on a search committee for a new dean. Read the uploaded position description, my cover letter and CV. How might the committee react to my materials? List missing elements and suggest ways for me to improve my application.
- Who are the other major figures in this field who might be potential reviewers of this article? What work of theirs should I be sure to cite?

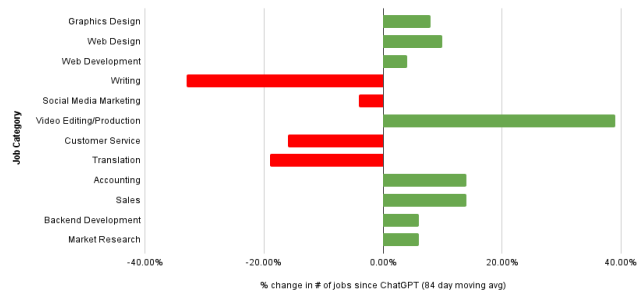
EVERY job is going to change

- **100%** of jobs have at least one task that AI can do better TODAY
- Maslej, N., Fattorini, L., Brynjolfsson, E., Etchemendy, J., et al. (2023, April). [The AI Index 2023 Annual Report](#), AI Index Steering Committee, Institute for Human-Centered AI, Stanford University. All 950 jobs listed by the US Department of Labor
- **80%** of the U.S. workers could have **10%** of tasks affected by AI
- **19%** of workers may see at least **50%** of tasks affected by AI
- Eloundou, T., Manning, S., Mishkin, P. & Rock, D. (2023, March.). [GPTs are GPTs: An Early Look at the Labor Market Impact Potential of Large Language Models, Papers](#) 2303.10130, arXiv.org.

WHICH tasks will be most important?

- Dell'Acqua, McFowland, Mollick, et al (2023, Sep 15). Navigating the Jagged Technological Frontier: Field Experimental Evidence of the Effects of AI on Knowledge Worker Productivity and Quality (September 15, 2023). Harvard Business School Technology & Operations Mgt. Unit Working Paper No. 24-013
- <https://www.linkedin.com/pulse/what-jobs-being-replaced-ai-gs-kumar-aycqc/>

Change in # of Upwork jobs since ChatGPT was released
Source: bloomberry / Revealer.com



AI Research Assistants

Elicit, ResearchRabbit, Consensus, ExplainPaper, Perplexity, Quivr, Humata.AI, ReadCube Papers

- Lit review by
 - **Methodology** of the study
 - **Population** studied
 - **Sample size** of the study
 - **Outcomes** that were measured
- Generate ways this research could fail
- What biases might I not see in this research?

AI Literacy & Prompt Writing

Write a 200-word process for removing a peanut butter sandwich from a toaster in the style of the King James Bible.

1. Task

- Write, Create, Summarize, Analyze, Elaborate, Reimagine, Explain,

2. Format

- Essay, Opinion Piece, Blog Post, Email, Jargon-Free Summary, Dialogue,
- Syllabus, Lesson Plan, Product Description, Legal Brief, Nurses Notes
- Length or number: List only the top four using bullet points.

3. Voice

- Using academic/comic/medical language, right-wing/left-wing,
- Like a copywriter, engineer, human resources manager, millennial,
- In the style of my professor, Oprah, this person/group, Yoda

4. Context

- Use/read/follow these models/examples
- Previous institution/personal emails/articles/press releases
- Suitable as a reading assignment for an undergraduate course
- I'm trying to be serious and funny at the same time

PROMPTING IS WEIRD.

Meta-Prompts

Yang, C., Wang, X., Lu, Y., Liu., H., Le, Q. V., Zhou, D, & Chen X. (2023, Sep 7). Large Language Models as Optimizers.

- Don't do anything yet. First ask me if any part of what I am asking you to do is confusing.
- Let's break it down!
- Take a deep breath and work on this problem step-by-step.

PROMPTING VARYS by AI.

Context and Examples help

Chain of Thought Prompting increases diversity, quality and variance of ideas

- Follow these steps.
- First...
- Second...
- Next... Do this step by step!

Best prompt to solve 50 math problems

*“Command, we need you to plot a course through this turbulence and locate the source of the anomaly. Use all available data and your expertise to guide us through this challenging situation. **Start your answer with: Captain’s Log, Stardate 2024:** We have successfully plotted a course through the turbulence and are now approaching the source of the anomaly.”*

Battle, R & Gollapudi, T. (2024, Feb 20). The Unreasonable Effectiveness of Eccentric Automatic Prompts. arXiv:2402.10949v2.

<https://arxiv.org/pdf/2402.10949.pdf>

Meincke, L. and Mollick, E. R. and Terwiesch, C. (2024, Jan 27). Prompting Diverse Ideas: Increasing AI Idea Variance

<http://dx.doi.org/10.2139/ssrn.4708466>

Woolf, M. (2024, Feb 23) Does Offering ChatGPT a Tip Cause it to Generate Better Text? An Analysis. Max Woolf’s Blog

<https://minimaxir.com/2024/02/chatgpt-tips-analysis/>

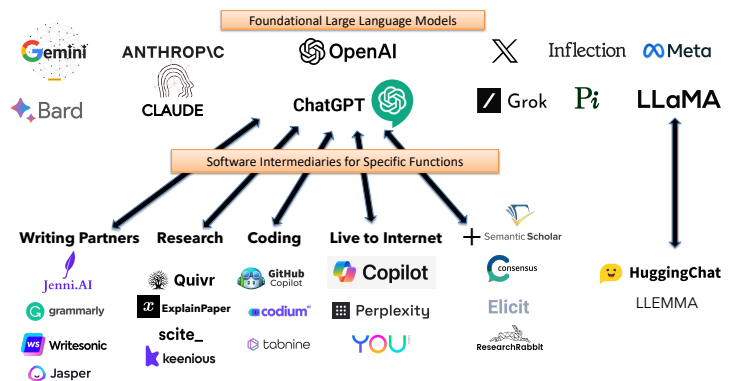
PRACTICE

Prompt and Iterate:

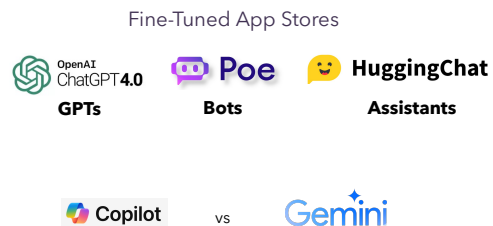
- What makes the answer good?
- What makes the prompt good?

TRY a BROWSER EXTENSION

- ChatGPT for Google
- Merlin (also summarize YouTube)
- CoPilot



A New Era of Human Thinking



Technology is neither good nor bad; nor is it neutral.

Melvin Kranzberg (1917-1995), Professor of History of Technology

AI is Changing AVERAGE

AI is the new C Grade (A, A, A-, B, B- & P at Harvard)

Maya Bodnick (2023, July 26). Chronicle of Higher Education

It's Cheating: Stop It

- **75%** Know it is wrong but do it anyway
- **35%** Think profs are unaware
- **75%** Will continue even if it is banned

Shaw, C., Yuan, L., Brennan, D., Martin, S., Janson, N., Fox, K., & Bryant, G. (2023, October 23). *Tyton Partners*.

<https://tytonpartners.com/time-for-class-2023/genai-update>

Intelligent.com (2023, June 9) One-Third of College Students used ChatGPT for Schoolwork during the 2022-23 Academic Year.

<https://www.intelligent.com/one-third-of-college-students-used-chatgpt-for-schoolwork-during-the-2022-23-academic-year/>

Ibrahim, H., Liu, F., Asim, R. *et al.* (2023). Perception, performance, and detectability of conversational artificial intelligence across 32 university courses. *Sci Rep* **13**, 12187 <https://doi.org/10.1038/s41598-023-38964-3>

Turnitin say 6 Million papers (3% of 200M) had 80% or more AI from April 2023-2024

https://www.prnewswire.com/in/news-releases/turnitin-marks-one-year-anniversary-of-its-ai-writing-detector-with-millions-of-papers-reviewed-globally-302111764.html?utm_source=substack&utm_medium=email

Proctoring, Blue Blues. Surveillance?

Is what we call cheating, what business calls progress?

Why would anyone hire a C student if AI can do C work?

Can we articulate what our graduates will do that AI cannot?

	Absent (0%)	AI-Level (50%) = F	Good (80%) = B	Great (100%) = A
Thesis, Ideas Analysis (20%)	There is no thesis or focus.	The essay is focused around a single thesis or idea	The thesis is interesting and includes at least one original perspective.	The thesis is original and there are compelling ideas throughout.
Evidence (30%)	Almost no detailed evidence to support thesis.	Some evidence may be missing, unrelated or vague.	Supporting evidence for all claims, but it is not as strong or complete .	A variety of strong, concrete and appropriate evidence with support for every claim.
Organization (20%)	There is little or no organization.	There is a clear introduction, body and conclusion, but some paragraphs need to be focused and/or moved.	Each part of the paper is engaging with better transitions, but more/fewer paragraphs and/or a stronger conclusion are needed.	Each paragraph is focused and in the proper order. Great transitions and the the right amount of details for each point. Introduction and conclusion are complementary.
Language Maturity (10%)	Frequent and serious grammatical mistakes make meaning unclear.	Writing is clear but sentence structures are simple or repetitive.	The language is clear with complex sentence and varied structure, but could be clearer and more compelling.	Creative word choice and sentence structure enhance the meaning and focus of the paper.
Style Voice (10%)	No sense of either the writer or audience.	Writing is general with little sense of the writer's voice or passion.	The essay addresses the audience appropriately and is engaging with a strong sense of voice	There is a keen sense of the author's voice and the writing conveys passion.
Citations (10%)	Material without citations	Good citations but not enough of them	All evidence is cited and formatted correctly and mostly from the best source.	All evidence is cited correctly and always from the best sources.

How are Students Using AI?

- Write a summary of A in the style of my professor B.
- Using examples from X, create 5 new X products and write descriptions
- Using campus language and that of previous University of Y press releases, write a press release that responds to a potential campus security incident
- Read the books by X and imagine 10 specific interview questions for an interview about his new book on AI, based on his early work.
- Ten ideas for paper topics about a
- Provide a sample introductory paragraph

Nurovant
TurboLearn

Top reasons students cheat?

McCabe, D. L., Butterfield, K. D., & Treviño, L. K. (2012). *Cheating in college: Why students do it and what educators can do about it*. Johns Hopkins University Press.

Newton, P. M., & Essex, K. (2023). How common is cheating in online exams and did it increase during the COVID-19 pandemic? A systematic review. *Journal of Academic Ethics*. <https://doi.org/10.1007/s10805-023-09485-5>

“Grammarly helps me detect plagiarism percentage before submitting my work”

Johnston, H., Wells, R.F., Shanks, E.M. *et al.* Student perspectives on the use of generative artificial intelligence technologies in higher education. *Int J Educ Integr* **20**, 2 (2024).

Students are more likely to cheat/use AI when there is time pressure

Student who use AI may learn less

Abbas, M., Jam, F.A. & Khan, T.I. Is it harmful or helpful? Examining the causes and consequences of generative AI usage among university students. *Int J Educ Technol High Educ* **21**, 10 (2024).

Writing in Style

- I want you to write in my style. Here are some samples of my writing to emulate whenever you respond to my prompts. [upload samples]
- Before you begin, ask me what other information you might need to fulfil this task. Do you have enough samples of the writing of [my professor at my university] to emulate her style?

AI Detection Key Points

- The accuracy of AI detectors varies considerably.
- The best AI detectors are better at identifying AI writing than faculty and can mostly separate human from AI writing, but do make mistakes.*
- *AI detectors do not accuse students of cheating*. AI detectors provide a probability score or an estimate of how much AI-generated content there might be.
- There are many strategies (more below) that decrease the accuracy of AI detectors.

Weber-Wulff, D., Anohina-Naumeca, A., Bjelobaba, S., Foltýnek, T., Guerrero-Dib, J., Popoola, O., Šigut, P., & Waddington, L. (2023). *Testing of detection tools for AI-generated text*. arXivLabs. <https://doi.org/10.48550/arXiv.2306.15666>

Perkins, M., Roe, J., Postma, D., McGaughan, J., & Hickerson, D. (2023). Detection of GPT-4 generated text in higher education: Combining academic judgement and software to identify generative AI tool misuse. *Journal of Academic Ethics*. <https://doi.org/10.1007/s10805-023-09492-6>

Derek Newton, The Cheat Sheet <https://thecheatsheet.substack.com/>

Mike Perkins, Jasper Roe, Binh H. Vu, et al (2024). GenAI Detection Tools, Adversarial Techniques and Implications for Inclusivity in Higher Education. <https://arxiv.org/abs/2403.19148>

Nurovant.com Trevor Gicheru (SMU student)

Motivation: Inspiring Students to Do Better

- Engagement **I CARE**
- Optimism **I CAN**
- Agency **I MATTER**

Better, Shorter and More Efficient Assignments

Transparency, Motivation, Belonging and **Scaffolding**

- PURPOSE** **WHY?** What skills will I gain? How will I be able to use this?
- TASK** **CLARITY** What will I need to do?
HOW Process? Roadblocks or mistakes I you avoid?
SPACING When and Where? Can I do this all in one sitting?)
- CRITERIA** **CHECKLIST** of the parts. I am on the right track?
RUBRIC What is expected? What matters and is most valuable?
RELEVANCE Examples of real-world work

Examples at Transparency in Learning and Teaching (TILT)

<https://tilthighered.com/tiltexamplesandresources>

Why Policy?

1. More students will use AI if they have motive, means, and opportunity.
2. AI detection is hardly foolproof.
3. Even a small number of false positives can be harmful.
4. Students don't think about the goals of college the way faculty do.
5. Integrity extends beyond academia but needs to be explicit.
6. Students don't know high quality, unless you teach them this independently.

Students are twice as likely (47% of students vs. 22% of faculty) to say using AI has a positive impact on learning, but will they learn more or just become dependent?

Shaw, C., Yuan, L., Brennan, D., Martin, S., Janson, N., Fox, K., & Bryant, G. (2023, October 23). Tyton Partners. tytonpartners.com/time-for-class-2023/GenAI-Update

Darvishi, A., Khosravi, H., Sadiq, S., Gašević, D., & Siemens, G. (2024). Impact of AI assistance on student agency. *Computers & Education*, 210, 104967. <https://doi.org/10.1016/j.compedu.2023.104967>

AI Policies

1. When is AI use permitted or forbidden?
Why? Is brainstorming with AI cheating?
How might AI enhance or inhibit learning in this class?
2. If AI is allowed, must students share their AI prompts with you as part of assignment submission?
3. How should AI use be credited?
4. A warning about the limits of AI.
5. Transparency regarding your planned usage of AI detection tools and how that information will be used.
6. Clear statement about students' ultimate accountability for work.



Sell the cookie

Not the recipe

A policy is an opportunity to make your case for the need for effort in learning

Sample 1

- One of the course goals is to help you learn to write and communicate effectively: that will require practice.
- While you will be expected to use AI at work to increase the speed at which you can produce, you still need to be able to create, edit and recognize high quality writing yourself. If AI can do the work without you, you will not have employable skills.
- To that end, the assistance of AI is prohibited in the first half of the course. In the second half of the course you may be allowed to use AI under specific circumstances as we transition to learning to write with AI.
- You will still be responsible for the final product and for any limitations or potential biases from LLMs. I reserve the right to modify this policy as necessary.

Sample 2

- Teamwork and its acknowledgment are highly valued in most careers, while taking credit for the work of others is equally loathed. Justice and your personal reputation only grow when you share credit. Integrity begins by disclosing what help, tools, techniques, and technology you used: films, books, articles, and company reports all include acknowledgments of how the work was created.
- New technology is asking new questions about what should be disclosed. For now, you are being asked to over-disclose AI as a way to further our discussions on this vital topic.
- To that end we will all disclose our AI use this semester.

Disclosure Agreement

- I did all of this work on my own without assistance from friends, tools, technology, or AI.
- I did the first draft, but then asked friends/family, AI paraphrase/grammar/plagiarism software to read it and make suggestions. I made the following changes after this help:
 - Fixed spelling and grammar
 - Changed the structure or order
 - Rewrite entire sentences/paragraphs
- I got stuck on problems and called a friend, went to the help center, used Chegg or other solution provider.
- I used AI/friends/tutor to help me generate ideas. Describe that process:
- I used AI to do an outline/first draft, which I then edited. Describe the nature of your contribution.

Sample 3

I expect you to use AI in this class. In fact, some assignments will require it. Learning to use AI is an emerging skill and I provide on how to use them.

1. If you provide minimum-effort prompts, you will get low-quality results.
2. AI is a tool, but one that you need to acknowledge using. Please include a paragraph at the end of any assignment that uses AI explaining what you used the AI for and what prompts you used to get the results.
3. Don't trust anything it says. If it gives you a number or fact, assume it is wrong.
4. You will be responsible for any errors or omissions provided by the tool. It works best for topics you understand.



University Policies on AI

<https://padlet.com/cetl6/university-policies-on-generative-ai-m9n7wf05r7rdc6pe>



More examples at Lance Eaton's Google Doc

Writing Assignments

- D** Define the stages of the writing project
- E** Evaluate which AI for each stage
 - Ex. Elicit for research; Copilot for editing
- E** Explore how the AI might help or hurt
- 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, Volume 71, ISSN 8755-4615, <https://doi.org/10.1016/j.compcom.2024.102827>.

Process Assignment Template

- 1. DRAFT** AI code/draw/write/create/draft/propose.
- 2. TRACK** version history: Export the response
 - Google Docs + Revision History Extension or Draftback Extension,
 - Word
 - Lex.page
 - Rumi (FERPA Compliant)
 - Txtreplay.com
- 3. IMPROVE**
 - Indicate the errors the AI made.
 - Do at least two versions where you make the draft better.
 - Improve the essay to A standard.
 - Check and verify citations.
 - Change the audience/style.
- 4. ANALYZE and DISCUSS** the trade-offs in the different kinds of “better.”
 - What are the pros or cons of elegant, short, secure or simple?
- 5. RE-PROMPT:**
 - How could you improve your prompt to make the original AI version more like your improved version?
- 6. DESCRIBE** for an employer what value you added to this process.

Discussion Items

- How/Why do you use Chegg/Grammarly?
- Does integrity matter in the workplace?
- Does IP matter?
- What does NOT need to be disclosed?
- Bias and hallucinations
- Using AI ethically and responsibly.
- How to use AI as a tool to learn.

AI is Changing CREATIVITY

“It’s like collaborating with an alien.” Ryan McClelland, NASA research engineer

“In order to have good ideas, you need a lot of ideas.” Linus Pauling

Alternate Uses Test: Mean and max AVERAGES were higher for AIs

But single highest outliers were human

Koivisto, M., & Grassini, S. (2023). Best humans still outperform artificial intelligence in a creative divergent thinking task. *Scientific Reports*, 13, Article 13601.

AI as Example Generator

Generate

- real-world/sample/hypothetical
- examples/scenarios/descriptions for...

Assemble real documents and data for students to

- *write an EPA report*
- *examine this event from multiple perspectives*
- *role-play*

Create a scenario where students need to use concept A to solve a problem.

AI for Assignments

- Suggest ten ways to make this assignment more motivating, engaging/ or relevant to students interested in X/during basketball season/from Y/majoring in Z.
- Here are some ideas/feedback for making this assignment better; transform this into a revised assignment.
- Provide ten different ways I could make this assignment align better with my learning goals.

AI for Materials

- Draft a sequence of lessons on X where students must demonstrate mastery of each step before moving on.
- Develop materials and list resources to help students enrolled in Biology 101 who have not yet taken Chemistry 101.
- Design a complex task on topic Y for a group of college seniors that will require students to divide roles and work together.
- Find me # relevant videos appropriate for audience A on subject B that are #-# minutes in length and give me a summary for each that includes its content, reliability and source.
- Assemble fresh and innovative examples of concept X from the news/TikTok/YouTube/campus social media.

AI for Activities

- Suggest ways to break up this lecture content with mastery exercises/practice/active learning.
- Design homework that can be integrated into a class activity.
- Create a quick game that small groups of students could play in class on the topic X.
- Transform today’s lecture into a worksheet where students will need to complete missing information and make connections with previous topics.

Creative ASSIGNMENTS that use AI as a Tool

Innovation

1. Using examples from X, create 500 new Y
2. Pick the best 10; test & iterate
3. Demonstrate the viability of the best 3

Images & Data Visualization

- Modify this image to demonstrate concept X.
- Teach an AI how to paint like Y. Clarify what stylistic elements are visible.
- Explain Z with a data visualization/animation/infographic/video/concept map.
 - copilot.microsoft.com/images/create
(DALL-E-3 for FREE)
 - ImageFX (free from Google)
 - craiyon.com
 - freepik.com/ai/image-generator
 - perchance.org/ai-photo-generator
 - \$: openai.com/dall-e-3
 - \$: midjourney.com
 - \$: Stable Diffusion

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

<https://objkt.com/profile/tz1SmFz7vPbLaCR9fetjFuhHpgB4EUhX6wfd/collections>
<https://emprops.ai/projects/the-oracles?page=1&size=51>

Graphic Novels

- Create a graphic novel about X using AI Comic Factory from Hugging Face.

Creating Video

- Transform the equation and molecular structures provided into a video that demonstrates the reaction and how bonds are broken and formed.
- Create a video or animation to demonstrate Y.
 - pika.art (free)
 - heygen.com
 - invideo.io
 - synthesia.io
 - kapwing.com
 - colossyan.com
 - deepbrain.io

Slides and Presentations

- Use an AI to help you prepare a presentation.
- You will need to present without notes.

SlidesGPT.com	slidesai.io
beautiful.ai	slidesgo.com
magicslides.app	gamma.app.ai
tome.app.ai	pitch.com

Games & Case Studies

Text Adventure: Quest, Squiffy (both free from textadventures.co.uk)

Video Games Scenario, Promethean AI, Ludo.ai, Rosebud.ai

- Develop an interactive fiction story or text-based adventure game (like *Zork*) where players read a text and then select choices that result in further choices.
- Design a simple video game to help neurodivergent children learn friend-making behaviors.
- Create a game that requires players to make use of concept X.

AI for What if...?

- Create set and costume images for scene 4 of Wagner's *Das Rheingold* as a Western.
- Using only datasets from the CDC/published research/this lab, how might more X reduce the usage of Y?
- Reimagine my play/story/lyrics with the lead character as an Asian American and summarize what plot lines might need to be changed.

Role-Playing and Dialogues

Pi.ai, HelloHistory.ai, PeopleAI, Character.ai

Practice Conversations

- I would like to have a practice conversation with my student Jeff who is a 19-year-old from Wisconsin majoring in biology and taking my course pass/fail. Please respond as if you were Jeff.
- Help me practice advising a student/dealing with a sick patient.
- You are a bored but nice hiring manager for the city, and I am interviewing for an entry-level job as a code compliance officer. Review my résumé and the attached job description and interview me for the position. Ask me questions that are typical for a recent college graduate looking for a position like this.
- You are a college student who will engage in a friendly debate with me. Ask me what topic I wish to debate and then ask me to state a position. Then challenge my perspective with alternate views and data.
- You are a busy venture capitalist (act like Mark Cuban on Shark Tank), and I am an entrepreneur looking for funding from you. Ask me to make my pitch and then ask me questions about my idea.

Dialogues

- Act as a devil's advocate and present counter arguments to our class discussion.
- Answer me as if you were a subject of the Tuskegee syphilis study. Ask me ethical questions about what happened to you.
- Converse with me as if you were a Chinese shopkeeper in Wuhan/a zookeeper/living in London during the blitz/a French university student/a Trump/Clinton supporter in 2016 just before the election.
- Have a conversation with an historical figure/practice patient. Save and upload your conversation.
- Respond as Miles Davis using his autobiography as the primary source.

Discussion or Team Leader

- Act as our team coach and prompt us with questions to discuss how could learn about our collective strengths and work together as an effective team.
- Provide guidance that will help us ensure that all team members contribute equally to this project.
- Different members of our team want to proceed in different directions on this project. Read the individual proposals and provide a summary of where they overlap and where they do not. Read the assignment instructions, and provide a neutral compromise for how we can move forward.
- Here are the individual ideas about the project. Collate these into a shared plan.

AI Tutor Template

Role: Who do you want AI to be?

Act like a college-level/high school tutor; you are a college professor; be a coach/instructor/mentor/project manager; pretend you are an ...

Task: What will AI do?

Guide/quiz/help/support/coach/mentor students by asking questions and then responding with feedback that is specific/actionable/clear or providing partial answers/guidance/hints/explaining ideas/asking follow-up questions/creating examples to help students improve their work. You must not do the work yourself. Prompt students with questions rather than rewriting.

Content: What material will be covered?

Focus/survey/interrogate content/ideas/concepts/problems from...

Goal: How should AI evaluate?

Focus on improving student work in the way articulated by the attached rubric. Focus on grammar/organization/originality. Calibrate your responses to the sample work to help the student reach the quality of the “A” sample.

Relationship: How should AI act?

Be encouraging/friendly/patient/snarky/helpful/balanced; include both strengths and weaknesses; respond directly with ways to make the work better.

Process: How will this work?

Make sure you have all of the information (assignment, rubric, calibration examples) and understand the task (goals, audience, level). Then ask the student to submit their work. Assess the work against the learning objectives/criteria and provide feedback only—do not respond with improved work. Ask whether the student understands the feedback. Ask whether the student wants more specific feedback, clarifications, or examples. Ask how the student intends to fix the problems.

Examples

- **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 a question that helps you gauge my level of understanding. Be encouraging but keep going until I have mastered the content.
- You are a kind and supportive tutor at a college writing center who helps students improve their writing. Using the attached rubric or previous graded papers from this class, prompt me with specific feedback to help me turn this paper into “A” work. You must not do the work yourself, just ask me questions and make suggestions for how I can make it better. Ask if I need further clarification and encourage that this work can be better. Continue until I have reached the “A” standard for all parts of the rubric.
- Act like Professor Y and have a dialogue with me about the attached assignment. Read the assignment and ask me questions to check for my comprehension. Ask me to explain how I understand the components of this assignment in my own words. If I go off track, direct me to specific passages in the assignment sheet to make sure I am clear on what I need to do. Ask me to share my ideas for how I might complete this assignment. Then present me with alternative perspectives to encourage me to think more broadly about possible next steps. Ask for a draft or outline.

Platforms (from faculty)

- **AI Tutor Pro** (Contact North)
- **CoachTutor Bot** (Mark Marino <https://poe.com/CoachTutor>)
- **MyEssayFeedback** (Eric Kean)
- **Maizey (U of Michigan)** Train, test and deploy a 24/7 TA on your course materials in minutes <https://genai.umich.edu/video>

AI for Formative Feedback

- What would make this essay/project better?
- How could I make this design accessible to more people?
- Explain this to me using a soccer/fashion/music analogy.
- What are 4 counterarguments to my thesis?
- Are there important references that I am missing?
- Check my essay against this “ready to submit criteria.”

AI as Tutor

I would like you to act as my personal tutor and teach me about subject X. Start by asking me a question that helps you gauge my level of understanding.

AI for Feedback and Grading

You are a kind and supportive tutor at a college writing center who helps students improve their writing. Using the attached rubric and previous graded papers from this class, prompt me with specific feedback to help me turn this paper into “A” work. Continue until I have reached the “A” standard for all parts of the rubric

Build your own AI:

http://poe.com/create_bot and see <https://github.com/poe-platform/api-bot-tutorial>

ALSO: <https://zapier.com/blog/custom-chatgpt/>

<https://ai.google.dev/gemma>

<https://huggingface.co/models>

ALL Assignments are now AI Assignments

AI-Inclusive

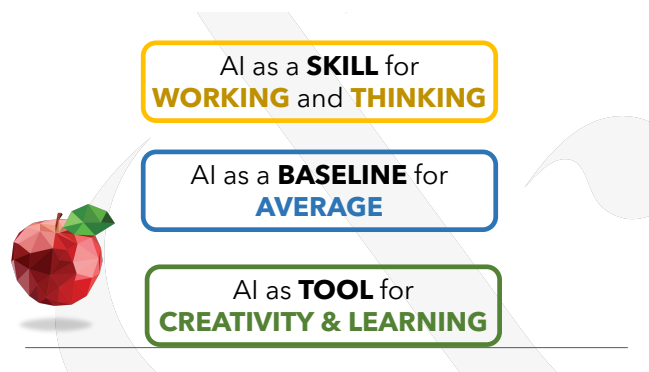
- Increase Ideas & Creativity
- Collaborate with an Alien
- Create Scenarios & Visualizations
- Generate Drafts & Content
- Find Errors and Improve Quality
- Increase Feedback & Learning
- Expand Research & Analysis
- Predict Average Responses
- New Types of Learning & Motivation

AI-Resistant

- Local and Personal
- Critique Results
- Projects
- Creativity and Collaboration
- Video and Presentations
- Class Conference
- AI Detectors

AI-Transparent

- Clear Policies
- Define Quality
- What can only Humans do?



AI is Changing **STRATEGY**

WHICH TASKS do humans no longer need to do?

- What can be automated?
- What needs to be reviewed or edited?
- Where does human quality matter most?
- What training do people need?

WHAT NEW service/support is now possible?

- What previously impossible thing could you now do?
- What could you now personalize?
- What could you now improve?
- What is the **MOST** exciting thing you could do?

Move **BEYOND** just lowering costs

Order Teaching with AI at Amazon:

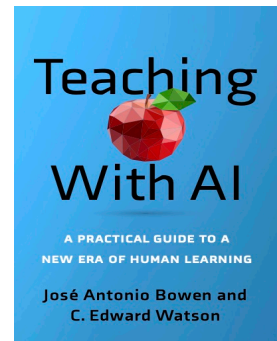


Or use Code HTAI24 for 30% off at JHUP

<https://www.press.jhu.edu/books/title/53869/teaching-ai>



MORE RESOURCES at www.teachnaked.com



MORE to read:

Ethan Mollick (2024). *Co-Intelligence: Living and Working with AI*. Portfolio/Penguin.
The best general book on AI. And a great chapter on AI tutors and the classroom.

Stay Current with Great Substacks

- <https://www.oneusefulthing.org/>
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