Innovative Idea

AI Literacy: An Online Module to Empower Faculty to Educate Students

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Introduction

Generative Artificial Intelligence (AI) is rapidly transforming professional communication. Its incorporation into higher education has received tremendous attention, particularly since the 2022 release of ChatGPT. Despite widespread conversations about the ethics and accuracy of using AI tools in the workplace and academia (Abbas et al., 2024), the topic is seldom addressed instructionally in the classroom. Students are not typically taught what AI is, how it generates content, or how to craft effective prompts – even with evidence that the use of ChatGPT has benefited students' academic performance in higher education (Ashraf et al., 2025). This may be because faculty are hesitant to embrace AI, as often happens with contentious technological advancements (Kim, et al., 2025).

While there is a need for AI instruction, it is recognized that faculty require assistance to incorporate this into the classroom, especially given that this material is often an addition to an already full syllabus (Nikolic, et al., 2024). This innovative idea addresses that gap by providing faculty teaching in STEM-related disciplines with an AI literacy online instructional module that can be easily incorporated into any course.

How It Works

Unlike earlier semesters where students simply completed an assignment using AI and wrote a reflection, this innovative idea is built upon that approach by having students complete an AI learning module prior to the activity and reflection. Our approach addressed a learning gap typically present in higher education by equipping students in STEM-related disciplines with practical, discipline-specific AI literacy grounded in real-world tools, ethical case studies, and modern communication strategies.

The AI literacy module was designed for and piloted in a technical communication course for engineering students. It is adaptable to undergraduate and graduate students in STEM fields, including agricultural education. Students begin by learning a brief history of AI. As they progress through the module, they learn how generative AI produces content and examine real-world case studies of AI use in the workplace. Students also test generative AI through a learning activity, engaging critically with outputs and reflecting on the quality of the writing and ethics of using the software. Materials include lecture slides/video lectures, curated readings, a practice activity, and a summative reflection. The full instructional sequence includes:

1. A brief history and terminology overview of AI
2. Selected Readings
3. Public perception of AI use – Vanderbilt University (Perrotta, 2023)
4. Using AI for proprietary content – Samsung (Forlini, 2023)
5. Practice activity (ChatGPT to write a work email)
6. Reflection

Results to Date

The resulting standalone module provided students with an understanding of the foundations and tenants of AI, providing a more nuanced approach to teaching and learning

about AI in academia that could impact individuals' personal and professional lives. We used the AI learning module with 53 students across two semesters at Texas A&M University. The goal was to take the AI conversation beyond the "use it" or "ban it" mentality in higher education and teach students about the history, terminology, and operation of generative AI such as ChatGPT. After completing the module, students submitted an AI practice activity where they used ChatGPT to write a professional email, and a reflection addressing the following questions: Were you impressed by the email generated by ChatGPT? Did the AI do anything you did not expect? Do you feel it is ethical to use ChatGPT in this way? Why or why not?

Overwhelmingly, students were impressed with the professionalism, clarity, and completeness of the email, and it performed as they expected. Several students pointed out that the response, while complete and professionally worded, sounded robotic and impersonal. Others pointed out that although there was not anything unexpected in the response, certain patterns like the use of dashes were a clear indicator that the response is AI-generated content.

Most students thought it was ethically acceptable to use ChatGPT to generate a professional email but specified that it must be done within certain parameters. These included using a human (and technical experts) to fact-check all content, making sure AI use is allowed by the company, and using AI as a brainstorming tool but not a content generator. As phrased by one student, "I feel that there is a thin line between what is ethical and what isn't. Having the AI completely write the email, and providing no edits, seems unethical. ChatGPT does not know the full extent of the situation and can't provide real and honest details for the client. However, I do believe it's ethical to acquire some assistance from ChatGPT to help improve the vocabulary, readability, and structure of the email."

Future Plans

Future plans for this project were two-fold: First, all content was transferred from in-person learning materials to a standalone online learning module for distribution university-wide and beyond. Faculty recognize the importance of teaching students about AI but there is a call in the literature for tools to assist faculty in doing so, as there is a learning curve for incorporating this material into the classroom. The module shared as a part of this innovative idea is an effort to meet that need and benefit the academic community broadly.

Further, we plan to expand the module to include instruction and practice on prompt engineering. Effective prompt engineering is critical to obtaining quality output from generative AI, and a future study may look at how effective prompt engineering impacts workplace success. AI is making waves in both the content writing and visual spaces (Abbas et al., 2024), but we are currently focused on generative writing only, not visual creation.

Resources Needed

This innovative idea focuses on making a module of instruction available to faculty at no cost via The OAKTrust Digital Repository (https://oaktrust.library.tamu.edu/home). Internet and computer access are required to utilize the module. Although ChatGPT has a paid version, this module utilizes the free version, so no additional resources are required.

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