

**Teaching GenAI Prompt Engineering Skills to Improve Public Speaking Preparation**

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Higher education is currently facing significant disruption due to the emergence and adoption of generative artificial intelligence (GenAI) tools (Batista et al., 2024). Although ethical and privacy concerns exist (Pudasaini et al., 2024), institutions like the University of Tennessee have promoted the ethical adoption of this innovation in classrooms to best prepare students for future careers that are predicted to require GenAI literacy (Ahmad & Bilal, 2024). Although a shared understanding of the meaning of GenAI literacy is still emerging, in simple terms, it can be defined as the ability to understand the basics of what AI is and to be able to effectively interact with AI technology (Laupichler et al., 2022). One of the most common GenAI tools is the use of GenAI Chatbots. These computer-based programs, such as ChatGPT, use natural language processing, machine learning, and large language models to simulate human conversation. Cotton et al. (2023) recognized that many faculty are concerned about students using outputs from GenAI Chatbots to represent their own work, potentially resulting in plagiarism, misinformation, and academic fraud. However, they also acknowledge proactive strategies instructors can use to reduce these concerns. These strategies include developing clear AI policies and procedures and providing students training and support on ethical AI use. Additionally, prior research has identified that GenAI Chatbots can be integrated as an educational tool to improve student engagement and cognition (Heung & Chiu, 2025). In the Fall of 2025, we received an internal grant through the University of Tennessee to implement GenAI tools within a public speaking course offered through the Herbert College of Agriculture.

### **How it Works**

We integrated GenAI in the undergraduate course *Effective Oral Communications* during the Fall 2025 semester. The course is open to undergraduate students across all majors and academic standings. The course covers the public speaking process, including brainstorming, speaking outline writing, peer reviewing, speech delivery, and reflection. Speeches are delivered in lab sections, comprised of about 18 students each. During the semester, students prepare and deliver five styles of speeches (i.e., personal narrative, demonstrative, informative, persuasive, and group workshop) on topics related to agriculture and natural resources. Speeches vary in length, use of visual aids, and need for verbal citations.

In the Fall of 2025, students in three lab sections were taught how to use GenAI Chatbots for brainstorming speech topics and for their development and refinement of speaking outlines for each speech. The overarching goal of this process was to teach students how to use GenAI tools efficiently and ethically through a permissive GenAI policy (Pollino et al., 2025) and to improve student outcomes in speech creation and organization. Specific software available for students to use included ChatGPT (released by OpenAI in 2022), Google Gemini (released by Google in 2024), and UVerse (an internal Chatbot developed by the University of Tennessee). Before students used these tools for their speech preparation, they were taught effective prompt engineering, the process of creating instruction for the GenAI Chatbot to generate specific and high-quality outputs (Gadesha, 2025). The instructors then asked students to interact with the LLM by creating an initial prompt. Students were required to provide the AI tool additional prompts to refine and improve the generated output. Examples of additional prompting could include “add a call to action to the conclusion,” “tailor the speaking outline to an audience of

first-time parents,” or “add tertiary points to the body.” Students were also still required to make the speech their own by continued refinement and revisions not using AI. Additionally, students were required to evaluate GenAI content through cross referencing outputs and critical reflection. Students were graded on their submitted speaking outline and were required to submit their GenAI chatlog so their communication process with the GenAI Chatbot could be seen and reviewed by the instructor.

### **Results to Date**

The results of requiring GenAI Chatbots for speech brainstorming and speaking outline creation were mixed. While some students had used AI tools prior to the course, other students had not previously used GenAI technology. Many students did not easily grasp nor follow the strategies taught for effective prompt engineering. Initially, most students treated the GenAI Chatbot more like a Google Search engine than a tool operated by human and computer co-intelligence. However, we believe that students did improve their prompting skills as the class progressed, as was evident by reviewing students’ GenAI chatlogs. Additionally, we also generally believe that students’ content and structure for speaking outlines were of higher quality compared to speaking outlines created in previous semesters where students were not permitting to use GenAI tools.

When considering student perspectives of the required technology use, most students expressed positive reactions to the integration of GenAI Chatbots for speech outline creation. Most students appreciated being taught new prompting skills to improve technology outputs. However, it is important to note that not all students were receptive to being required to use the technology. Several students had low trust in the technology or refused to engage with it due to their personal values and having ethical and environmental concerns (Stahl & Eke, 2023). In these rare situations, alternative assignments were given based upon their justifications.

### **Future Plans, Advice to Others, and Costs & Resources**

We plan on retaining and refining the integration of GenAI Chatbots in future semesters. However, instead of requiring the use of GenAI, we will likely retain teaching GenAI Chatbot prompting but make its use optional. When having students use GenAI to support course assignments, we recommend a clear GenAI course policy and requiring students to submit chatlogs when using GenAI Chatbots to illustrate how they used the tool. We also recommend teaching students how to use GenAI in an ethical and functional manner within foundational agricultural communications courses to foster this emerging, career-based skill (Ahmad et al., 2024; Parveen & Alkudsi, 2024).

Currently, there is no costs associated with many entry-level GenAI Chatbots (e.g., ChatGPT, Gemini, Claude, etc.), allowing for easy adoption and integration into college classrooms. When used as a student-facing tool, such as in our study, limited concerns exist toward FERPA and student data protection. However, to offer additional layers of protection, some Chatbots operate on firewall protected systems (e.g., Copilot when licensed institutionally) or can be downloaded as an app and ran off closed systems without internet connectivity (e.g., LM Studio).

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