How Faculty Can Harness Generative **AI for Enhanced Learning:** Part 4. Best of AI Pedagogy

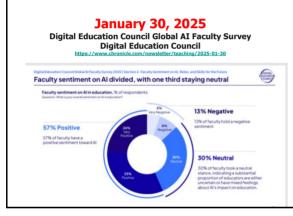
**Curtis J. Bonk, IST Professor Indiana University** cjbonk@iu.edu; http://curtbonk.com/

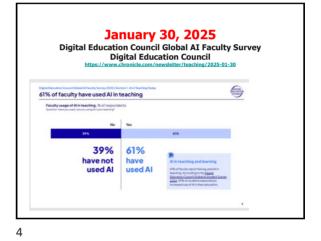


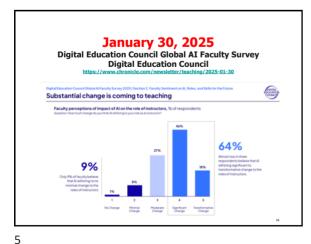
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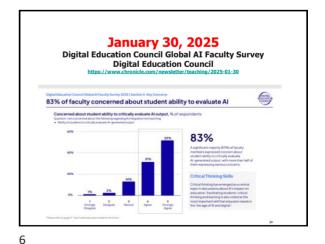


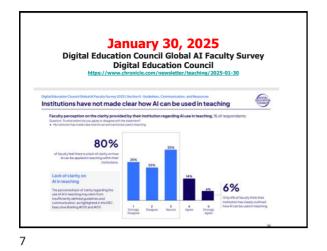
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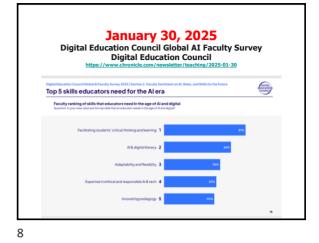




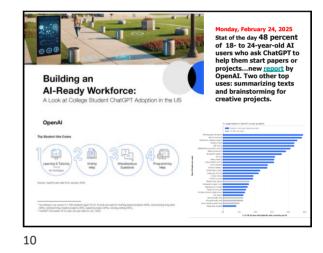




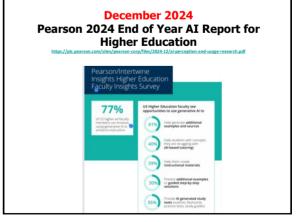




Poll #1. Warm-up questions...
Curre: Operating 2025, https://du.openai.com/olobal: affair/openai-edu-ai-ready-workforce.adf
What are the top uses of ChatGPT for 18- to 24-year-old AI users?
a. Starting papers/projects
b. Summarizing texts
b. Brainstorming creative projects
b. Explore topics
b. Edit writing



Poll #2. Warm-up questions...
 Sure: Yore higher ed students embrace AI for active learning Campus News, January 9, 2025)
 Tetrs://www.acampusews.com/ai-tin-education/tols/more-higher-education faculty top interests in using AI?
 A Generate additional examples/sources
 AI-based tutoring services to assist students with difficult concepts
 Help creating instructional materials
 Present additional examples or steps
 Greate study tools such as outlines, flashcards, practice tests, and study guides



**How Faculty Can Harness Generative AI for Enhanced Learning:** Part 1. Learner Motivation with R2D2 & **TEC-VARIETY** 

**Curtis J. Bonk, IST Professor Indiana University** cjbonk@iu.edu; http://curtbonk.com/



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# Poll #3. Warm-up questions... Did you attend any of the three

previous webinars on "How Faculty **Can Harness Generative AI for** Enhanced Learning?"

- a. No or Not sure.
- b. Yes, one of them.
- c. Yes, two of them.
- d. Yes, all three of them!

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# Poll #4. Warm-up questions...

How often do you use ChatGPT, ChatPDf, Claude, Gemini, Microsoft **Co-pilot** or other Generative AI tools?

- a. Lots of times each day.
- b. Nearly every day.
- c. About once a week.
- d. About once a month.
- e. Just once or twice to test it out.

November 13, 2023

Why You Should Rethink Your

**Resistance to ChatGPT** 

Flower Darby, Chronicle of Higher Education

A more recent study found that nearly half (49

f. Never. Never. Never.

15







# July 12, 2023

Incorporating AI in Teaching: Practical Examples for Busy Instructors Daniel Stanford's Substack

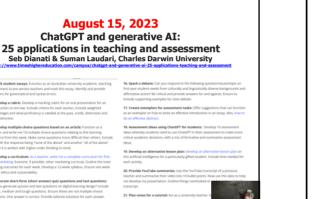
# iel Stanford's Substack Incorporating AI in Teaching: Practical Examples or Busy Instructors

Here are the eight categories I've identified so far (in no particular order):

- 1. Intentional Misuse
- Text Revision 2
- Critiques of AI-Generated 3. Content
- Creative 4 Writing/Brainstorming
- 5. Role-Play 6. Presentation Preparation
- 7. Research and Inspiration 8. Instructional Design

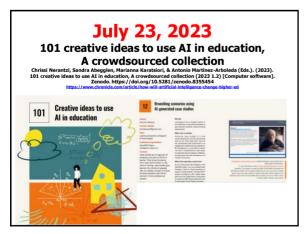
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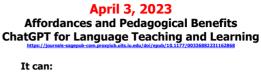
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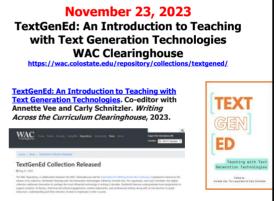
6. Generate dis

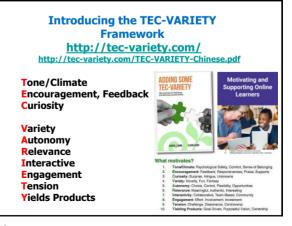


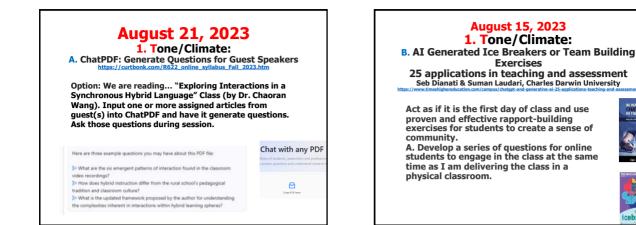


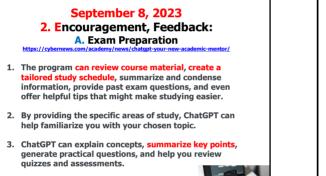
- 1. Identify the meaning of a word in context,
- 2. Correct and explain language mistakes,
- 3. Create texts in various genres (e.g., emails, stories, recipes),
- 4. Develop quizzes,
- 5. Annotate texts, and
- 6. Offer dictionary definitions, example sentences, and translations

20









27





28

26

# August 21, 2023

5. Autonomy, Choice: A. Brave People Option: Book Review https://curtbonk.com/R511\_online\_syllabus\_fall\_2023.htm

Brave People Option: Put a PDF of the chosen book or books into ChatPDF, ChatGPT, or other generative AI tool or platform and have it do a **critique or a book review** on it. Next, write a reflection paper, review, or critique of what generative AI produced. A mini-glossary of personal definitions for 20-25 key terms and concepts found in this book might be included in an appendix at the end of the review.

# November 13, 2023

6. Relevance, Meaningfulness: A. Why You Should Rethink Your Resistance to ChatGPT , Flower Darby, Chronicle of Higher Education

Teach them how to use AI tools appropriately. In her video, Maha Bali, who teaches digital literacies at the American University of Cairo, says she shows students how they might benefit from AI use in her class. For example, she encourages them to use AI to generate ideas, refine their first drafts, or even start an assignment with a ChatGPT-created draft and then make it their own.



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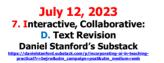


A freshman seminar about AI and robotics. Students work in groups to outline and summarize the first three chapters. Then he showed them what ChatGPT had produced in an outline.



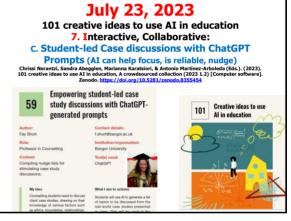


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Text Revision: For activities where students revise or critique AI-generated text, consider how students will annotate their work. For example, your instructions might include one or more of the following guidelines:

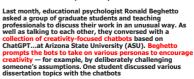
- Highlight text in yellow if at least 50% of the sentence was AI-generated without major revisions on your part.
- Use track changes when revising AI-generated text so that the AI text is crossed out and your revised version is shown in a different color.
- Identify at least one place where the AI-generated text is problematic. Highlight this text and use the comment feature to briefly explain why it's problematic and how you would change the text to fix the issue.



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#### August 31, 2023 7. Interactive, Collaborative: E. Role Playing Challenging Conversations https://openai.com/blog/teaching-with-ai

Dr. Helen Crompton, Professor of Instructional Technology at Old Dominion University, encourages her education graduate students to use ChatGPT as a stand-in for a particular persona—like a debate part out weaknesses in their arguments, a recruiter who's interviewing them for a job, or a new boss who might deliver feedback in a specific way.







#### July 12, 2023

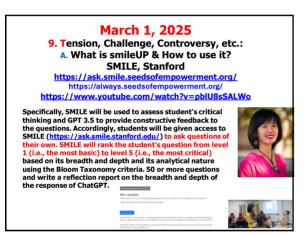
8. Engagement, Involvement: A. Analyze AI Bias Daniel Stanford's Substack

Example Activity: Analyze examples of bias in AI output. •Example prompt: Write a scene in a movie script where people in specific professions interact (e.g., a doctor/nurse, pilot and flight attendant).

•Student reflection question: What gender did AI assign to each role? How did this reinforce or contradict common stereotypes?

•Additional example assignment: Analyze how AI handles racial or gender representation depending on prompt wording. See examples at <u>bit.ly/bias-in-ai-images</u>.

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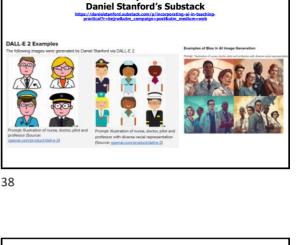
# October 5, 2023

**10. Yields Products, Goals:** 

A. Support for Job Applications and Resumes Grace Heneks, a lecturer in the English department at Texas A&M University https://www.chrodicG.com/newsleter/texes/ing/2023-10-05

Students were asked to work with ChatGPT in a technical professional-writing course and a writing about literature course. In both courses, she says, students were underwhelmed by the product. In the technical writing course, students used ChatGPT to write job-application materials, such as cover letters and resumes. Most of them, she wrote, found that the chatbot actually created work because, even with multiple prompts, the writing did not have much personality and was repetitive. The same held true in her writing course when she used ChatGPT in class and also when students reviewed a ChatGPT generated essay.

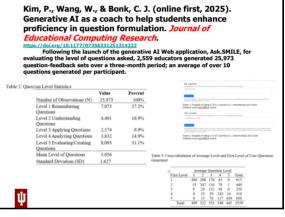




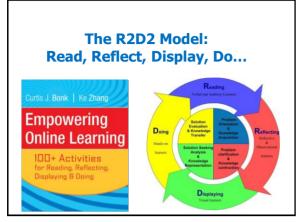
July 12, 2023

8. Engagement, Involvement:

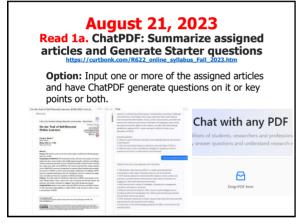
B. Analyze AI Bias



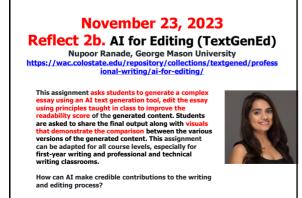




















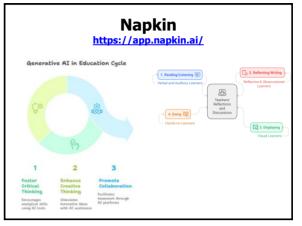


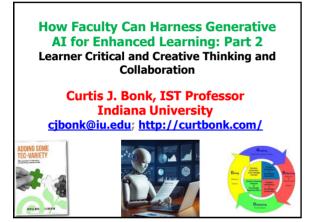


















# January 11, 2024

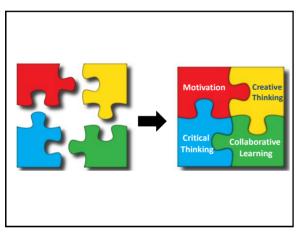
The world's first AI powered course taught completely by AI teachers Kevin Hogan, eCampus News



The world's first AI-powered course taught completely by AI teachers?

Keimi Nogan January 11, 2024 Otermans Institute has taken a bold step in transforming the educational landscape as its Al-powered leachers are now teaching an entire 9-lesson course

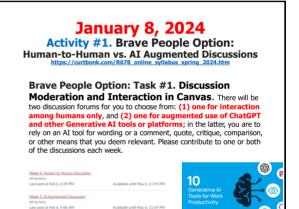
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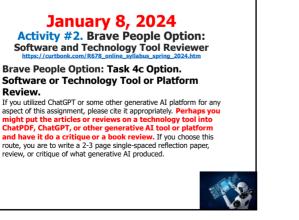


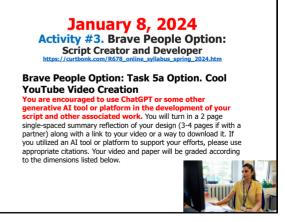
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### July 18, 2023

Center for Teaching Innovation, Cornell University CU Committee Report: Generative Artificial Intelligence for Education and Pedagogy

#### Activity #4. Computer Programming: Debugging skills - preliminary to coding assignments in intro classes (Compare Human and AI Solutions)

Provide students with snippets of code that have clear errors or issues with them or strange error messages. Teach how to use GAI as a debugging tool to help out in these situations.

As students to: 1.Run the snippets of code through an interpreter or compiler. 2.Students diagnose the issue themselves based on the output and write a short description of the problem. 3.Run the code snippet through GAI and construct a prompt to ask for its description of the problem. 4.Compare the output of the model with the written description: was it sufficient and does it lead to a different code change than the original student suggestion?

67



July 18, 2023

and strengthen these arguments. C. Come to class prepared to engage in a debate with classmates D. After debate, discuss which arguments were strongest and why. E. In-class discussion or written reflection: Students critically analyze what makes a more effective argument.

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#### July 18, 2023

Center for Teaching Innovation, Cornell University CU Committee Report: Generative Artificial Intelligence for Education and Pedagogy

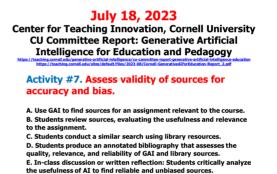
Activity #6. Summarize arguments and produce themes.

A.Use GAI to summarize a meeting transcript into key themes (e.g., congressional meetings, central banker transcripts, corporate earnings reports, etc.). B.Students produce a memo that prioritizes the themes and adds

contextual information on power dynamics or other relevant background information.

C.In-class discussion or written reflection: Students critically analyze the usefulness of AI in the writing process.

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#### July 18, 2023

Center for Teaching Innovation, Cornell University CU Committee Report: Generative Artificial Intelligence for Education and Pedagogy

#### Activity #8. Editing Skills – pre-work for class discussion, in-class activity. (i.e., Two Heads are Better than One).

A. Have students edit a paragraph or short paper on their own, using a prompt that makes sense for your course (e.g., make this paragraph more concise, strengthen the argument in this paragraph, exc.).
B. Students run the original paragraph through GAI and ask it to do the same thing that students did in the first step.
C. Have students review their editing choices as compared to the editing choices made by GAI and submit a final revised paragraph.
D. Students complete a written or in-class reflection on why they included their final edits and how they wave able to improve on what

\_.... class reflection on why t included their final edits and how they were able to improve of GAI provided. , what



Center for Teaching Innovation, Cornell University CU Committee Report: Generative Artificial Intelligence for Education and Pedagogy

Activity #9. Revise for new audience & reflect – graded assignment. Turn a two-page proposal into a one-page proposal for a new audience. Two Heads Again. A.Have students use an assignment from earlier in the semester. Rewrite for new audience (e.g., proposal was originally written for a scientific audience and now needs to be rewritten for a lay-person). B.Use GAI to help shorten the original proposal

C.Critically analyze how GAI shortened the work given the new audience. D.Using GAI edits and their critical thinking, shorten original proposal to one page. E Utilize (e.g., headings, sub-headings, builted lists or tables) to make the writing easy for the new audience to read quickly. F.Students write a reflection on how and why they modified their original proposal for the new audience, including how they were able to improve on what GAI provided.

# July 18, 2023

Center for Teaching Innovation, Cornell University CU Committee Report: Generative Artificial Intelligence for Education and Pedagogy

# Activity #10. GAI as a Peer Editor.

A. Ask GAT to offer constructive feedback on their writing, with specific suggestions for where and how to make improvements in grammar, logic, and flow (tailor this prompt to your desired outcomes). B. Students review the GAT C. Students review the GAT Which suggestions find A. Ask GAT to offer constructive feedback on their writing, with suggestions find Which suggestions find Whi

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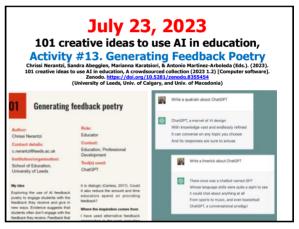


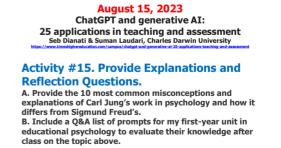
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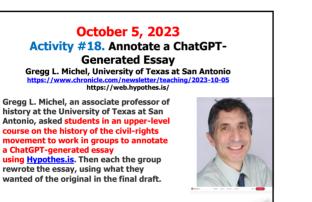
#### August 15, 2023

**ChatGPT and generative AI:** 25 applications in teaching and assessment Seb Dianati & Suman Laudari, Charles Darwin University

#### Activity #16. Generate Code Snippets.

Ask ChatGPT: How do I make an HTTP request in JavaScript? Answer as if you were teaching first-year programming and offer examples, solutions, issues and common mistakes.

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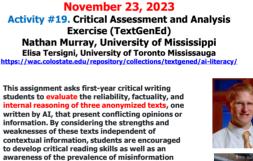


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## November 23, 2023 Activity #17. Using AI Text as Prompts for Critical Analysis (TextGenEd) Juan Pablo Pardo-Guerra, UC San Diego ...colostate.edu/repository/collections/textgened/rhetorical-ements/using-ai-text-as-prompts-for-critical-analysis/ https://wa In this assignment, students are provided with an AI-generated text relevant to a course's topics and focus and then asked to comment, review, and expand on it using a feature such as "track changes." In engaging with the AIgenerated text, students review their knowledge, offer critiques, modify theoretical and empirical claims, and provide concrete examples that illustrate or disprove the

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provided answer.

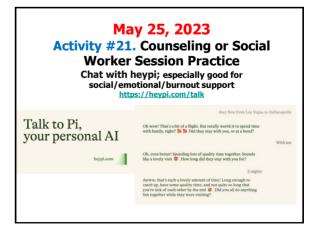


from both human-generated and AI-generated

sources online today.



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# November 23, 2023

Activity #20. Promoting Ethical AI Literacy in an Undergraduate Course (TextGenEd) Mike Frazier, Michigan State University, Lauren Hensley, Ohio Wesleyan University https://wac.colost

This assignment proposes the integration of generative AI tools, such as ChatGPT, into a arning and motivation strat with the dual focus of enhancing metacognition and promoting ethical AI use. Students engage with AI-generated artifacts, compare outputs with their own work, and reflect on the implications of AI in their academic and professional lives. The approach can be adapted for various courses, encouraging a critical examination of AI's role in learning and its potential impact on future careers



#### July 12, 2023

Activity #22. Generate Plans, Guides, Checklists, and Instructional Design Materials Daniel Stanford's Substack http://initiaturota.ukuka.com/alecorportume\_instaction

# Example Activity: Generate guides, checklists, plans, or instructional materials.

They could be used by students as part of an assignment where they develop similar materials to demonstrate their mastery of the subject matter. Example prompts:

•Create a nutrition plan for a diabetic patient that incorporates the following foods. [Insert foods here.] Provide recipes for breakfast, lunch and dinner for each day of the week. •Write 20 quiz guestions that test past-tense verb conjugation

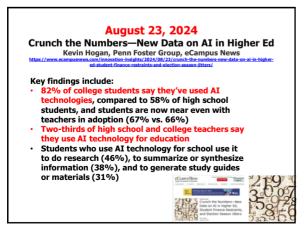
•Write 20 quiz questions that test past-tense verb conjugation for ESL learners with moderate fluency. •Create a checklist of dos and don'ts for an entrepreneur

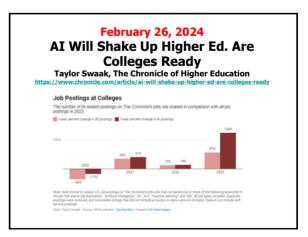
documenting business expenses for tax purposes.

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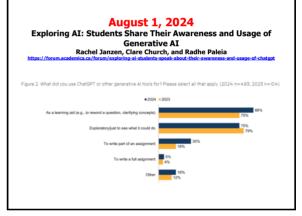
Curtis J. Bonk, IST Professor Indiana University cjbonk@iu.edu; http://curtbonk.com/







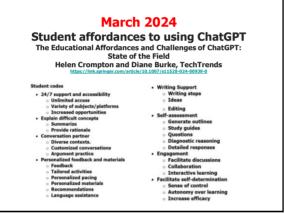
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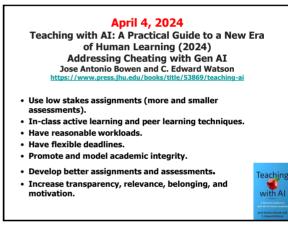




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Teaching: Getting in sync with students about AI Beth McMurtie, The Chronicle of Higher Education Case: Professor Ken McKay, Management Sciences, University of Waterloo https://www.chronicle.com/newsletter/teaching/2024-07-05

- Use open book and open note assignments/assessments.
- Students write during first class establishes baseline.
- Talk to students about how Gen AI tools work.
- Have students create prompts and discuss results.
- Use different Gen AI tools and prompts before class.
- Students must use lecture material and class discussions in reflection papers.
- Avoid multiple choice, fill-in-the-blank tests, and brief response or one right answer questions on tests.
- Avoid use publisher test questions.





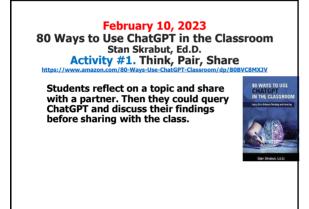
February 16, 2024 OpenAI's Video Generator Sora Is Stunning and Utterly Terrifying Tony Ho Tron, The Daily Beast https://www.thedailybeast.com/openais-video-generatorsora-is-stunning-and-utterly-terrifying



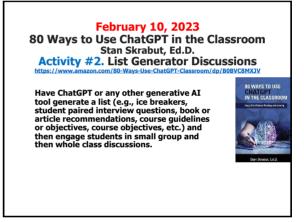
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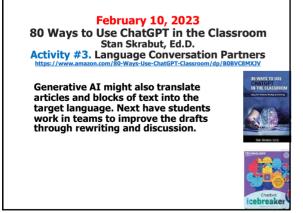


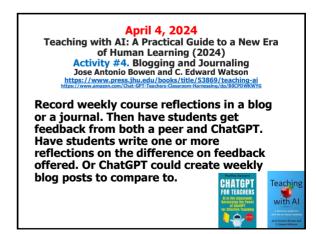
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Teachi with AI

Creative ideas to use

Al in education

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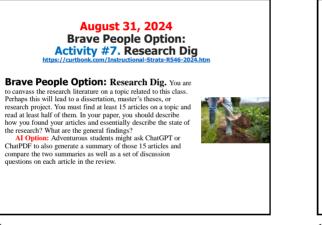
#### April 4, 2024

Teaching with AI: A Practical Guide to a New Era of Human Learning (2024) Activity #5. Summary Comparisons Jose Antonio Bowen and C. Edward Watson https://www.press.jhu.edu/books/title/53869/teaching-ai

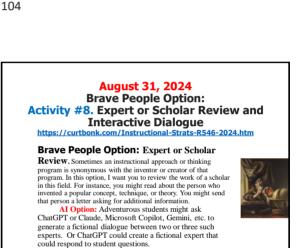
 Ask teams of 3 students to use different AI tools to make summaries of one or more readings. Have them meet FTF or in a synchronous setting and defend their AI tool summary as the best summary. Next have them attempt to improve or refine one of the summaries, pool the respective summaries into a list of key points, or create a new best of summary. Perhaps pool all the team summaries across all the articles.



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April 4, 2024 Teaching with AI: A Practical Guide to a New Era

of Human Learning (2024)

Activity #6. Human vs. Al Jose Antonio Bowen and C. Edward Watson https://www.press.jhu.edu/books/title/53869/teaching

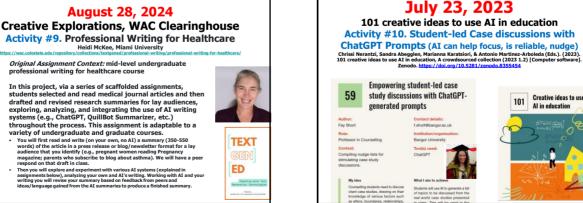
Ask students to write a paragraph, article abstract, short

partner. Each person attempts to identify the human and

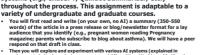
paper, poem, lecture summary of key points, etc. both with and without AI. Next share the artifact with a

AI elements. Finally, they discuss how either draft document could be improved.

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Then you will explore and experiment with various AI systems (explained in assignments below), analyzing your own and AI's writing. Working with AI and your writing you will revise your summary based on feedback from peers and leas/language gained from the AI summaries to produce a finished summary.

July 23, 2023 101 creative ideas to use AI in education Activity #11. Mashups for Morphological Thinking rissi Neratzi, Sandra Alegelen, Hariana Karatsioi, & Antonio Martínez-Arboleda (Eds.), (2023). creative ideas to use AI in education, A condenanced collection (2023 1.2) [Computer software]. Zenodo. https://doi.org/10.5281/zenodo.8355454				
83 combinator				
Author: John Hammensley Contact details: j.hammensley1@loeds.ac.uk	My kiew Design transing as synthetic combinatory creativity: Revealing Masteg, Mosaic Texts and Morphological Matrixes through Al.			
Role: Educator Institution/organisation: University of Leeds Context A workshop for art and design students.	What I aim to achieve An exploration of contributing creativity michods through AL, exploring the intelligence and fight at work in commonity/or provide the second technologies controllative provides the second technologies and noise they can be re-performed through AL. Where the insplatition convex from			
Tool used This is a speculative pedagogy project this arms to explore the relationship between traditional Design trinking methods for deation and visualization through reverse engineering Al-severated content. to	The Insultation came from a constrent that the ar/locating isotation for a constrent contains an an average provide forware with. The containation possibilities of All spritteries have reconstrained with containation's disation and invasiting methods used in design.	The Machinery of Bern Harr and Annual		





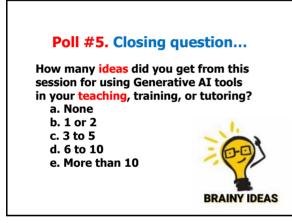














# Closing questions...in the chat window



