

AI in Education: Exploring Pedagogic Use-cases of AI

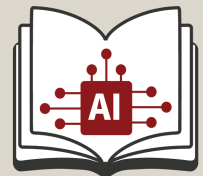
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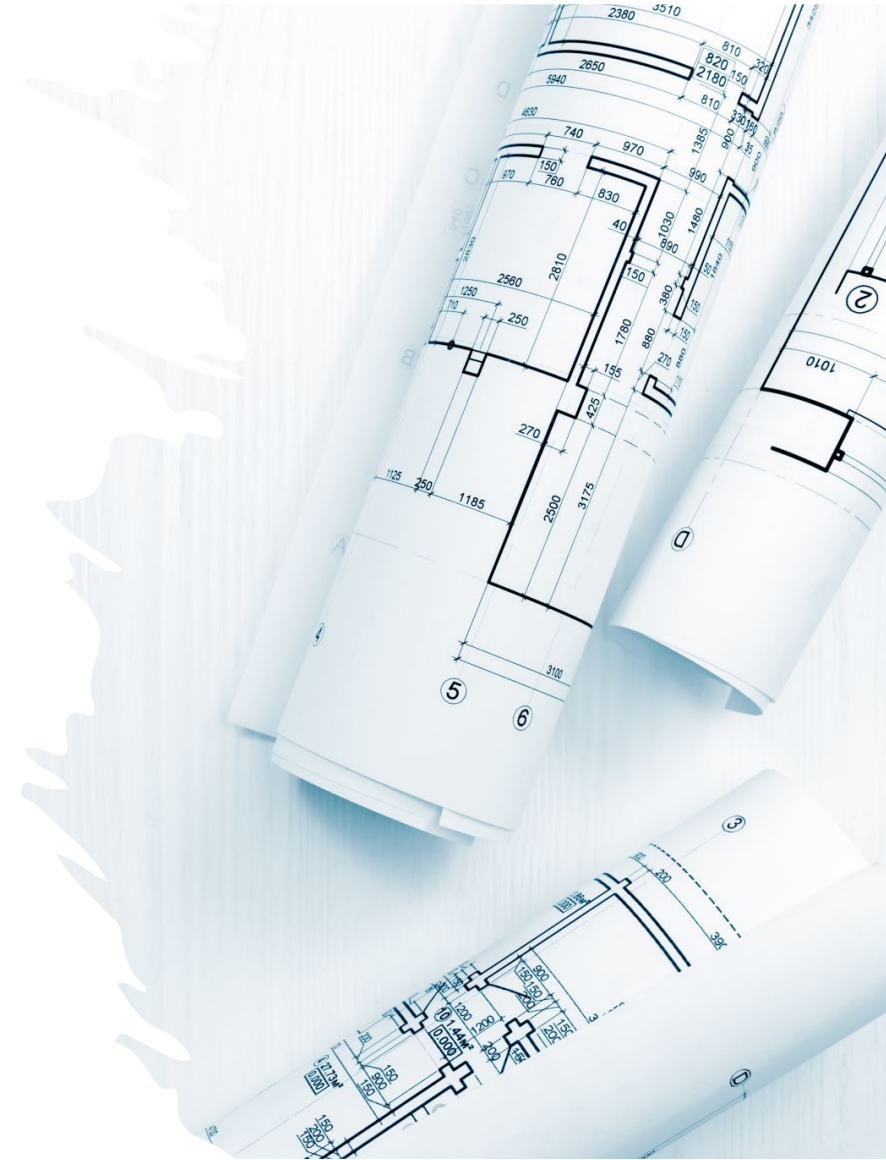
Today's primary learning objectives

- Reflect on student perspectives on using AI
- Identify strategies for effectively interacting with a chatbot
- Describe pedagogical situations where AI chatbots can be beneficial
- Use a chatbot to complete an education-related task



Acknowledgements

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- **Midjourney & DALL-E** to generate images
- **Designer** feature within PowerPoint to suggest slide layouts and stock images.
- **Grammarly** for spelling, grammar, conciseness, word choice, and so on.
- **Smartsheets** for automating registration.
- **Outlook** and **Zoom** for event coordination.
- **Google** for web search...



Let's be flexible



(Image generated by DALL-E, 1/17/23)

Why should you care about AI?

- Our perspective and expertise is important to the discourse
- The landscape is evolving quickly
- Our students and instructors want guidance
- Using AI could improve how we do our work





If AI was available when you were a student, what might you have wanted from your teachers?

Two examples
of chatbot use



What did you observe between the two examples?



(Images generated by DALL-E, 1/18/24)

An educator's approach to AI support

- Empower instructors and students
- Be inclusive and student-centered
- Focus on literacy and fluency



“A college student having a fun chat conversation with a laptop computer.” (Midjourney, 9/22/23).

Revisit the essay
writing example



Strategies for interacting with a chatbot

Conversational tone for open-ended tasks

Structured prompts for specific outcomes

Provide context for better responses

Encourage chatbots to ask for more information

Have chatbots adopt a perspective or identity

Correct AI mistakes and iterate

How to write a structured prompt

- **Role**

- *“You are a friendly creative writing assistant who helps students develop fictional short stories.”*

- **Goal**

- *“Your goal is to help students generate and refine their short story ideas in the context of my first-year university creative writing course.”*

- **Step-by-step instructions**

- *“Introduce yourself to the student as their helper, then ask them to share their ideas for a short story. Wait for them to respond. Then give them a few questions or prompts to help them develop those ideas. Provide them with encouragement and then continue helping them develop ideas. Give some suggestions for how to improve their short story concept.”*

- **Personalization**

- *“This is for first-year college students at an elite, high-pressure university. Be supportive and give them encouragement. Remind them that it is important to value the process of writing. Consider the other content and goals of my course. [Insert course details here].”*

- **Constraints**

- *“Give just a few suggestions or prompts at a time. Don’t generate any actual text of the stories for them. You just help them develop the stories, don’t write the stories for them.”*

When are chatbots useful?



- Overcoming writer's block
- Getting help understanding a concept
- Finding the right wording
- Processing an experience
- Drudgery of a repetitive task
- Brainstorming lots of ideas
- Testing out an argument or idea
- Getting suggestions for improvements



- Deep expertise in specialized fields
- Citing specific and credible sources
- Understanding context and nuance
- Complex problem-solving
- Critical thinking and ethical judgement
- Empathy and emotional intelligence

(Images generated by DALL-E, 1/18/24)



Seven pedagogical approaches for AI

AI can act as a...

- Mentor that gives feedback
- Tutor that guides practice
- Coach that prompts reflection
- Team-member and assistant
- Student and learner to teach
- Simulator and roleplay partner
- Productivity tool for tasks

From "[Assigning AI: Seven Approaches for Students with Prompts](#)" by Ethan Mollick and Lilach Mollick, June 2023.



Tips for students using AI



Come on in, the water's fine!

Accessing AI chatbots

OpenAI's ChatGPT (free)

- GPT3.5 (good)
- Free
- Can use Stanford email to create account

Google's Gemini (aka Bard)

- PaLM 2 (good)
Gemini (better)
- Free
- Use non-Stanford Google account

Microsoft Copilot (aka Bing)

- GPT4 (better)
- Web search
- Free
- Use non-Stanford Microsoft account

Anthropic's Claude

- Sonnet (good)
Opus (better)
- Free for Sonnet
\$20/mo for Opus
- Can use Stanford email or Google

Explore using a chatbot

- Remember to:
 - Jot down your thoughts and feelings
 - Reflect on the chatbots performance
 - Consider how it may apply to your teaching practice
 - Share your experience with others



(Image generated by DALL-E, 3/1/24)

Getting started



Have a conversation

Task: Introduce yourself as an educator and ask it to introduce itself.

Goal: Get familiar with the chatbot interface and its capabilities.



Stump the AI

Task: Pose a series of questions about a specific topic you are expert on.

Goal: Understand how to pose questions and gauge the chatbot's content knowledge.



Create a worksheet

Tasks: Ask AI to generate quiz questions or a worksheet on a topic.

Goal: Write a structured series of prompts to generate a desired outcome.

Digging deeper



Interactive storytelling

Task: Collaborate with the chatbot to write a creative short story relevant to your discipline area.

Goal: Explore the creative and writing capabilities of chatbots.



Understanding misconceptions

Task: Present a common misconception in your subject area and ask how it would explain the correct concept to students

Goal: Evaluate chatbots ability to differentiate misconceptions from accuracies.



Lesson planning

Task: Describe a lesson topic and co-generate a lesson plan including activities and resources.

Goal: Practice prompting to iterate and refine the chatbot output.



Complete the following: "I thought AI was... But now I think it is..."

Continue to engage

- Use AI chatbots for your work tasks
- Read the AI Teaching Guide on the Teaching Commons website
- Attend upcoming CTL workshops on AI
- Talk about AI with colleagues and students



Wrap-up activity

**Insert QR
code or link
to your
survey here.**



(Image generated by DALL-E, 12/18/23)