Garbage In, Garbage Out

Prompting

Remember:

Quality In = Quality Out

Garage In = Garbage Out

Generative AI (Gen-AI) is one of the most exciting technologies to emerge since the invention of the internet. The ability of Gen-AI tools such as Large Language Models (LLMs) to respond to users in new and creative ways will allow people to be more effective with their research, be more creative, and find information quickly.

With so many amazing ways Gen-AI can help, there are also ways it can negatively impact students, faculty, and the average person. The quality of the output it generates largely depends on the quality of the prompt, or what you ask the LLM to do for you.

The Quality of a Prompt

If you have a well-designed prompt that is specific, asks the LLM for specific outputs, and is internally logical, the following can occur:

Quality In = Quality Out

On the other hand, if you have a vague and confusing prompt that asks too much of the LLM, or is internally not logical, the following may occur:

Garage In = Garbage Out

The minimum for a good prompt, or what you ask an LLM to generate, should include the following:

Question/Task +Context = Output

(Review Output; Edit as needed)

You can ask an LLM a simple question/task and it will give you a simple and/or broad output. It might not answer your question accurately or fulfill your expectations because what you asked is too broad. To get a better output you need to improve the prompt by adding context.

If you ask an LLM a simple question/task *and provide it with context,* it will do a better job with its output. Context can include providing background information, framing the request, providing additional detail, and/or asking it to provide specific outputs.

When you get an output from an LLM, you always must review it for accuracy, bias, and usability. As a user of Generative AI, you cannot just assume the output is correct, you MUST review, edit, and make the output your own before you can use it. In addition, there are many restrictions for when and how you can use an output from an LLM in the school setting.

Iterative

An additional item to consider as you ask an LLM to generate an output is that *interacting with an LLM is iterative.* When you ask an LLM a question, this is just the first step of the process. To get what you want, or as close as possible, you will have to be more specific and include more directions. These additional directions might include additional questions, additional context, tell it what who the target audience is, additional constraints, format requirements, length requests, tone and style, keywords and phrases, and examples.

Comparing Responses Activity

Complete the following brief learning activity to gain hands-on experience with AI tools, observe how AI outputs can vary, and sharpen your ability to evaluate and analyze AI-generated answers so that you can be an effective, responsible, an ethical AI user.

1. Select two or more Gen-AI tools of your choosing, i.e., ChatGPT, Claude, Microsoft Copilot, Google Gemini, etc.
2. For each tool, ask the question, "What are the key components of a prompt?"
3. Review each of the outputs and consider the following:
   - What similarities were present in each output?
   - What were the differences?
   - Was one "better" than the other and why?
   - Which one provided references? Were the others lacking for not providing references?

Expanded learning:

This activity can be recreated using any prompt. Try playing with your prompts like a puzzle—tweak them ever so slightly and watch the magic unfold! Those tiny adjustments can lead to entirely different outcomes. So, go ahead, experiment, and discover the power of precision in your questions!