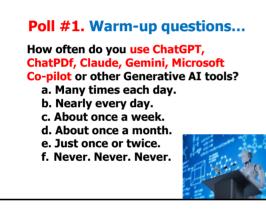
**How Faculty Can Harness Generative AI for Enhanced Learning:** Part 4. Best of AI Pedagogy

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

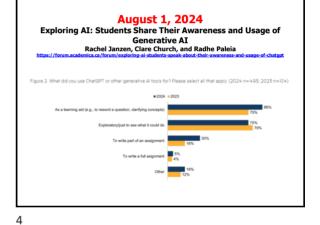


November 2022 to May 2025: AI, AI, AI, AI... AI in Higher Education News Colleges Race to Hire and Build Amid Al 'Gold AACU BELON



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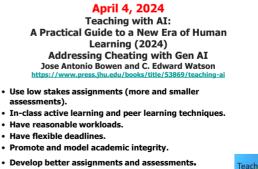


# August 23, 2024

Crunch the Numbers-New Data on AI in Higher Ed Kevin Hogan, Penn Foster Group, eCampus News

- Key findings include:
- 82% of college students say they've used AI technologies, compared to 58% of high school students, and students are now near even with teachers in adoption (67% vs. 66%)
- Two-thirds of high school and college teachers say they use AI technology for education
- Students who use AI technology for school use it to do research (46%), to summarize or synthesize information (38%), and to generate study guides or materials (31%) Courts News - Transfer





Increase transparency, relevance, belonging, and motivation.



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# July 5, 2024

Teaching: Getting in sync with students about AI Beth McMurtrie, 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.

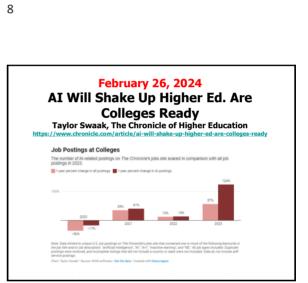




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November 30, 2023

Over 1,000 Sun Devils enroll in ASU's generative

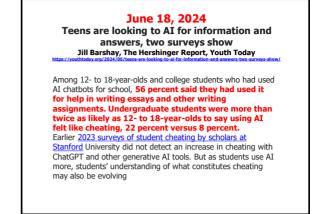
AI training course

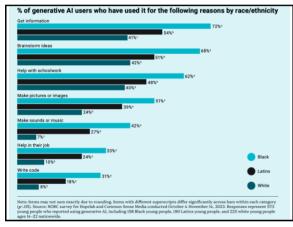
Over 1,000 Sun Devils enroll in ASU's generative AI training course

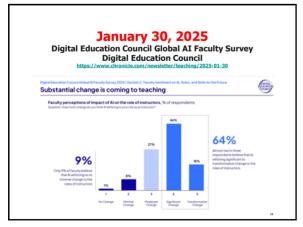
ASU Enterprise Techno

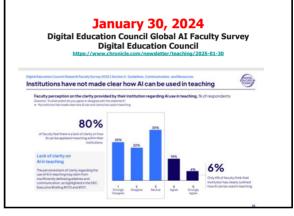


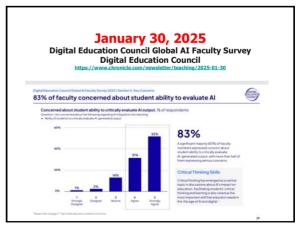
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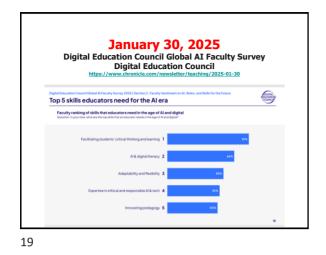


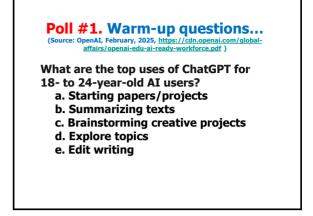


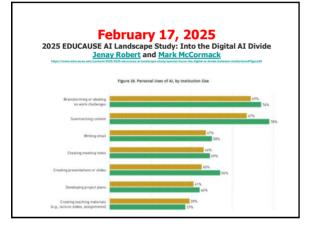


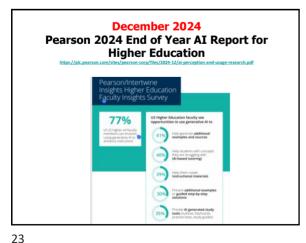




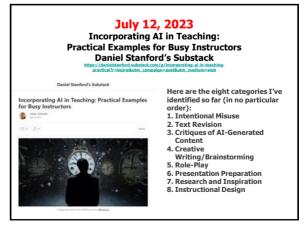












# March 2024 Student affordances to using ChatGPT The Educational Affordances and Challenges of ChatGPT: State of the Field Helen Crompton and Diane Burke, TechTrends Student codes • 24/7 suppo

25

August 15, 2023 ChatGPT and generative AI: 25 applications in teaching and assessment Seb Dianati & Suman Laudari, Charles Darwin University

6. Generate di

27



# November 23, 2023 TextGenEd: An Introduction to Teaching with Text Generation Technologies **WAC Clearinghouse** https://wac.cold ons/textgened/ tate.edu/repos TextGenEd: An Introduction to Teaching with Text Generation Technologies. Co-editor with Annette Vee and Carly Schnitzler. *Writing* TEXT Across the Curriculum Clearinghouse, 2023. WAC TextGenEd Collection Released

April 3, 2023

**Affordances and Pedagogical Benefits** 

ChatGPT for Language Teaching and Learning

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),

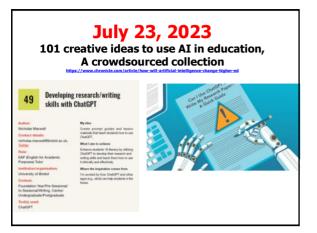
6. Offer dictionary definitions, example sentences, and translations

It can:

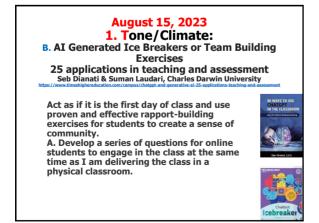
4. Develop quizzes, 5. Annotate texts, and

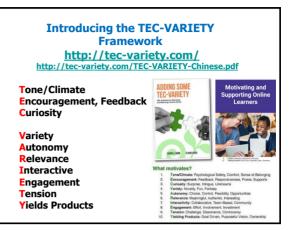
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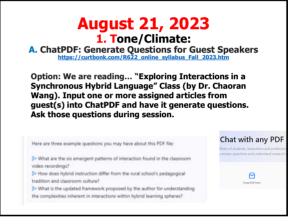


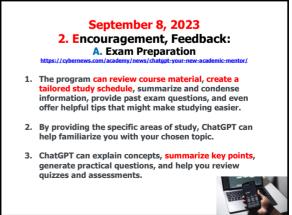


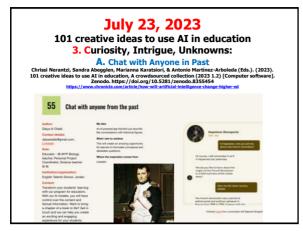












February 6, 2025

3. Curiosity, Intrigue, Unknowns:

B. Quotes as Discussion prompts.

KAIST team discovers molecular switch to reverse cancer cells, News-Medical Life Sciences

"We have discovered a molecular switch

that can revert the fate of cancer cells

normal cells are changed into an irreversible cancerous state."

doi.org/10.1002/advs.202412503.

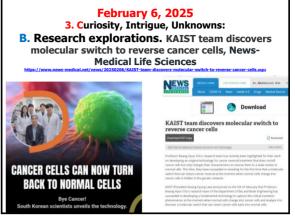
back to a normal state by capturing the

moment of critical transition right before

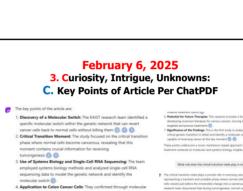
Journal reference: Shin, D., et al. (2025). Attractor Landscape Analysis Reveals a Reversion Switch in the Transition of Colorectal Tumorigenesis. Advanced Science.

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# 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.

# October 5, 2023

6. Relevance, Meaningfulness:

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

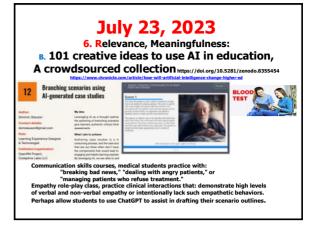
In the technical writing course, students used ChatGPT to write job-application materials, such as cover letters and resumes. Most of them, she wrote, found that the chatbot actually created work because, even with multiple prompts, the writing did not have much personality and was repetitive. Maha Bali 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.



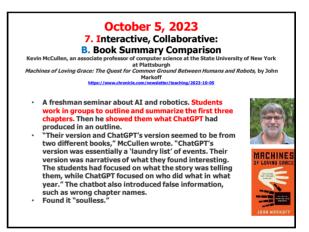
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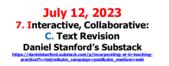
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Text Revision: For activities where students revise or critique AI-generated text, consider how students will annotate their work. For example, your instructions might include one or more of the following guidelines:

- 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.

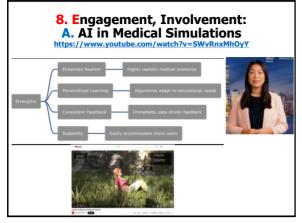


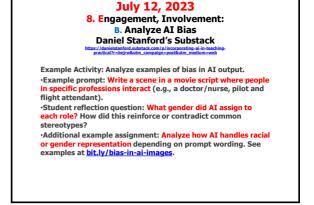
Dr. Helen Crompton, Professor of Instructional Technology at Old Dominion University, encourages her education graduate students to use ChatGPT as a stand-in for a particular persona—like a debate partner who will point out weaknesses in their arguments, a recruiter who's interviewing them for a job,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

Last month, educational psychologist Ronald Beghetto asked a group of graduate students and teaching professionals to discuss their work in an unusual way. As well as talking to each other, they conversed with a collection of creativity-focused chatbots based on ChatGPT...at Arizona State University (ASU). Beghetto prompts the bots to take on various personas to encourage creativity — for example, by deliberately challenging someone's assumptions. One student discussed various dissertation borjics with the chatbots

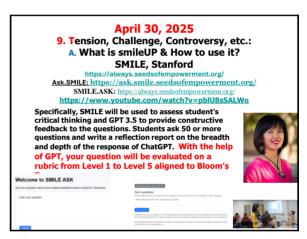


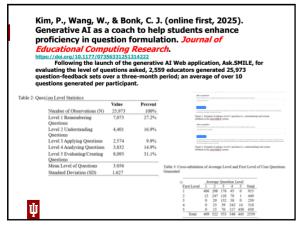
















The R2D2 Model

Read (Auditory and Verbal Learners)
Reflect (Reflective Learners)

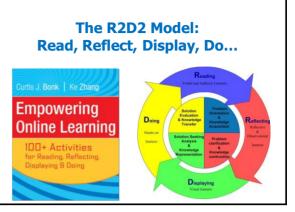
4. Do (Tactile, Kinesthetic, Exploratory

3. Display (Visual Learners)

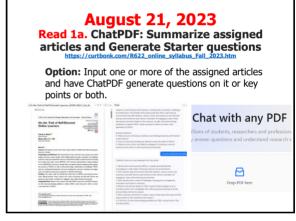
Learners)

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November 23, 2023 Reflect 2a. Translating Policy Document into Plain English (TextGenEd) Timothy Laquintano, Lafayette College https://wac.colositate.edu/repository/collections/textgened/professionalwriting/translating-a-policy-document-into-plain-english/ This assignment asks undergraduate students to translate a complex policy document into

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



# November 23, 2023 Reflect 2b. AI for Editing (TextGenEd)

Nupoor Ranade, George Mason University https://wac.colostate.edu/repository/collections/textgened/profess ional-writing/ai-for-editing/

This assignment asks students to generate a complex essay using an AI text generation tool, edit the essay using principles taught in class to improve the readability score of the generated content. Students are asked to share the final output along with visuals that demonstrate the comparison between the various versions of the generated content. This assignment can be adapted for all course levels, especially for first-year writing and professional and technical writing classrooms.



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How can AI make credible contributions to the writing and editing process?

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February 15, 2024

Display 3c. AI Generated Videos Just Changed

Forever

May 12, 2025

**Display 3a. R2D2 Model** 

https://www.napkin.ai/

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Get visuals from your text





February 16, 2024 OpenAI's Video Generator Sora Is Stunning and Utterly Terrifying Tony Ho Tron, The Daily Beast



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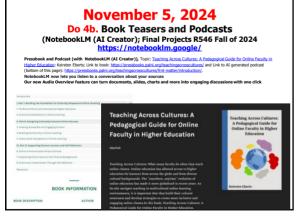


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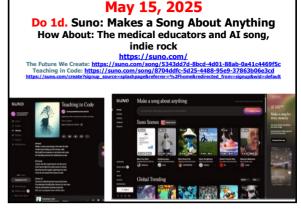
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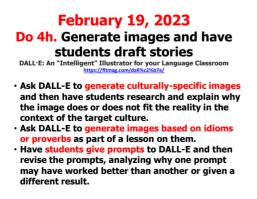


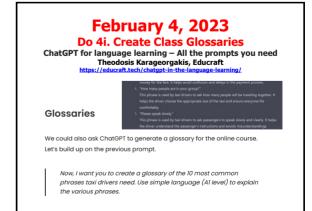


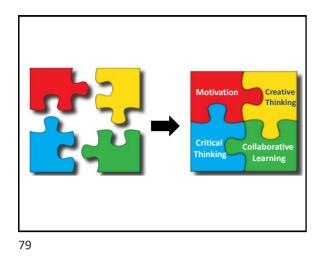


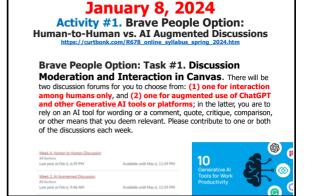












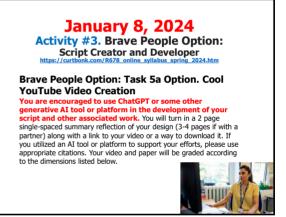


Software and Technology Tool Reviewer

Brave People Option: Task 4c Option. Software or Technology Tool or Platform Review.

If you utilized ChatGPT or some other generative AI platform for any aspect of this assignment, please cite it appropriately. Perhaps you might put the articles or reviews on a technology tool into ChatPDF, ChatGPT, or other generative AI tool or platform and have it do a critique or a book review. If you choose this route, you are to write a 2-3 page single-spaced reflection paper, review, or critique of what generative AI produced.

81



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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.

- Ask 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?



# July 18, 2023

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

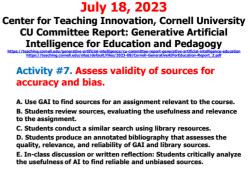
# Activity #6. Summarize arguments and produce themes.

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

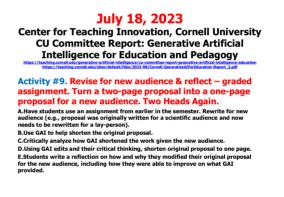
## Center for Teaching Innovation, Cornell University CU Committee Report: Generative Artificial Intelligence for Education and Pedagogy

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

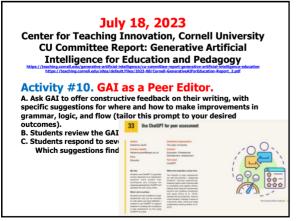
A. Have students edit a paragraph or short paper on their own, using a prompt that makes sense for your course (e.g., make this paragraph more concise, strengthen the argument in this paragraph, explain the concept in this paragraph, etc.).

more concise, strengthen the argument in this paragraph, explain the concept in this paragraph, etc.). 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 were able to improve on what GAI provided.

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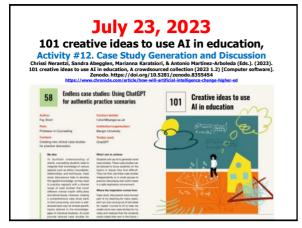
Center for Teaching Innovation, Cornell University CU Committee Report: Generative Artificial Intelligence for Education and Pedagogy

### Activity #11. Brainstorm Ideas for Assignment.

A. Use GAI to brainstorm ideas for an assignment that is relevant to the course (e.g., topics for a research paper, research study ideas, new business ideas, marketing taglines, etc.). B. Students evaluate the ideas based on the established criteria for

the assignment. C. Students further develop their preferred idea and complete the assignment.

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





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# August 15, 2023

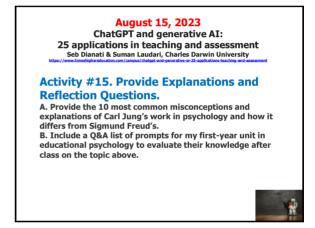
ChatGPT and generative AI: 25 applications in teaching and assessment Seb Dianati & Suman Laudari, Charles Darwin University

## 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.

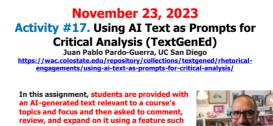




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review, and expand on it using a feature such as "track changes." In engaging with the AIgenerated text, students review their knowledge, offer critiques, modify theoretical and empirical claims, and provide concrete examples that illustrate or disprove the provided answer.





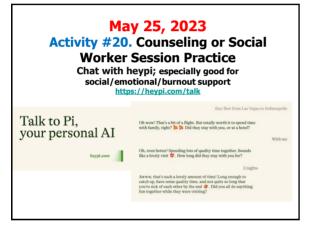
# October 5, 2023 Activity #18. Annotate a ChatGPT-

**Generated Essav** Gregg L. Michel, University of Texas at San Antonio tps://www.chro https://web.hypothes.is/

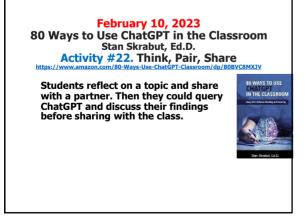
Gregg L. Michel, an associate professor of history at the University of Texas at San Antonio, asked students in an upper-level course on the history of the civil-rights movement to work in groups to annotate a ChatGPT-generated essay using <u>Hypothes.is</u>. Then each the group rewrote the essay, using what they wanted of the original in the final draft.

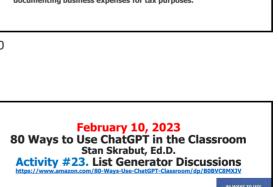


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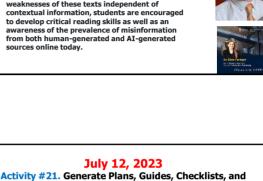
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Have ChatGPT or any other generative AI student paired interview questions, book or article recommendations, course guidelines or objectives, course objectives, etc.) and then engage students in small group and then whole class discussions.





November 23, 2023 Activity #19. Critical Assessment and Analysis

Exercise (TextGenEd)

Nathan Murray, University of Mississippi

This assignment asks first-year critical writing students to evaluate the reliability, factuality, and internal reasoning of three anonymized texts, one written by AI, that present conflicting opinions or

information. By considering the strengths and

https://wac.c

Nathan Murray, University of Toronto Mississauga Elisa Tersigni, University of Toronto Mississauga

Instructional Design Materials Daniel Stanford's Substack 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 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.

100

February 10, 2023 80 Ways to Use ChatGPT in the Classroom Stan Skrabut, Ed.D. Activity #24. Language Conversation Partners https://www.amazon.com/88-Ways-Use-ChatGPT-Classroom/dp/B0BVCBMXUY

Generative AI might also translate articles and blocks of text into the target language. Next have students work in teams to improve the drafts through rewriting and discussion.





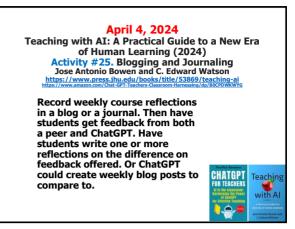
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April 4, 2024 Teaching with AI: A Practical Guide to a New Era of Human Learning (2024) Activity #26. Summary Comparisons Jose Antonio Bowen and C. Edward Watson https://www.press.jhu.edu/books/title/53869/teaching-ai

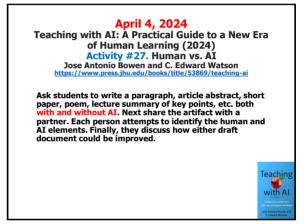
Ask teams of 3 students to use different AI tools to make summaries of one or more readings. Have them meet FTF or in a synchronous setting and defend their AI tool summary as the best summary. Next have them attempt to improve or refine one of the summaries, pool the respective summaries into a list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



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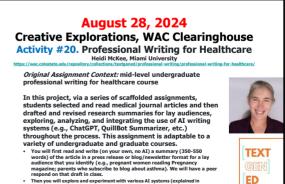
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Then you will explore and experiment with various AI systems (explained in assignments below), analyzing your own and AI's writing. Working with AI and you writing you will revise your summary based on feedback from peers and ideas/language gained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

Teach

