

Artificial Intelligence (AI) Technologies, Like ChatGPT, in Teaching and Learning

Disclaimer: The following comments/considerations do not necessarily reflect the attitudes/opinions of CTEI or Lisa Z. These are compiled not from research on pedagogy but instead from instructor and others’ posts within teaching-focused areas online.

If you are an instructor concerned by or interested in the recent chatter regarding ChatGPT, please peruse the content below for anything that resonates with you and your teaching philosophy. CTEI will be hosting an informal conversation facilitated by Zaman Sarker and Sheetal Sood. Please join us on February 22 at 12:45 for a virtual conversation. [Please click here to register.](#) (Please use Chrome or Firefox to register.)

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What is ChatGPT? (In its own words on Jan 14, 2023)

At chat.openai.com, I typed the question, “What is ChatGPT?” The following is the response:

“ChatGPT is a large language model trained by OpenAI. It is a variant of the GPT (Generative Pre-trained Transformer) model, which was trained on a massive amount of text

data to generate human-like text. It can be used to generate text for a variety of tasks such as language translation, summarization, question answering, and more.”

Why are instructors concerned about ChatGPT in the classroom? (In its own words on Jan 17, 2023)

I then typed in, “Why are instructors concerned about ChatGPT in the classroom,” to see what it would return. The following is the response:

“Instructors may be concerned about the use of language models like ChatGPT in the classroom because they may be able to generate high-quality text that is indistinguishable from that written by a human. This could make it difficult for instructors to identify plagiarism or original work. Additionally, language models like ChatGPT can be used to generate answers to test questions, which could potentially enable cheating.

Another concern is that, while they may be able to generate coherent text, they lack understanding and context, this could lead to students using the model to generate homework, essays, and other assignments that are not actually demonstrating their understanding of the material.

Additionally, there is a potential ethical concern about using AI to help students cheat. This could devalue the educational experience and undermine the integrity of the education system.”

Some Cautions!

ChatGPT is in a “free research preview”. We have no idea for how long it will be freely accessible. Further, Lisa Z. would not require student use it as privacy is a serious concern (Possible exception: If use occurs in a course where an AI tool is necessary to achieve a course learning outcome, then perhaps use can be required. Check with ITS regarding privacy concerns if you are considering student use.)

Remind Students of Academic Honesty Policies

Rely on academic honesty policies and be transparent with students that their AI uses, outside of those specified in your class, may be considered academic dishonesty.

Remind Students of Common Problems with AI: Bias, Stereotype, Inaccuracies

Explain to students that AI outputs are often biased and include stereotypes.

AI may be multilingual, but it is often monocultural and biased; Equity concerns must be considered.

When asked, “Wouldn’t instructors also be concerned by *the biases and stereotypes ChatGPT reproduces?*” ChatGPT returned:

“Yes, instructors and other educators may be concerned about the biases and stereotypes that language models like ChatGPT reproduce. Because they are trained on a massive amount of text data, which is often sourced from the internet, these models can inadvertently learn and reproduce biases and stereotypes that are present in the data.

For example, a language model that has been trained on text data that contains gender bias might generate text that reinforces sexist stereotypes. Similarly, a model that has been trained on text data that contains racial bias might generate text that reinforces racist stereotypes.

This can be a problem in the classroom as it could perpetuate and amplify harmful biases and stereotypes, and create an unwelcoming environment for some students. Therefore, instructors may be concerned about the use of language models like ChatGPT in the classroom until the issues of bias and stereotype are addressed.”

Instructors are encouraged to explore the tool themselves but do carve more time than you’d expect necessary. The available, free tools are often “overwhelmed”, and access can be challenging time-wise.

Sample Suggestions for Making Assignments Less Susceptible to AI Tool Use

Assignment Design (slightly adapted from Montclair.edu)

<https://www.montclair.edu/faculty-excellence/practical-responses-to-chat-gpt/>

- ChatGPT and similar tools rely on freely available text — text that is not behind firewalls or so obscure or recent that it has not yet been added to the tool’s corpus. These suggestions are built on this design characteristic.
- In written assignments, reference class materials and notes, or sources that are not available on the free internet (books or articles that are recent, behind firewalls). For example, “Refer to two of the theorists discussed in class.”
- Include visuals — images or videos that students need to respond to — in your assignment. Be sure to include alt-text for accessibility.
- Reference or connect to current events or conversations in your field.
- Ask for application or engagement between personal knowledge/experience and course concepts or topics.
- For short reading responses, instead of using open-ended questions in Canvas/Blackboard.
- Replace an essay or short-answer writing assignment with one that requires students to submit an audio file, podcast, video, speech, drawing, diagram, or multimedia project. That is, mix up the assignment in ways that make running to ChatGPT more work than it’s worth.
- Chunk your written assignments with due dates for individual elements that precede the final submission: an outline, notes on research articles, drafts.\

Sample, General Suggestions for Using AI with Students Class

1. Ask for the tool to produce text written on the same topic/concept but in two different genres/academic styles/etc. as instructed. Students can explore these differences through comparison of the AI-generated texts. See appendix for one example.

2. Use AI as a first stage towards crafting a literature review, summarizing some research to get ideas flowing, but also identifying the drawbacks (e.g., resources created and made available after 2021 are likely to be omitted given the machine learning models in place today; content may be biased).
3. Copy/paste the text of a writing sample into AI and ask for revision suggestions. See Appendix for example.
4. Generate practice questions for exams.
5. Ethan Mollick suggests we encourage students to use AI to “play with constraints” and “interview the AI”. He provides examples of how to do so here: <https://oneusefulthing.substack.com/p/how-to-use-ai-to-generate-ideas>

Resources From Which Many Sample Suggestions Were Pulled

Why I’m Not Scared of ChatGPT (available through Mortenson Library databases)

https://www.chronicle.com/article/why-im-not-scared-of-chatgpt?utm_source=Iterable&utm_medium=email&utm_campaign=campaign_5971351_nl_Academe-Today_date_20230120&cid=at&source=&sourceid=

Teaching Actual Student Writing in an AI World

<https://www.insidehighered.com/advice/2023/01/19/ways-prevent-students-using-ai-tools-their-classes-opinion#.Y8rDK8tLhOI.link>

Alarmed by A.I. Chatbots, Universities Start Revamping How They Teach

https://www.nytimes.com/2023/01/16/technology/chatgpt-artificial-intelligence-universities.html?mc_cid=9cbd609fd1&mc_eid=8da536a228

How ChatGPT Could Transform Higher Education

<https://www.socialsciencespace.com/2022/12/how-chatgpt-could-transform-higher-education/>

AI in Writing podcast segment.

<https://open.spotify.com/episode/6WnezMkIJ9y84ljNwlwAf7?si=QjVs-oOeRUSJyxbhDsSqbw>

This 22-year-old is trying to save us from ChatGPT before it changes writing forever

<https://www.npr.org/sections/money/2023/01/17/1149206188/this-22-year-old-is-trying-to-save-us-from-chatgpt-before-it-changes-writing-for>

A bit of humor...Ryan Reynolds asks ChatGPT write a Mint Mobile advert

https://youtu.be/_eHjifELI-k

Resources compiled from POD Listserv:

*Zotero Reference List related to ChatGPT

<https://www.zotero.org/groups/4888338/chatgpt>

* Practical Responses to ChatGPT from Montclair University, Office for Faculty Excellence

<https://www.montclair.edu/faculty-excellence/practical-responses-to-chat-gpt/>

* ChatGPT: Optimizing Language Models for Dialogue

<https://openai.com/blog/chatgpt/>

* What might ChatGPT mean for higher education?

<https://www.youtube.com/watch?v=Bz7aW6vStBw&t=1102s>

by Bryan Alexander

* ChatGPT: Understanding the new landscape and short-term solutions

https://docs.google.com/document/d/1ERCgdy1G2LyOeL93aWrK6Jf97N_m1qau_eN9W4kzO0Rk/edit

* The nail in the coffin: How AI could be the impetus to reimagine education

<https://docs.google.com/document/d/1ZZZv4sDp6Rw3v8KI-yKp8qc3RAd-kf85bmgE1K6WD4U/edit>

* AI bot ChatGPT stuns academics with essay-writing skills and usability

<https://www.theguardian.com/technology/2022/dec/04/ai-bot-chatgpt-stuns-academics-with-essay-writing-skills-and-usability>

* AI Will Augment, Not Replace

<https://www.insidehighered.com/blogs/just-visiting/guest-post-ai-will-augment-not-replace>

Appendix – Sample ChatGPT queries/examples

Asked a question then asked to revise ChatGPT to revise for a 4th grader.

The image shows a screenshot of a ChatGPT interface with two messages and responses. The first message is a query about teacher concerns, and the second is a request to revise the response for a 4th grader. The responses are detailed and cover various concerns like cheating, plagiarism, and accuracy.

zi Why are teachers concerned about ChatGPT in the classroom? **Lisa Z inputted this question**


ChatGPT response  There are a few reasons why teachers may be concerned about the use of ChatGPT in the classroom. One concern is that ChatGPT and other language generation models may be used to cheat on assignments and assessments. For example, a student could use ChatGPT to generate an answer to an essay question or a response to a prompt. This would make it difficult for teachers to determine whether the student has truly understood the material or is just regurgitating information generated by the model.

Another concern is that ChatGPT and similar models may make it easier for students to plagiarize, as they can easily generate text that appears to be original but is actually generated by the model.

Additionally, ChatGPT and other AI-generated text may not be entirely accurate, which could lead to confusion and misunderstandings in the classroom.

It's important to remember that while ChatGPT and other language generation models can be powerful tools, they should be used with caution and a clear understanding of their limitations.

zi How would you revise the piece above to be understood by a 4th grader? **Lisa Z inputted this question**

ChatGPT response  ChatGPT is a computer program that can write sentences like people do. Some teachers are worried that kids might use it to cheat on school work. For example, a student might use ChatGPT to write an answer to a question instead of thinking and writing it themselves. This would make it hard for the teacher to know if the student really understands the material.

Another concern is that students might use ChatGPT to copy someone else's work and pretend it's their own. This is called plagiarism.

Lastly, sometimes ChatGPT might not write things that are completely true, so it can cause confusion in the classroom.

Overall, ChatGPT can be a helpful tool, but we should be careful when using it and always remember that it's not perfect.