

Using Generative AI ~Responsibly~ for Brainstorming and Refining a Research Question

Generative AI does not have to be the ‘boogey man’ or ‘cheat machine’ that some might make it out to be. Like Wikipedia or a calculator, it should not be relied upon to do your schoolwork for you, but when used ethically and thoughtfully, Generative AI can be a helpful tool.

What is Generative AI?

“Generative AI, sometimes called *gen AI*, is artificial intelligence (AI) that can create original content—such as text, images, video, audio or software code—in response to a user’s prompt or request.”

– IBM.com, 5/29/24

Context is King!

If you’re asking someone for advice, they’ll need some context for best results. Same with GenAI! Tell it **who you are** and **what your situation is**.

- Ex. I’m a first year college student and I need to write a paper about [topic].
I’m writing a college level paper and I need to refine my research question.
I’m researching [topic] and I need to find some good keywords or phrases to use in my library’s databases.

Give it a Role or Persona

Try assigning the GenAI a ‘role’ or ‘persona.’ This sets the stage for helping it understand what you need it to do for you.

- Ex. You are a master tutor. OR Act as a writing coach. OR Pretend you’re a [topic] expert.

Provide instructions!

Tell it exactly what you want it to do. Seriously. Just like you’re talking to a friend or your instructor. BUT...please remember: *You want to learn from this experience!* Yes, the GenAI would crank out a x-number word essay for you if you asked it. But 1. the writing would be very bland and vanilla, making your instructor suspicious, 2. that would be a dishonest use of GenAI and 3. you’d be robbing yourself of your own voice in your writing.

So think of GenAI as a tutor or coach that can *help you help yourself!*

- Ex. Walk me through some ways I can narrow down this topic
Give me 3 pointers on how I can refine this research question.
Come up with a list of 5 possible keywords or phrases I could use to search my library’s databases.

Put it all together!

Context + Role/Persona + Instructions = AMAZING PROMPT!

- Ex. I’m researching celebrity culture and social media and I need to narrow down my topic. Act as a writing coach. Walk me through some ways I can narrow down this topic.
Ex. I’m writing a college level paper and I need to refine this research question: What negative impacts will the next generation face in terms of climate change? Pretend you’re a climate change expert. Give me 3 pointers on how I can refine this question.

Continue the Conversation!

Imagine you don’t understand something but you can ask your instructor only one question and they, in turn, can only say one thing back to you. Maybe you’d understand a little better (??) but what’s probably needed is a *conversation*, not just a *single interaction*.

It’s the same with GenAI. You might get what you need with one prompt (aka the “single shot” approach) but your overall experience will be better if you interact and converse with the GenAI (aka the “few shot” approach).

Don’t like the answer it gave you? Confused? Want more details on a specific part/point? Just ask!

- Ex. I like suggestion #2. Can you expand a little more on that?
What do you mean by _____ ?
This isn’t really what I meant. [Re-explain what you meant.]

Rinse and Repeat!

Getting Started

ChatGPT (sign-up required)
chat.openai.com

Claude (sign-up required)
claude.ai/login

Gemini (sign-up required)
gemini.google.com

Pi.ai (no sign-up required)
pi.ai/discover

Generative AI Worksheet:

1. Narrowing a Topic 2. Refining a Question 3. Generating Keywords/Phrases

Use the handout “Using Generative AI Responsibly for Brainstorming and Refining a Research Question” as a guide to complete the tasks below.

Please go ahead and try this, even if you think you’re ‘good to go.’ 😊 You may be surprised!

Which Generative AI platform are you using today? _____

Gen AI Platforms

ChatGPT (sign-up required)
chat.openai.com

Claude (sign-up required)
claude.ai/login

Gemini (sign-up required)
gemini.google.com

Pi.ai (no sign-up required)
pi.ai/discover

1. Narrowing A Topic

Experiment by trying different prompts. Which prompt(s) seem to work the best?

Prompt(s): _____

Did one prompt (the “single-shot”) do the trick or did you have to interact a bit (the “few-shot”)? Circle your answer.

What other topics did the GenAI suggest? Do you like them?

Single-shot **Few-shot**

Topics: _____

2. Refining Your Research Question

Experiment by trying some different prompts. Which prompt(s) seem to work the best?

Prompt(s): _____

Did one prompt (the “single-shot”) do the trick or did you have to interact a bit (the “few-shot”)? Circle your answer.

What other questions did the GenAI suggest? Do you like them?

Single-shot **Few-shot**

Questions: _____

3. Generating Keywords/Phrases for searching in the library databases

Experiment by trying some different prompts. Which prompt(s) seem to work the best?

Prompt(s): _____

Did one prompt (the “single-shot”) do the trick or did you have to interact a bit (the “few-shot”)? Circle your answer. **Single-shot**

What other keywords/phrases did GenAI suggest for searching the databases? Do you like them?

Few-shot

Keywords/Phrases: _____