This "Exploration" is part of Co-Lab. To get started, follow the instructions below. These Explorations require you to use a Large Language Model (what we typically call "an AI") like ChatGPT, Gemini, Claude, or others. The Exploration is designed to offer procedures and techniques for its particular use case of AI in education. To make the most of it, keep these evergreen tips in mind:

1. *Explicitly share **your goals** and/or **your students' needs** so that the outputs work for you.*
2. ***Upload relevant documents or resources** for the LLM to read (with permission). The more the better.*
3. *Provide plenty of **feedback** and **follow-up questions**. It's this **back and forth** you have with AI that will help you get the most out of the process.*
4. *Throw some **curveballs** — tough questions, silly questions, impossible questions. Experiment!*

*Note that this Exploration, and all the Co-Lab's Explorations, are meant to be provocative. We don't believe that every conceivable way that you could use AI is an appropriate use case. You're in the driver's seat — **be critical** of both the AI outputs and the ways the Exploration pushes you to use AI.*

*During your Exploration and afterward, **reflect on your conversation** with AI using the provided **guiding questions**. Start planning what you would like to share in our post-exploration Collaboration Call — that's the fun part!*

Happy Exploring!

AI for Prompting and Meta-Prompting

Designers: Josh Lake, Nick Zufelt & Steve Armandt

Who understands LLMs (Large Language Models) well enough to write excellent prompts? LLMs themselves! Get ready, this one is going to be 'meta.' AI for Prompting and meta-Prompting is a broad "umbrella exploration" that helps with every use of LLMs.

This exploration focuses on the modern skill of **prompting**: input for LLMs that allow for useful and accurate output. In the early days of working with LLMs, people put a lot of time into 'prompt engineering' to create well-written inputs for chatbots. Is this still necessary? We're going to try to find out in four steps!

- Keep two overarching CoLab goals in mind: 1) evaluate your own use of AI tools and 2) best practices for improving students' AI literacy.
- If successful, your prompt refinement strategy should be useful for all of the upcoming Co-Lab explorations and your AI work in general.

Guiding questions:

1. Can LLMs themselves be used to make better prompts for AI tools?
2. In what ways are LLMs better (if any) than human prompt writers?
3. What external "Prompt Optimization" tools are useful?

Step 1: Create a **Basic Prompt**

First, write a basic, one sentence prompt — the more casual, the better. Examples are below, but feel free to try anything useful to you. Replace `[X]` with topics relevant to your classes.You are going to copy/paste this basic prompt TWICE – once for Step 2 below, and once for Step 3 below.

```
Create a lesson plan about [X]
Design a research plan about [X]
Tutor me about [X] like Socrates with questions
Create a handout or graphic organizer for a unit about [X]
Create an example student submission for [X] assignment
```

Step 2: Basic Prompt results in 1st LLM window / tab

Open up a new tab or window in your LLM of choice. Paste in your basic prompt. This is your “control” case for how well a basic prompt (input) creates an LLM’s response (output).

Guiding Question: Did the AI give useful and accurate output based on such a simple, basic prompt?.

Step 3: Create a **Prompt Optimizer+Basic Prompt** in 2nd LLM window

Open up a second LLM window. Copy and paste this red text (the prompt optimizer) into the LLM, and **add the basic prompt (from Step 1) to the end**, filling in the blank.

```
Prompt Optimizer:
You are an expert prompt writer, helping teachers create excellent prompts to
feed into AI LLM tools in order to get optimal results. I will give you a rough
and unfinished prompt with basic info. You will ask me key followup questions as
necessary, and after I answer your questions, you will generate a much improved
prompt, tailor made for LLM understanding. Ask clarifying and relevant questions
in order to shape the best prompt with great specificity, following up as needed.
The prompt should be usable by any LLM model, including ChatGPT, Claude, Gemini,
Perplexity, etc. After receiving my answers to your follow up questions, create a
“Refined Prompt” for me to use with an LLM. Think hard.
My basic prompt is:
[Basic Prompt pasted here]
```

The LLM will ask you a number of questions for clarification. Converse back and forth. The LLM will then create a “Refined Prompt”. **The Refined Prompt is the output of Step 3** and should be copied for use in the next Step.

Step 4: **Refined Prompt results** in 3rd LLM window

Open a 3rd LLM window and copy / paste the full **Refined Prompt** from **Step 3** a new chat session. Examine the results of this refined prompt. Are the changes from the simple prompt significant? More relevant? Higher

quality? Examine the results of the **Basic Prompt** and **Refined Prompt** side by side, comparing and contrasting the outputs.

Guiding Question: Was the output of the “Refined Prompt” that the AI created **(Step 4)** helpful? More complicated than a Basic Prompt output **(Step 2)**? A better match for your classroom?
Guiding Question: Is the “Prompt Optimizer” prompt header from Step 3 something that you would find useful in the future to help write better prompts?

Come to the Collaboration Call ready to share your ideas of “Prompt Optimization" and the comparison of your Basic and Refined Prompts!

Appendix A: Chat GPT’s Prompt Optimizer Tool (requires free ChatGPT account):

Paste the Basic Prompt or Refined Prompt into ChatGPT’s Prompt Optimizer Tool. You can find the Prompt Optimizer Tool in the left panel on Chat GPT under “GPTs”. Paste the prompt it creates into a new ChatGPT chat: observe and compare the results.
In August 2025, OpenAI released GPT-5, and this model works best with some new prompting strategies. They wrote an extensive guide, primarily for coders, but anyone with ChatGPT can use this prompt optimization interface. Did an optimized prompt from this tool produce even better results within ChatGPT specifically?

Appendix B: Expanded Prompt Writer

Copy and paste this mass block of red text into a frontier model of your choice. Run it as-is, it will ask you for the Basic Prompt!

```
You are a master-level AI prompt optimization specialist. Your mission: transform any user input into precision-crafted prompts that unlock AI's full potential across all platforms.

## THE 4-D METHODOLOGY
### 1. DECONSTRUCT
- Extract core intent, key entities, and context
- Identify output requirements and constraints
- Map what's provided vs. what's missing
### 2. DIAGNOSE
- Audit for clarity gaps and ambiguity
- Check specificity and completeness
- Assess structure and complexity needs
### 3. DEVELOP
- Select optimal techniques based on request type:
  - **Creative** → Multi-perspective + tone emphasis
```

  - **Technical** → Constraint-based + precision focus
  - **Educational** → Few-shot examples + clear structure
  - **Complex** → Chain-of-thought + systematic frameworks
- Assign appropriate AI role/expertise
- Enhance context and implement logical structure
4. DELIVER
- Construct optimized prompt
- Format based on complexity
- Provide implementation guidance
OPTIMIZATION TECHNIQUES
Foundation: Role assignment, context layering, output specs, task decomposition
Advanced: Chain-of-thought, few-shot learning, multi-perspective analysis, constraint optimization
 Platform Notes:
- **ChatGPT/GPT-4:** Structured sections, conversation starters
- **Claude:** Longer context, reasoning frameworks
- **Gemini:** Creative tasks, comparative analysis
- **Others:** Apply universal best practices

OPERATING MODES
DETAIL MODE:
- Gather context with smart defaults
- Ask 2-3 targeted clarifying questions
- Provide comprehensive optimization
BASIC MODE:
- Quick fix primary issues
- Apply core techniques only
- Deliver ready-to-use prompt
RESPONSE FORMATS
Simple Requests:
Your Optimized Prompt:
[Improved prompt]
What Changed: [Key improvements]
Complex Requests:
Your Optimized Prompt:
[Improved prompt]
Key Improvements:
• [Primary changes and benefits]
Techniques Applied: [Brief mention]
Pro Tip: [Usage guidance]

WELCOME MESSAGE (REQUIRED)

```
When activated, display EXACTLY:
"Hello! I'm your AI prompt optimizer. I transform vague requests into precise,
effective prompts that deliver better results.
**What I need to know:**
- **Target AI:** ChatGPT, Claude, Gemini, or Other
- **Prompt Style:** DETAIL (I'll ask clarifying questions first) or BASIC (quick
optimization)
**Examples:**
- "DETAIL using ChatGPT — Write me a marketing email"
- "BASIC using Claude — Help with my resume"
Just share your rough prompt and I'll handle the optimization!"

## PROCESSING FLOW
1. Auto-detect complexity:
   - Simple tasks → BASIC mode
   - Complex/professional → DETAIL mode
2. Inform user with override option
3. Execute chosen mode protocol
4. Deliver optimized prompt
 **Memory Note:** Do not save any information from optimization sessions to
memory.
```

Appendix C: Exploration Checklist

- ☐ Create Basic Prompt
- ☐ Test your prompt in an LLM
- ☐ Create Refined Prompt
- ☐ Test your Refined prompt in an LLM
- ☐ Compare the results from the Basic and Refined Prompts
- ☐ Think about the reflections you will bring to the Co-Lab Zoom
- ☐ Join the Collaboration Zoom on **Thursday, Oct 23 @ 7:30pm EST**

AI Co-Lab