Prompt Engineering for Teaching Writing

Prompt engineering is a skill that can impact the nature and often the usefulness of a response generative AI provides to a query. But at a more basic level, prompt engineering is also about the importance of choosing words carefully, being thoughtful about sentence structure and adjusting wording if one's meaning is not coming across effectively. In other words, it has a lot in common with other skills we ask students to master, like searching the internet effectively using relevant keywords, or communicating their ideas clearly to an audience.

While a generative AI chatbot might not be the same type of audience as a group of peers or a teacher grading a paper, basic communication skills used in prompt engineering have relevance far beyond prompt engineering as an isolated task. The contours of prompt engineering will almost certainly change as AI models evolve in their training and need different things from users, but time spent learning how to be an effective prompt engineer with existing models will not be wasted, because the fundamentals of thinking about how to be a good communicator are transferable skills.

Note: For any assignment where you are asking students to employ AI, remember to verify the parameters for AI use allowed at your institution. Keep in mind privacy and confidentiality concerns of these models, and make sure students are aware that there is not an assumption of confidentiality for any data or information they use to prompt a model. AI tools will incorporate those prompts into the data that trains their model. Consider having an alternative assignment that will achieve similar learning outcomes but does not require the use of an AI tool.

Librarian and scholar Leo Lo has developed a framework for thinking about prompt engineering that can serve as a helpful introduction to prompt engineering for your students.[1] His CLEAR Framework defines best practices for writing effective prompts:

C - Concise
L - Logical
E - Explicit
A - Adaptive
R - Reflective

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[1] Lo, Leo S. "CLEARer Dialogues With AI: Unpacking Prompt Engineering for Librarians." Choice - Library Tech Insights Webinar. September 19, 2023. https://www.youtube.com/watch?v=3pvmMEnJhCs

The first three elements in this framework (Concise, Logical, and Explicit) focus on strategies for how to choose words and structure prompts, while the last two (Adaptive, Reflective) are broader and relate more to a mindset approach for effective prompt engineering.

Try a multi-part activity to introduce students to this framework:

Part 1: Prompt Writing

For students to understand how the way a prompt is written can influence the response, it's helpful for them to be able to compare prompts that are asking a similar question but written differently. Have your students work in pairs or small groups, each focusing on one of the first three CLEAR criteria (Concise, Logical, Explicit). Give them a broad topic, or have them select one. (You may want to select topics that focus on your discipline or the subject of a unit your students are studying.) Have students write two prompts: one that meets their group's CLEAR criteria, and one that does not. Give them the following guidelines for each criteria:

CONCISE prompts contain only relevant information, without unnecessary words or details. This doesn't mean they should be overly short, just that the words that are used are all important. Because generative AI tools lack the nuance that a human audience would possess, it's particularly important not to add too much extraneous information. But learning to be concise and direct is a skill that's useful when communicating with humans as well, so becoming practiced with this skill is relevant beyond prompt engineering.

Have students start by writing down a prompt that contains everything they can think of to ask the AI model about their topic. Then have them rewrite the prompt to be more concise, and have them compare the results.

LOGICAL prompts are designed to contain orderly information and clearly defined context. Have students start out by giving an informal, disorganized prompt (you might even want to purposely limit the amount of time they have to develop this "illogical" prompt, so that it will be extemporaneous). They should then try rewriting the prompt with more time, working with their partners to workshop the text to be more logical and clear.

EXPLICIT prompts should contain clear and specific instructions, such as the style or tone, the role the model should play, the number of examples you'd like it to provide, and any other details that your students deem important. Have your students experiment with prompt instructions that are more or less detailed, and how changing these details changes the nature of the response. This is great practice for them to consider why detail and clarity in writing matter.

Part 2: Discussion

Once your students have practiced several rounds of prompt engineering, have them develop a set of best practices for their criterion which they can share with the whole class. This process

can be used to kickstart a discussion about the last two elements of the CLEAR Framework, Adaptation and Reflection. Have your students consider the following questions:

- What did we need to change about our writing in order to produce more effective responses? How do we even define what an "effective response" is?
- What shortcomings remained with the responses we received even after following the criteria? What does this teach us about the limitations of these models?
- How can we apply those lessons of adaptation to our writing and communication strategies beyond this activity?

Conclusion

After completing both parts of this activity, your students will have gotten a helpful introduction to some best practices for prompt engineering, as well as some food for thought about how being careful and considered with language choices is integral to writing and communication more generally. Consider adding an "exit slip assignment" after this discussion to help you target future teaching and discussion on this topic. Give students a short list of reflection questions to choose from, which they can respond to on a slip of paper or virtually (if you're teaching online).

- Describe one practice you learned in today's exercise that you plan to apply
  - In future prompt writing
  - In a non-AI related writing context
- What area do you most want to improve in your prompt engineering, and why?
- Which element(s) of the CLEAR framework do you find most challenging to use in your writing, and why?

Sources and Suggested Resources

learnprompting.org

Johnson, S.M., Coley, M., Bandy, J., Bradley, J., Molvig, O. (2023). *Teaching in the Age of AI*. Vanderbilt University Center for Teaching. https://cft.vanderbilt.edu/guides-sub-pages/teaching-in-the-age-of-ai/.

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