ChatGPT (AI) in Education - an Overview

Summary: ChatGPT: A new AI assistant (advanced chatbot), has been released to the public (currently free) with enhanced capabilities. ChatGPT can be used to generate text on many topics, and can be customized/fine-tuned to produce text in a specific style or on a specific topic. – You simply type in a question or give it a command and it generates text for you. **Available here**: https://chat.openai.com/chat

ChatGPT (AI) Capabilities:

• Simple interaction in conversational English, no codes or complex language necessary

• Answers virtually any type of questions including college-level math (and shows its work)

• Offers feedback to pre-existing text

• Can summarize and/or paraphrase texts

• Writes computer codes

• Can translate from one language to another

• Can create questions, titles, and descriptions

• Remembers history of conversation

• Writes different types of original essays in whatever style/format requested

ChatGPT Limitations:

• Accuracy is not at 100%

• Will sometimes make up content to fill in gaps of an answer

• As of Dec. 2022 is limited to information up to 2021 (limited language model)

• Bias that it has or does not have is based on the information it was initially given

• It doesn't know what it is actually talking about, it is just using language patterns to give info

Benefits:

• Can save time

• Will develop critical thinking skills (if used properly)

• Improved equity as all students gain greater access/help/personalization (scaffolding/tutor)

• Development of instructor & student AI literacy

• Enhanced motivation

How to Use ChatGPT Within Education:

• Feedback on students' writing

• Creation of many types or versions of Test/Quiz questions

• Idea generation/brainstorming

• Answering questions and creating multiple examples

• Tester/Checker to see if the questions/essays you are assigning would be too easy to simply have an AI (like ChatGPT) instantly answer

• Tutor/scaffolding to help students who are still struggling to understand the topic

Ways to Use ChatGPT Within a Course: *(some ideas from: Watkins, 2022)*

Prompt Competition: Have students create questions on the class topic & pose the question to ChatGPT then use predefined criteria to evaluate the AI response (works to develop topic critical thinking).

Reflect and Improve: Pose an important question to ChatGPT in class then assign student copy the response into MS Word then using Track Changes have them go through and work to enhance the response to make it more correct.

Full Incorporation Option: Present students with a question assignment/essay as usual and allow them to either use ChatGPT or not. If ChatGPT is used, they would need to submit the prompt(s) used and the

original ChatGPT output. Student would then submit an MS Word Track Changes document (or Suggesting in Google Docs), showing how they added depth, clarified any misinformation, presented alternative perspectives, and made other improvements to the chatGPT output.

In Class Preparatory Process: Having students do part of the writing process in class can also be used to ensure students are directly going through an assignment (regarding essay writing). Having students create an initial outline or mind map of what they plan to address would show their direct work.

Maximizing the Localization and Personalization of the Assignment: By requiring students' responses to incorporate highly localized and/or personalized information, an AI assistant like ChatGPT would only be able to provide general information.

Using More Dynamic Assessment Techniques: using assessment techniques such as debates, in class presentation, student videos or podcasts, would require students to provide a more engaging display of their knowledge which would also incorporate presentation skills. Students could still use ChatGPT to prepare, but would need to perform the assessment requirement on their own and be ready to answer questions on the spot.

*NOTE: Faculty's roles are increasingly shifting to focusing more on developing the student-instructor relationship to enhance understanding, relevancy/motivation, and opportunities for knowledge/skills usage via discussions, student presentations, simulations/scenarios, and other experiential opportunities. Additionally, instructors need to help students develop via the Human Skills Matrix (Ouellette et al., 2020) made up of Thinking (such as critical/creative thinking), Interacting (such as communication/collaboration), Managing Ourselves (such as self-awareness/accountability), and Leading (such as strategic vision, project management) – *needed for the 21st century*

Additional Resources:

ChatGPT AI and Higher Education forum discussion with education and instructional design experts. Done through the Future Trends Forum with Bryan Alexander (futurist, author, professor), December 15, 2022: https://www.youtube.com/watch?v=IfwAXqpBbgI&t=22s

Terms/Concepts:

AI Alignment: using AI in the right way to get the info or product you want (proper prompting/phrasing of the question or direction). Asking questions with more detail. Asking more specific questions can all affect the answers (just like in a real life conversation). ChatGPT: Chat Generative Pre-trained Transformer. GPT-3: Generative Pre-trained Transformer version 3

References

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