Educating in a World of Generative AI

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Session Overview

With the rapid development of generative artificial intelligence (GAI), educators across the Universities of Wisconsin must now address the impacts that tools like Microsoft Copilot, Google Gemini, and ChatGPT will have on their classrooms. This session will use experiences from across campus to discuss GAI basics and some of the ethical questions raised by its use. Presenters will also share multiple methods for incorporating these tools into your assessments and course design.

Introduction

Since the public release of ChatGPT in late 2022, generative artificial Intelligence (GAI) has sparked discussion, debate, and reflection about the place of higher education in what looks to be a new era in the information age. The OPID Faculty College provides us with an opportunity to engage with and participate in these dialogues and we would like to thank you for joining us. The information provided here offers some definitions, prompting ideas, and some suggested readings.

Instructor Uses

GAI can assist instructors in several ways, including:

- **Generate comprehensive rubrics** that include quality scales and extensive criteria descriptions.
- **Compose lesson plans** and session schedules
- **Generate images** for use in course materials
- **Generate assignment ideas** and content for descriptions, objectives, etc.

Terms & Concepts

Artificial Intelligence (AI): a complex system of algorithms designed to simulate human behavior and activity.

- **Generative Artificial Intelligence (GAI):** AI that creates content (text, imagery, audio, code, and others) from vast amounts of training data,
- **Natural Language Processing (NLP):** a field of AI focusing on the use of language as a form of human-computer interface (HCI)

Large Language Model (LLM): a form of AI that uses probability to generate word sequences (Carlini et al., p. 2633)

Generative Pre-Trained Transformer (GPT): a form of LLM developed by OpenAI that uses neural networks—a system of algorithms designed to mimic human brain function—to produce content in a human-like fashion.

- **Generative** refers to the ability to create new, original content based on patterns and probability
- **Pre-Trained** refers to the use of an LLM or other large dataset to serve as a base for determining the above patterns and probabilities; it also refers to enhancing a model using additional, smaller datasets to produce more desirable content
- **Transformer** refers to the reflexive capacity of an AI model to utilize and manipulate the relationships between words

Prompt Basics

Be clear and avoid ambiguous wording.
Write your prompt in a concise manner, specifying the information and desired format or genre. "Create a rubric for a professional writing course" is a good start but could be improved using some more specifics like criteria, assessment values, and point range for each.

Provide context, purpose, and audience.
Apply a basic rhetorical framework to ensure the AI produces language that is appropriate for your needs. In the example above, generating a rubric for "a professional writing course" could be more effective by providing details about the assignment objectives as well as some criteria to provide clear revision suggestions. Describing the audience (freshmen college students majoring in business) will better ensure that the language is skill-level appropriate.

Request desired voice, tone, and length.
Tailor the response to emulate styles and formats. Microsoft Copilot offers several options with the ability to create more.

Refine as needed.
If the initial response is not ideal, rephrase or add more details to the prompt and try again.

References & Readings of Interest

Bowen, José Antonio and C. Edward Watson. *Teaching with AI.* Johns Hopkins, 2024.

Buolamwini, Joy. *Unmasking AI: My Mission to Protect What is Human in a World of Machines.* Random House, 2023.

Christian, Brian. *The Alignment Problem: Machine Learning and Human Values.* Norton, 2020.

Harari, Noah Yuval. *Homo Deus: A Brief History of Tomorrow.* Vintage, 2017.

Mollick, Ethan. *Co-Intelligence: Living and Working with AI.* Penguin Random House, 2024.

O'Neill, Cathy. *Weapons of Math Destruction.* Penguin Random House, 2016.

Polson, Nick and James Scott. *AIQ: How People and Machines are Smarter Together.* St. Martin's, 2018.

Russell, Stuart. *Human Compatible: Artificial Intelligence and the Problem of Control.* Penguin Random House, 2019

Syllabus Statement Examples

When composing syllabus statements regarding GAI usage in your class, it is important to be transparent, clear, and explicit. More prohibitive statements, for instance, should be sure to define what is considered GAI (do you include Grammarly?). For less prohibitive approaches, be sure to explain limitations of the tools, encourage critical evaluation, and emphasize the importance of original thought and creative processes. Here are some examples:

Prohibitive Statement
Students are strictly prohibited from using generative AI tools (such as ChatGPT, Copilot, etc.) to complete any portion of their coursework, assignments, or exams for this class. All work must be the original effort of the student. Any detected use of AI-generated content will be considered a violation of the academic integrity policy and will result in disciplinary action.

Cautionary Statement
While generative AI tools can be valuable resources for brainstorming and inspiration, students should use them with caution. Any ideas or content generated by AI should be critically evaluated and significantly revised into your own original work. Reliance on AI-generated content without proper understanding and modification may compromise the learning process and academic integrity.

Encouragement Statement
Students are encouraged to explore and experiment with generative AI tools to enhance their work for this course. When using these tools, proper citation is required using guidelines provided. This approach promotes transparency and fosters a responsible and innovative use of technology in your academic work.

Note: Because students will encounter a wide variety of approaches to GAI in any given semester, be sure to inform students that your policies are for your courses only and do not apply to those of their other instructors.