Exploring New Perspectives and Approaches with AI

Competency

Educators evaluate artificial intelligence (AI) outputs as they expand their thinking, generate new ideas, and explore alternative viewpoints.

Key Method

The educator explores how effective prompt creation yields more relevant outputs when using AI, but is aware that these outputs result from pattern recognition rather than thoughtful, creative processes. They then use AI outputs alongside their own expertise to create specific materials for their work.

Method Components

What is Generative AI?

Generative AI (GenAI) is a category of artificial intelligence focused on creating or generating new content. This AI can produce text, images, computer code, videos, or music. Each generative AI tool functions like a very advanced copy machine. Imagine having a friend who has read every book, article, and conversation written down, but they do not actually understand what they mean. This friend remembers word patterns and memorizes all the facts. When you ask them a question, they use those patterns to give you an answer that sounds correct. AI tools operate the same way. Rather than analyzing data, they create new content by identifying patterns in existing data. This is not an exhaustive list, but here are some popular GenAI tools:

- **Midjourney** is an image generator primarily used by artists, designers, and others creating visual art. Users input a descriptive prompt including the

desired content, along with the format, such as painting, photograph, or other visual art form.
- **ElevenLabs** is an audio creation platform that generates text-to-speech output from user input. ElevenLabs can generate realistic speech in multiple languages, accents, or styles. It can clone the user's voice for other applications.
- **ChatGPT** can generate text, code, and summaries based on the large amount of data that has trained the model. Users input prompts to be analyzed.

Generative AI doesn't "understand" in the human sense. It can make mistakes, produce biased content, or generate inaccurate information based on the context of its training. Users must always keep this aspect of GenAI in mind when using it.

Prompting and Thinking with AI: Context Matters

While working with AI, it is imperative to understand and use the "human-AI-human" (H-AI-H) framework to ensure that humans are at the center of AI use. This framework begins with humans initiating the use of AI and then following up the information processing by validating the output. The framework acts as a cycle to ensure quality, accuracy, and human oversight. In education, this framework allows the educator to maintain pedagogical skills, knowledge and understanding of their students while utilizing AI to save time in lesson planning, research, or other administrative tasks.

Prompt engineering is an iterative design process that requires users to continuously refine their question or request until the outcome meets their needs. A user refines the questions or information given to the AI, evaluating each output. The better a user explains what they want with clear and effective inputs (the "prompts"), the better the results. You, as the human AI —actual instructor —stay in the loop to guide the AI and ensure the final output is accurate and responsible.

Perspective prompting tells AI to put on a specific hat, role, or persona. You ask AI to evaluate a situation from a specific perspective or within an educational/professional scenario. You might ask it to argue a specific viewpoint, help test the ethical limits of an idea, or even generate a bad answer on purpose so you can practice figuring out what's wrong with it.

To use AI to generate alternate viewpoints, it is helpful if your prompt is written with that in mind. Here are some ways to avoid getting outputs that align with a preconceived idea:

- Avoid inflammatory or persuasive language in the prompt
- Clearly define AI's role
- Emphasize explanation in the output
- Support critical thinking rather than using AI to win an argument

Structure of a Great Prompt
To get the most accurate results from AI, you should build a prompt with specific details. Your prompts should include:

- **Objective:** What you want AI to do (the main task)
- **Context:** What the tool needs to know before working
- **Audience:** Use specific details to describe the audience and output desired
    - **Examples (optional**):-Show it what you mean
- **Boundaries or Rules:** Set the limits
- **Role or Persona (optional**): Give it a role

Metacognition is the process of noticing and naming your own thinking. It's a core skill where you stop, look at your learning process, and ask yourself, "Is this working? Why or why not?" In an educational setting, it means constantly examining your strategies to determine what helps you learn and adjust what you're doing as needed. It is the process of making invisible thought processes visible by thinking out loud for others (e.g., Think-Aloud Modeling: "I Used to Think... Now I Think..." or Claim, Support, Question).

Ask yourself questions to prompt reflection. If you are working with students, model your thinking out loud to support their growth in prompt writing. Here are some examples of self-questioning:

- How did the way I framed my prompt influence the AI result?
- What was the most surprising error that AI made?
- Can I figure out *why* the AI didn't respond the way I wanted?
- What part of AI's answer did I have to fix using my own expertise?

Critical evaluation is the process of putting on your detective hat and deciding if you can trust the information given. Before using the results, you should assess their credibility, consider multiple viewpoints, and test for logical reasoning. It is important to consider ethical implications and spot any hidden weaknesses, inherent bias, or information gaps. Thinking routines can support you and your students to become more aware of the processes that you experience as you examine resources and AI outputs.

Harvard School of Education has examples of thinking routines that align with AI critical evaluation through their **Project Zero**. These thinking routines allow "learners of any age to be close observers, organize their ideas, to reason carefully, and to reflect on how they are making sense of things." Project Zero can be found in the resource section below. Here are some routines to use as you model critical evaluation in the classroom:

- Circle of Viewpoints
- Claim, Support, Question
- What Makes You Say That?

Common AI errors are often the result of limited training inputs. Effective use requires that the user be aware of these errors so they can correct the output.

- **Bias:** AI can reproduce biases in the training data, leading to skewed or insensitive content (e.g., gender-biased language or stereotypes).
- **Hallucination:** AI systems might generate information that appears plausible but is fabricated or incorrect (i.e., confidently providing a fictional statement claiming to be a fact).
- **Lack of Context Understanding:** AI may misinterpret context, leading to inappropriate or out-of-place responses (e.g., providing accurate yet irrelevant technical information when a simple overview was requested).

Intentionally prompting for alternate perspectives requires creating prompts thoughtfully with a clearly defined purpose. Here are some examples explaining how to achieve the desired output.

1. Generate Alternate Perspective Prompts
    a. Explain how someone with a different perspective might interpret this issue. Explain their concerns, rather than trying to persuade.
    b. Why might someone disagree with this opinion?
2. Role-Based Perspective Prompts
    a. Respond from the perspective of those who think ____. Explain their reasoning and some evidence that they may use.
    b. Describe how this issue might appear different to people whose priorities differ from those presented here.
3. Inquiry Prompts
    a. What questions might someone with an opposing view ask about this argument?
    b. What are some assumptions I have made in this argument?

4. Evidence and Reasoning Prompts
    a. Summarize how two opposing viewpoints might use the same facts to support different arguments.
5. Ethical and Social Impact Prompts
    a. How might this issue affect different groups in different ways? Describe perspectives that may not be immediately visible.
    b. What ethical concerns should I consider to achieve the same goals?

As with all AI work, the responses from these or similar prompts are starting points for thinking and application rather than final answers. The human user's job is to question, verify, and reflect.

Supporting Rationale and Research

Wineburg, S., McGrew, S., Breakstone, J., & Ortega, T. (2016). Evaluating Information: The Cornerstone of Civic Online Reasoning. Stanford History Education Group. https://stacks.stanford.edu/file/druid:fv751yt5934/SHEG%20Evaluating%20Information%20Online.pdf

Dede, C., & Richards, J. (2020). The 60-Year Curriculum: New Models for Lifelong Learning in the Digital Economy. Routledge. https://er.educause.edu/articles/2020/10/the-60-year-curriculum-a-strategic-response-to-a-crisis

Walter, Y. Embracing the future of Artificial Intelligence in the classroom: the relevance of AI literacy, prompt engineering, and critical thinking in modern education. *Int J Educ Technol High Educ* 21, 15 (2024). https://doi.org/10.1186/s41239-024-00448-3

Resources

AI Support for Educators
Microsoft Elevate for Educators

AI Glossary of Terms
Glossary

Generative AI Foundations

Experience AI - Resources

Prompt Engineering Literacy
Elements of a Good Prompt

Break the Pattern: 5 Prompts That Disrupt Predictable AI Output

Metacognition and Critical Evaluation
PZ's Thinking Routines Toolbox | Project Zero

Digital Inquiry Group

UNESCO Digital Library

Generative AI to Try (Not an exhaustive list)
Midjourney

ElevenLabs

ChatGPT

Submission Guidelines and Evaluation Criteria

To earn this micro-credential, you must receive a passing score in Parts 1 and 3, and be proficient in all components in Part 2.

Part 1. Overview Questions (Provides Context)

Do not include any information that will make you identifiable to your reviewers.
(250-350 words)

Please answer all of the following questions to inform the evaluator of your context.

1. Describe your role in education and your teaching context, including your learners and any specific considerations for how AI might affect them. Provide specific examples from your experience.

2. How is AI currently being used around you, and why do you think studying its ethical and societal implications matters?

3. In what ways might generative AI as a thinking partner help or impede professional creative thought?

Passing:

- The response describes the educator's role and teaching context, including specific information about their learners and relevant AI considerations.
- The response explains how AI is currently being used and identifies why its ethical and societal implications are worth studying.
- The response reflects on how generative AI might support or interfere with professional creative thinking, with at least one specific example.

Part 2. Work Examples/Artifacts/Evidence

To earn this micro-credential, please submit the following two artifacts to demonstrate your skills.

Artifact 1: The Experimentation Log (Annotated Chat History)
Create an experimentation log using the format below. You do not need to include the output from your chosen AI tool in this artifact, but copy and paste the prompt's evolution along with your reasoning for adjusting the prompt.

Create a table following the example below for your submission:

Log Component	***What You Must Demonstrate (The "Proof")***
Identify a Problem/Topic	Name a real, challenging issue you need AI help with (e.g., "Designing a differentiated, culturally relevant history assessment" or "Creating engaging homework for a low-interest topic").
Initial Prompt	Show the first prompt you wrote. *The prompt is clear and specific, and it assigns AI a Role/Persona*.
Judging AI's Response	Describe what was wrong with AI's first output. Include specific error, bias, lack of clarity, or ethical concern. If the product is visual or auditory, describe the results and why it needs adjustment. If it is a text format, include a copy of the specific section or phrases that need adjustment.
Prompt Changes	Show the revised prompt you used next and how you changed the prompt to address the error or concern from the previous output.
AI's Creative Contribution	Reflect on the improved response. Describe one surprising, useful idea, or alternative viewpoint that was provided by AI that you had not considered. If you did not receive an improved response, describe why. How might you revise the prompt to try again?

Artifact 2: Generating Alternate Perspectives

Design and facilitate a lesson in which participants explore opposing perspectives on a shared text, topic, or controversy. This may be completed as a class or as individuals within the class, depending on the students' age/grade level. Using the steps outlined below, research using AI alternative viewpoints. This lesson will not be shared with your evaluator, but will serve as the foundation for the submitted reflection piece.

1. Select source material (short story, fairy tale, news article, debate topic, etc.)
2. Establish initial positions
    a. Upon reviewing the material, each participant or group will express a position or stance on the topic.
3. Develop opposing viewpoints
    a. Students will pair up with a partner who has an alternate position
    b. For younger students, this may be facilitated or done as a group
4. Use AI to explore alternate perspectives
    a. Students will use a prompt that will allow the chatbot to answer from an alternate viewpoint
    b. Ensure that prompts explicitly define the role AI is taking. You will share *at least 1 prompt to demonstrate effective prompt creation.*
5. Conduct AI-Supported Discussion
    a. Students use AI-generated responses to support their viewpoint
    b. Participants engage in a discussion or debate with a partner using a chatbot. (For younger students, the debate may be done in a larger group.)
6. Document the Process
    a. Save or record the AI-generated exchange.
7. Students will reflect on:
    a. What new perspectives did they encounter
    b. If any AI-generated arguments challenged their thinking
    c. Did AI bring up influential information that impacted the discussion?

Educator Reflection:
Submit a reflection (300-400 words) on the experience above. Include the items below:

- Brief explanation of the source material used in this process
- A summary of the opposing viewpoints explored
- Three – five prompts are used to guide the chatbot toward an alternative perspective
- Examine the structure of at least one prompt to clearly show the aspect of a great prompt, as explained in the method components
    - Objective
    - Context
    - Audience

    - Boundaries or Rules
    - Role or Persona
- Reflect on how AI influenced student thinking or group discussion
- Summary of the student reflection on the process
- The educator's personal perspective on the process, including benefits, challenges, and instructional considerations

Part 2. Rubric

	Proficient	**Basic**	**Developing**
Artifact 1: The Experimentation Log (Annotated Chat History)	The log identifies a clearly defined problem (e.g., differentiated instruction, assessment design, or equity in course materials). The problem is specific and relevant to the educator's current work. The initial prompt is clear, specific, and assigns AI a role/persona. A problem is identified with the first output, such as: - error - bias - lack of clarity - ethical concern The revised prompt addresses the error found above. Reflection on the final prompt includes awareness of AI's contribution, such as alternative	The log identifies a defined problem, but it may not be clear or relevant to the educator's current work. The initial prompt is missing one of the following characteristics: - clear - specific - role or persona for AI The educator does not identify a specific problem with the first output, such as: - error - bias - lack of clarity - ethical concern The revised prompt is included, but it may not address the error found above Reflection partially explains awareness of AI's contribution in viewpoint or expanded thinking.	The log identifies a general problem, but it is unclear or irrelevant. The initial prompt is missing two of the following characteristics: - clear - specific - role or persona for AI The educator does not identify a problem with the first output, such as: - error - bias - lack of clarity - ethical concern The revised prompt may or may not be included, or it may have little adjustment for the problem Reflection not included

	viewpoints or ideas that expanded thinking.		
Artifact 2: Exploring Multiple Perspectives with AI-Reflection	**Educator submits a reflection that includes:** explanation of the source material used opposing viewpoints clearly defined three - five prompts and responses showing an alternative perspective taken in the dialog explanation of the structure of at least one prompt, identifying the objective, context, audience, boundary, and role reflection on how student thinking was pushed due to an alternative viewpoint **Personal reflection of the educator that demonstrates perspective on the process, including:** one benefit one challenge	**Educator submits a reflection that includes:** explanation of the source material used opposing viewpoints clearly defined three - five prompts and responses showing an alternative perspective taken in the dialog explanation of the structure of at least one prompt, identifying the objective, context, audience, boundary, and role reflection on how student thinking was pushed due to an alternative viewpoint **Personal reflection of the educator does not clearly demonstrate a perspective on the process. Missing the following:**	**Educator submits a reflection that includes fewer than four of the following:** explanation of the source material used opposing viewpoints clearly defined three - five prompts and responses showing an alternative perspective taken in the dialog explanation of the structure of at least one prompt, identifying the objective, context, audience, boundary, and role reflection on how student thinking was pushed due to an alternative viewpoint **Personal reflection of the educator does not clearly demonstrate a perspective on the process. Missing the following:**

	an instructional consideration for using AI in this manner.	one benefit one challenge an instructional consideration for using AI in this manner.	one benefit one challenge an instructional consideration for using AI in this manner.

Part 3 Reflection (300–500 words)

For tips on writing a good reflection, review the following resource:
How Do I Write a Good Personal Reflection?
(300-500 words)

Please do not include any information that will make you identifiable to your reviewers.

Answer the following questions:

1. How did working with AI in this micro-credential change the way you think about creativity, problem-solving, or your own reasoning? Provide a specific example.

2. What ethical or cultural issues arose for you over the course of this micro-credential, and how did they affect your thinking? Provide a specific example.

3. How will what you learned shape your next lesson or project?

Passing:

The response explains how the educator's thinking about AI shifted as a result of this micro-credential, with at least one specific example. It identifies at least one ethical or cultural issue that arose and reflects on its significance. The response concludes by describing concrete next steps for applying what was learned in a future lesson or project.