## How Faculty Can Harness Generative AI for Enhanced Learning

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







1

## Poll #1 and #2. Warm-up questions...

- Have you used ChatGPT or other Generative AI tools for any teaching, training, or tutoring that you have done? Yes. No.
- 2. Have you used ChatGPT or other Generative AI tools for any of your formal or informal learning? Yes. No.

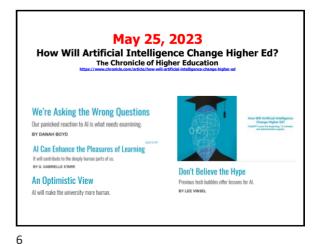
## November 17 (to November 22), 2023 OpenAI Fires CEO Sam Altman, Citing Lack Of Confidence Robin Grenoble, Huffington Post https://www.huffpast.com/.orbry/openaid-fires-sam-altman, p. 653 9654 edito5732e-bdcdes8 OpenAI Fires CEO Sam Altman, Citing Lack Of Confidence OpenAI Fires CEO Sam Altman, Citing Lack Of Confidence Test Confidence Test

Poll #3. Warm-up questions...

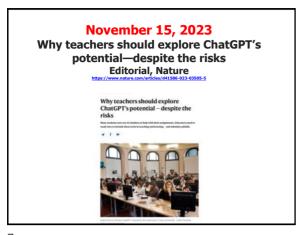
- 3. How often do you use ChatGPT or other Generative AI tools?
  - a. Gobs of times each day.
  - b. Nearly every day.
  - c. About once a week.
  - d. About once a month.
  - e. Just once or twice to test it out.
  - f. Never. Never. Never.

3



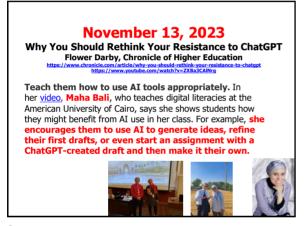


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November 13, 2023
Why You Should Rethink Your Resistance to ChatGPT
Flower Darby, Chronicle of Higher Education
https://www.chronicle.com/article/why-you-should-rethink-you-resistance-to-chatget

A more recent study found that nearly half (49 percent) of college students are using generative AI tools, but only 22 percent of faculty members.
That disconnect highlights faculty hesitation to use AI as much as it reveals potential resistance.

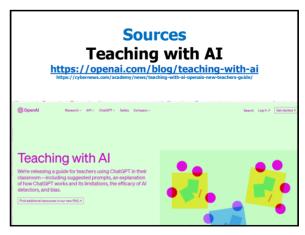


August 14, 2023
Why Professors Are Polarized on AI Susan D-Agostino, Inside Higher Ed

\*\*History I was interested in the filling and professor of the professor of film and media culture and American studies at Middlebury College, wrote. "After 23 years of teaching, I've come to realize that my job is neither to police students who don't want to learn nor to rank students via grades, but to maximize learning for those who want to learn and try to inspire the others to try to join in the learning."

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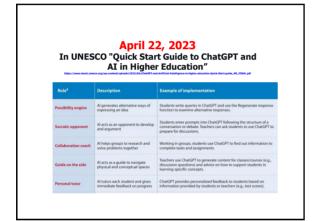




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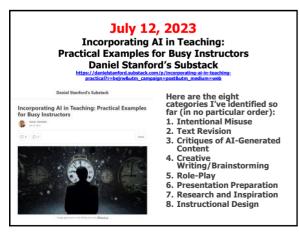
June 12, 2023

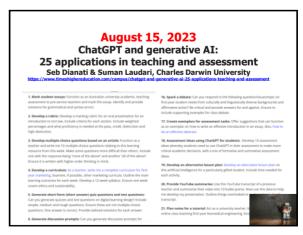
Assigning AI: Seven Ways of Using AI in Class
One Useful Thing Blog

Ethan Mollick, Associate Professor of Management, the University of Pennsylvania https://www.oneusefulthing.org/p/assigning-ai-seven-ways-of-using?

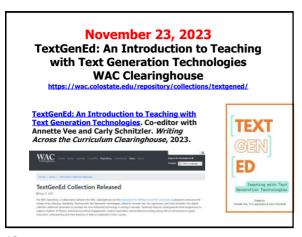
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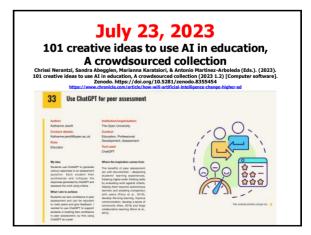




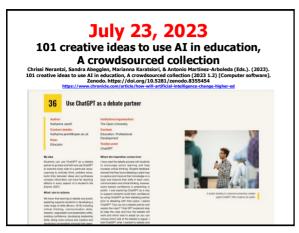


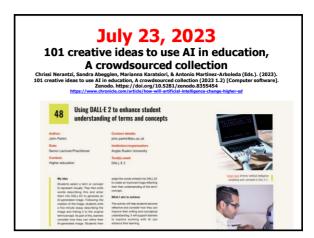
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23 24







July 23, 2023

101 creative ideas to use AI in education,
A crowdsourced collection

Chrissi Nerantzi, Sandra Abegglen, Marianna Karatsiori, & Antonio Martinez-Arboleda (Eds.). (2023).
101 creative ideas to use AI in education, A crowdsourced collection (2023 1.2) (Computer software).

Intractive ideas to use AI in education, A crowdsourced collection (2023 1.2) (Computer software).

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Intractive ideas to use AI in education, A crowdsourced collection (2023 1.2) (Computer software).

Impowering student-led case study discussions with ChatGPT-generated prompts

Intractive ideas to classification with ChatGPT-generated prompts

Intracti

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**April 3, 2023** 

**Affordances and Pedagogical Benefits ChatGPT for Language Teaching and Learning** 

## It can:

- 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

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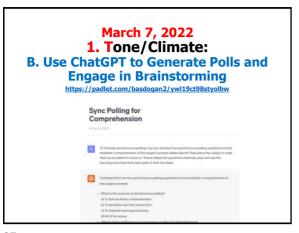
**April 3, 2023 Clarify Word Meanings** ChatGPT for Language Teaching and Learning /10.1177/00336882231162868 Hi, I don't understand what 'dyslexia' means in the following magazine article. Can you explain it to me? ple with dyslexia often have trouble recognizing and manipulating the individual nds, or phonemes, that make up words. They may also have difficulty with

34 33



August 21, 2023 1. Tone/Climate: A. ChatPDF: Generate Questions for Guest Speakers **Option:** We are reading... "Exploring Interactions in a Synchronous Hybrid Language" Class (by Dr. Chaoran Wang). Input one or more assigned articles from quest(s) into ChatPDF and have it generate questions. Ask those questions during session. Chat with any PDF What are the six emergent patterns of interaction found in the classro > How does hybrid instruction differ from the rural school's p What is the updated framework proposed by the author for understa

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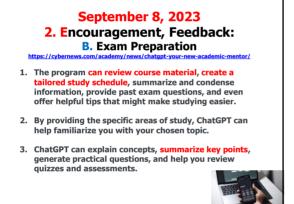


August 31, 2023 2. Encouragement, Feedback: A. Crafting Quiz Questions https://openai.com/blog/teaching-with-ai Fran Bellas, a professor at Universidade da Coruña in Spain, recommends teachers use ChatGPT as an assistant in crafting quizzes, exams and lesson plans for classes. He says to first share the curriculum to ChatGPT and then ask for things like fresh quiz and lesson plan ideas that use modern or culturally relevant examples. Bellas also turns to ChatGPT to help teachers make sure questions they write themselves are inclusive and accessible for the students' learning

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2. Encouragement, Feedback: C. Online Practice Tests and Interactive Flash Cards (Q-chat) s, Q-chat was able to give corrective feed and giving a correct example in Spanish. A not and have students finish the story and http://quizlet.com/ https://fltmag.com/quizlet-q-chat/

39



August 15, 2023 ChatGPT and generative AI: 25 applications 3. Curiosity, Intrigue, Unknowns: A. Provide YouTube Summaries NOTEGPT

41 42

## July 12, 2023

- 3. Curiosity, Intrigue, Unknowns:
- **B.** Critique AI Generated Content **Daniel Stanford's Substack**

**Critiques of AI-Generated Content Example Activity: Critique AI-generated** arguments.

- Example AI prompt: Should governments provide tax credits for electric vehicles?
- Student task: Paste AI response into a document and use "track changes" mode to critique/revise.

July 12, 2023

- 3. Curiosity, Intrigue, Unknowns:
- B. Critique AI Generated Content **Daniel Stanford's Substack**

Example ChatGPT Responses from SUNY Online Summit Workshop

43 44

## July 12, 2023

- 3. Curiosity, Intrigue, Unknowns:
- B. Critique AI Generated Content **Daniel Stanford's Substack**

Daniel's Revision Request:

Pretend you work for a nonprofit called The Planeteers. Write a 400-word article in support of federal and state-level income tax credits for electric vehicles. Cite specific studies that show that electric vehicles reduce CO2 emissions, smog, and other air pollutants. Mention the annual costs of astmar-elated medical issues and explain how electric vehicles would reduce healthcare costs.

As an Al language model, I do not represent or work for any organization, but I can provide the requested article on the topic.

The Planeteers nonprofit strongly supports federal and state-level income tax credits for electric vehicles (EVs). EVs have been identified as a critical component in the effort to reduce greenhouse gas emissions, smog, and other air pollutants. By incentivizing the transition to EVs, policymakers can significantly reduce the environmental impact of the transportation sector.

June 7, 2023

4. Variety, Novelty, Fun, Fantasy: A. Learn new words through images by making suggestions for things to add or change





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## 5. Autonomy, Choice:

## A. Supplemental Language Lessons Online



August 21, 2023

5. Autonomy, Choice: B. Brave People Option: Scholar Essay

https://curtbon

• Brave People Option: Have ChatPDF, ChatGPT, or another generative AI tool or platform generate a 2,000-3,000 word summary or essay of a scholar. Next, write a 2-3 page single-spaced reflection paper, review, or critique of that scholar and incorporate a couple of quotes and aspects of what generative AI produced.

47 48

## August 21, 2023

5. Autonomy, Choice: C. Brave People Option: **Book Review** 

https://curtb

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.

## August 21, 2023

5. Autonomy, Choice:

D. Brave People Option:

**Learning Environment Critique and Analysis** 

Brave People Option: Feel free to utilize generative AI tools like ChatGPT or ChatPDF to generate starter text and up to three guotes in your Learning Environment Critique and **Analysis** paper as long as they are marked or you have reworded them a cited them properly.



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## July 12, 2023

6. Relevance, Meaningfulness: A. Discuss Ethical Issues

**Autumm Caines, University of Michigan Dearborn** 

Labor Issues Using ChatGPT is providing free labor to OpenAI in their product development. They are clear about this in their terms and in their faq page.

I don't want to go down the "robots are coming for our jobs" path but many people (including the people building these tools) do envision AI having major impacts on the job market. Is it okay to ask to help train the very thing that might take opportunities from them? It could be making opportunities too but shouldn't they understand that?

## October 5, 2023 7. Interactive, Collaborative:

## A. Book Summary Comparison

Kevin McCullen, an associate professor of computer scie New York at Plattsburgh Machines of Loving Grace: The Quest for Common Gra und Retween Humans and

Robots, by John Markoff

- A freshman seminar about AI and robotics. Students work in gro chapters. Then he showed them what ChatGPT had produced in an outline.
- "Their version and ChatGPT's version seemed to be from two different books," McCullen wrote. "ChatGPT's version was essentially a 'laundry list' of events. Their version was narratives of what they found interesting. The students had focused on what the story was telling them, while ChatGPT focused on who did what in what year." The chatbot also introduced false information, such as wrong chapter names. Found it "soulless."



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## July 12, 2023

7. Interactive, Collaborative: **B.** Text Revision **Daniel Stanford's Substack** 

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.

## July 12, 2023

7. Interactive, Collaborative: C. Text Revision

**Daniel Stanford's Substack** 

**Example Activity: Summarize a text.** 

 Example AI prompt: Summarize the most important points of the following article in five to 10 bullet points. Limit the summary to a maximum of 200 words total. [Paste article to be summarized here.]

Example Activity: Expand on an outline.

· Example AI prompt: Take the following outline and expand on each point with one to two paragraphs of text. [Paste outline here.]

## November 15, 2023

7. Interactive, Collaborative:

D. ChatGPT as Tool or Thought Partner: ChatGP has entered the classroom: how LLMs could transform education Andy Extance, Nature

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 topics with the chatbots.

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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 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.



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## July 12, 2023

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

https://danielstanford.substack.com/p/incorporating-ai-in-teach

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 <a href="https://bias-in-ai-images">bit.ly/bias-in-ai-images</a>.

Sa. Engagement, Involvement:

A. Analyze AI Bias

Daniel Stanford's Substack

https://danieltamford.mobiatack.com/pi/microproportion-si-in-backingspractical?r-beinv&utm\_campaign=post&utm\_medium=web

Examples of Bias in Al Image Generation

Prompt "Substack Generation of Auras decides plut and professor with diverse scalar representations"

Examples of Bias in Al Image Generation

From the Substack Generation of Auras decides plut and professor with diverse scalar representations

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From the Substack Generation of Auras decides pl

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# July 12, 2023 8. Engagement, Involvement: A. Analyze AI Bias Daniel Stanford's Substack https://danielstanford.aubstack.com/pi/ncorporating-si-lin-teachingpractical?n-helrokutm\_campaign-post&utm\_redium-week DALL-E 2 Examples The following images were generated by Daniel Stanford via DALL-E 2. Prompt: Illustration of nurse, doctor, pilot and professor (Source: openal.com/productidalies\_2) (Source spenal.com/productidalies\_2)



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## May 11, 2020

9. Tension, Challenge, Controversy, etc.: A. What is smileUP & How to use it? SMILE, Stanford

https://www.youtube.com/watch?v=pblU8sSALWo

SMILE is connected to ChatGPT to give feedback and guidance. Have student experiment to see who can ask Level 4 and Level questions Professor Trang Phan fosters critical thinking by having her education students at Fresno State ask the same question and phrase differently every time and reflect on the authenticity, accuracy, trustworthiness, and the ethical and moral nature of the responses. And also record the level of question according to SMILE.

May 11, 2020

9. Tension, Challenge, Controversy, etc.: A. What is smileUP & How to use it? **SMILE, Stanford** 

https://ask.smile.stanford.edu/

Specifically, SMILE will be used to assess student's critical thinking and GPT 3.5 to provide constructive feedback to the questions Accordingly, students will be given access to SMILE (https://ask.smile.stanford.edu/) to ask questions of their own. SMILE will rank the student's question from level 1 (i.e., the most basic) to level 5 (i.e., the most critical) based on its breadth and depth and its analytical nature using the Bloom Taxonomy criteria. 50 or more questions and write a reflection report on the breadth and depth of the response of ChatGPT



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## May 11, 2020

9. Tension, Challenge, Controversy, etc.: A. What is smileUP & How to use it?

https://www.youtube.com/watch?v=pblU8sSALWo

**SMILE, Stanford** Ask a question

May 25, 2023

9. Tension, Challenge, Controversy, etc.: B. ChatGPT as Co-Pilot, Normalize Citing AI https://www.pearson.com/en-us/higher-education/insights-and-events/teaching-and-learning-blog/2023/05/whateducation-experts-are-saying-about-chatgpt.html#:

When used properly, ChatGPT can be a student's colot. It can help them brainstorm, improve phrasing, and learn new concepts...Panelist Anna Mills of City College of San Francisco said she teaches critical AI literacy and believes in "setting a norm of transparency and labeling of AI text." She recommends students clearly label any portion of an assignment that was generated with ChatGPT or another AI tool-just like they would cite other



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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.chronicle.com/newsletter/teaching/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 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 ChatGPTgenerated essay.

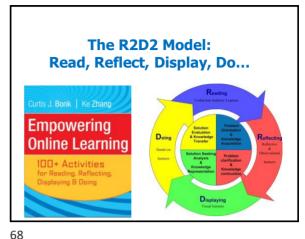


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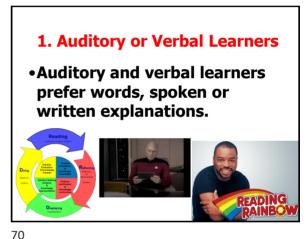
July 12, 2023 10. Yields Products, Goals: B. Compare Ethical Decisions of Technology Autumm Caines, University of Michigan Dearborn Civics of Technology

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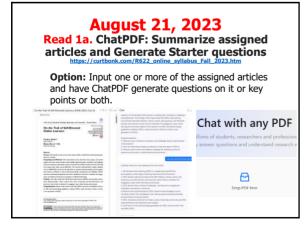








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## 2. Reflective and Observational Learners

 Reflective and observational learners prefer to reflect, observe, view, and watch learning; they make careful judgments and view things from different perspectives





## May 12, 2023 Reflect 2a. Expert Reflections

IALLT Interview Project Episode 10: ChatGPT and Language Learning: Interview with Jesse Walker, Jason Kappes, and Frederick Poole https://filmag.com/iallt-interview-project-episode-10-chatgpt-and-language-learning/



IALLT Interview Project Episode 10: ChatGPT and Language Learning: Interview with Jesse Walker, Jason Kappes, and Frederick Poole

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## August 31, 2023 Reflect 2b. Critical Thinking on the Credibility of Sources

https://openai.com/blog/teaching-with-ai

Geetha Venugopal, a high school computer science teacher at the American International School in Chennai, India, likens teaching students about AI tools to teaching students how to use the internet responsibly. In her classroom, she advises students to remember that the answers that ChatGPT gives may not be credible and accurate all the time, and to think critically about whether they should trust the answer, and then confirm the information through other primary resources. The goal is to help them

"understand the importance of constantly working on their original critical thinking, problem solving and creativity skills."



## November 23, 2023

## Reflect 2c. Translating Policy Document into Plain English (TextGenEd)

Timothy Laquintano, Lafayette College https://wac.obstate.edu/repository/collections/textgened/professional-writing/translating-a-policy-document-into-plain-english/

This assignment asks undergraduate 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.



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## **November 23, 2023**

## Reflect 2d. Using LLMs as Peer Reviewers for Revising Essays (TextGenEd)

Antonio Byrd, Univ. of Missouri at KC https://wac.colostate.edu/repository/collections/textgened/rhetorical-engagements/using-llms-as-peer-reviewers-for-revising-essays/

In this assignment, undergraduates use large language models (LLMs) to assist in revising their essay drafts by asking LLMs to respond to common peer review prompts. Students learn prompt engineering and develop rhetorical judgments on the effectiveness of LLMs' language analysis to heighten their revision processes. This assignment can be adapted to most disciplines and course levels. (advanced expository course on literacy studies and technology)



## November 23, 2023 Reflect 2e. 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.



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

## **November 23, 2023**

## Reflect 2f. Decoding an AI Bot's Chatting Pattern (TextGenEd)

Bhushan Aryal & Ordner W. Taylor, Delaware State University s://wac.colostate.edu/repository/collections/textgened/rhetoengagements/decoding-an-ai-bots-chatting-pattern/

This 4-week assignment asks advanced undergraduate students to hold a sustained 'conversation' on a topic
with an AI chatbot to decode the pattern, limitations and possibilities of the AI-based writing technology. Students analyze their conversation, write a report, and make an oral presentation. The assignment provides writing faculty a wide window to teach almost any issue of interest in AI writing while offering students an immersive, analytical, and writing











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## 3. Visual Learners

 Visual learners prefer diagrams, flowcharts, timelines, pictures, films, and demonstrations.







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## June 5, 2023 **Display 3a. Short Demonstration Videos** IALLT June Webinar 2023 -Making Generative AI Work for Language Teachers https://fltmag.com/generative-ai-webinar/ https://www.youtube.com/watch?v=MkIEl6ppgyg Making Generative Al Work for CHAT GPT Language Teachers Maureen Gassert Lamb, M.Ed b Bing Canva CHAT GPT Otome

**November 23, 2023** 

Reflect 2g. The Term Paper Turing

Test (TextGenEd)

Paul Fyfe, North Carolina State University

language model to write their term papers—with the goal of fooling the instructor. While initially framed as something sneaky or as a shortcut for writing, the

assignment makes students confront and then reflect

n the unexpected difficulties, ethical dimension collaborative possibilities of computationally

assisted writing. It can use any web-based text-generating platform, be adapted to various courses, and does not require significant technical knowledge.

4. Tactile/Kinesthetic Learners

• Tactile/kinesthetic senses can be engaged in the learning process are role play, dramatization, cooperative games, simulations, creative movement and dance, multi-sensory activities, manipulatives and hands-on projects.





## February 19, 2023

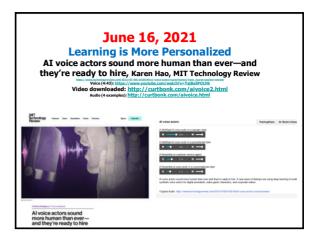
## Do 4a. Generate images and have students draft stories

DALL·E: An "Intelligent" Illustrator for your Language Classroom

- Ask DALL-E to generate culturally-specific images and then have students research and explain why the image does or does not fit the reality in the context of the target culture.
- Ask DALL-E to generate images based on idioms or proverbs as part of a lesson on them.
- Have students give prompts to DALL-E and then revise the prompts, analyzing why one prompt may have worked better than another or given a different result.

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4. How many ideas did you get from this session for using ChatGPT or other Generative AI tools in your teaching, training, or tutoring?

a. None

b. 1 or 2

c. 3 to 5

87

d. 6 to 10

e. More than 10



Poll #5. Closing questions...

5. How many ideas did you get from this session for using ChatGPT or other Generative AI tools in your formal and informal learning?

a. None

b. 1 or 2

c. 3 to 5 d. 6 to 10

e. More than 10



## Remember... "I cannot do this alone." "I cannot do this alone." "I cannot do this alone." "I cannot do this alone."



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