



Collaborate with AI to Refine and Reflect

Please note that this micro-credential can only be completed if your students can use Generative AI to prompt in the classroom.

Competency

Learners engage in an iterative process with AI by testing prompts, refining AI-generated outputs, and reflecting on how the interaction shaped their thinking and choices.

Key Method

The educator uses an iterative process with AI by developing, testing, and refining prompts. They will analyze AI-generated content for bias, voice, and style, and use AI as a thought partner to solve problems. Through this process, the educator will reflect on how this human-AI collaboration shapes their thinking and instructional practice.

Method Components

Engage in Iterative Prompting

Prompting is a dynamic process that requires curiosity, precision, and reflection. The quality, meaning the clarity, accuracy, usefulness, and relevance of AI's output, depends on how a question or request is worded.

- How is the prompt structured?
- What tone is used?
- What level of detail is provided in the prompt?
- What is AI being asked to do with the information?

Educators can model refinement by asking students to revise one element at a time and then compare how the response changes as they revise.

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While the wording, structure, tone, and level of detail in a prompt shape how AI responds, results may still vary. Like an educator working with a new student, AI relies entirely on the information provided in the prompt and lacks background knowledge of the learner or the classroom context. Generative AI is not like a search engine that retrieves static information. Instead, it interprets intent and context to generate new content or responses that can vary across tools and use cases.

Effective prompting is not guesswork; it is a design process that involves collaborating with generative AI. Through testing and revision, users discover that even minor changes can yield better outputs. Minor changes include:

- phrasing
- specifying the audience
- layering instructions

This process is often referred to as “Human-AI-Human (HAIH)” or keeping a “human in the loop.” This means the process starts with a human inquiry, collaborates with AI to refine or add information, and then brings the human back in to evaluate the output and make critical decisions.

Think of a high school student researching the economic causes of the Great Depression.

1. **Human (Inquiry):** The student submits a broad, initial prompt: *“What were the main reasons for the stock market crash of 1929?”*
2. **AI (Collaboration):** AI provides a general list of factors (e.g., overproduction, bank failures).
3. **Human (Refinement):** The student then submits a *refined* prompt: *“Using that list, tell me the connections between bank failures and help me find resources to learn more.”* AI responds with a deeper analysis and possible source ideas.
4. **Human Evaluation and Creation:** The student examines AI’s responses, identifying patterns, gaps, and new questions. They may organize their thinking using notes, outlines, or visual tools (such as a concept map or mind map) to make connections and reflect on the development of their understanding. The focus is on refining ideas and learning through interaction, not producing a finished answer.

By teaching students to view prompting as an iterative craft, they will become not only more knowledgeable but also critical thinkers who can question and analyze responses. It also builds students’ confidence in their human ability as essential to the “human-in-the-loop” process.

Recognize Bias and Perspective Awareness

AI systems reflect the information and perspectives found in the data used to train them. Because of this, every response we get carries underlying assumptions and limitations.

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As educators, we know the critical work doesn't stop once our students understand how to be iterative prompters. Our next challenge is to help students understand that bias exists not only in AI's output, but also in their own initial prompts. Here are some questions to help students recognize bias:

- Whose voices are being amplified?
- Which perspectives are missing?
- How does AI's framing shape our perceived objectivity?

To amplify this challenge, ask students to vary the prompt's perspective. For example, if we stick with the Great Depression query used above, a student could tell AI to "Argue this from the viewpoint of a 19th-century factory owner" vs. "Argue this from the viewpoint of a labor union organizer") to try and identify patterns.

Along with recognizing the bias and perspective embedded in AI's data, we must understand and acknowledge our own role in perpetuating bias as users. Although unintentional, our viewpoint and words steer AI to mirror what it *thinks* we want as output. This dynamic is the very reason effective prompting is insightful and essential to students' growth in understanding the world around them. The intent of this higher-level thinking exercise is to teach students to recognize their own voice and the underlying assumptions in AI's output.

To do this, we model strategies that force a comparison. We can ask AI to analyze a topic from multiple cultural, generational, or ideological perspectives. This practice also benefits from collaborative learning, with students working together to generate questions, discuss the questions and outputs received, and identify the resulting patterns. This collaborative practice helps build awareness of how bias and perspective are embedded not only in what we consume, but also in what we initially ask AI to create.

More than just an AI skill, this competency reinforces the core of critical literacy for the modern world.

Developing this competency is the ultimate payoff for our students. When we teach and allow students to practice evaluating AI-assisted content, ideally, they will understand that information, whether from humans or technology, is never truly neutral. This critical thinking, along with strong pedagogy, will create thoughtful communicators.

Voice and Style

Generative AI can present information in many different voices. For example, as an educator, you may use it with HAIH to help generate a technical syllabus description or create a catchy informational jingle to teach students a concept. But mastery in AI iteration competency lies in understanding *how* language choices within a prompt create those effects.

The goal of this competency is to use AI as a tool for rhetorical analysis. AI does not choose a voice or tone; it only reacts to the specific directions or constraints given. Showing students how AI adapts to cues of tone, formality, and emotion can help them uncover the mechanics of style and voice. They can identify that generated writing, video, or images are not only informational but also expressive and can shape perception and mood. When educator-led exploration with student collaboration occurs, students can begin to identify the machine's ability to generate text and the human's ability to direct it.

Controlling voice and style is a lesson in specificity and rhetorical analysis. We teach students that words like “professional,” “playful,” “persuasive,” or “reflective” are not just adjectives; they are directional commands that guide the AI toward different rhetorical outcomes.

This connects to the persuasive and expository writing we value in our classrooms. An example for use in an elementary classroom would be modeling prompts like “Explain the steps of the water cycle using the simple language of a second-grade science textbook” or “Generate a fun, upbeat song about our classroom rules set to the tune of *Twinkle, Twinkle, Little Star*,” you're creating a powerful demonstration.

By intentionally modeling and thoughtfully collaborating with your class, you will help them become aware of genre conventions, tone matching, and audience engagement, all of which are controlled and evaluated by the human at every stage of prompt iteration.

Use AI Feedback to Enhance Problem Solving

AI-driven feedback represents a new dimension of collaborative thinking. When used thoughtfully, it can transform revision from a solitary act into an interactive dialogue tailored for each student. The process requires a “Human-AI-Human” model, where productive collaboration with AI still centers on human reasoning and decision-making.

This competency involves more than accepting AI feedback; it requires synthesis and critical evaluation. As with all learning, the loop of problem-solving and AI iteration is rarely complete. AI outputs are a starting point, and where metacognition starts. As educators, our goal is to help students interpret and critically evaluate AI's suggestions. This is an independent process that models authentic inquiry in a differentiated and moment-of-readiness way.

Engaging in this feedback cycle helps users understand their own cognitive processes: how they define quality, revise, and apply feedback. It reframes AI from a tool of convenience into a catalyst for problem-solving. Reinforcing the understanding that technology is a tool for thinking, not a replacement for it.

Reflect Ethically on Human-AI Collaboration

Effective prompting isn't guesswork; it's a design process that involves true collaboration. Through testing and revision, we quickly discover that even minor changes to phrasing, audience specification, or instruction layering can result in dramatically better outcomes.

Reflection is essential in this process and should be taught so that students can evaluate their questions and refine AI outputs.

As discussed, the “Human-AI-Human” cycle, or keeping a “human in the loop,” starts with a human question, collaborates with AI to refine or add information, and then brings the human back in to evaluate the output and make final decisions.

Think of it this way: If a student prompts AI to, “*Write a paragraph about frogs,*” the response will likely be generic. When an educator observes a student using this prompt and sees the resulting response, they can provide coaching on iteration and craft when working with AI. For example, the educator might prompt the student to use more content-specific vocabulary: “*What if you ask it to write a sonnet about the ocean as a metaphor for loss, using the style of Edna St. Vincent Millay?*”

In this process, learning occurs through refining the prompt itself, not in the student's submitted output. As the student revises their request, they engage in literary analysis, consider poetic structure, and make intentional stylistic choices. The AI-generated text serves as feedback for discussion, not as student-authored work.

By viewing prompting as an iterative craft, we help learners gain confidence in shaping AI as a thought partner in exploration rather than a replacement for their own insight.

Together, the competencies will help you teach your students to use AI systems to elicit feedback, refine results, and reflect on output.

AI Iteration Competencies

- **Iterative Prompting:** Students treat prompts as drafts, using AI responses as feedback to revise their questions and improve clarity, specificity, and intent over multiple attempts.
- **Bias and Perspective Awareness:** Students question whose perspectives may be represented or missing in AI responses and intentionally adjust prompts or consult additional sources to broaden understanding.
- **Voice and Style Mastery:** Students experiment with tone, format, and stylistic constraints in prompts to observe how language choices affect output, deepening their understanding of genre, audience, and purpose.
- **AI Feedback for Problem-Solving:** Students evaluate AI suggestions as one source of feedback, deciding which ideas to question, adapt, or reject as they work through complex problems.

- **Ethical Reflection on Collaboration:** Students consider how AI influenced their thinking, clearly distinguish between AI input and human decision-making, and maintain responsibility for final ideas and conclusions.

Supporting Rationale and Research

Giray L. Prompt Engineering with ChatGPT: A Guide for Academic Writers. *Ann Biomed Eng.* 2023 Dec;51(12):2629-2633. doi: 10.1007/s10439-023-03272-4. Epub 2023 Jun 7. PMID: 37284994. [Prompt Engineering with ChatGPT: A Guide for Academic Writers - PubMed](#)

Robertson, J., Ferreira, C., Botha, E., & Oosthuizen, K. (2024). *Game changers: A generative AI prompt protocol to enhance human-AI knowledge co-construction.* *Business Horizons*, 67(5), 499–510. <https://doi.org/10.1016/j.bushor.2024.04.008>

UNESCO. (2023). *Guidance for generative AI in education and research.* UNESCO. <https://unesdoc.unesco.org/ark:/48223/pf0000386693>

Vinay, A., Spitale, Giovanni G., Biller-Andorno, N., & Germani, Federico F. (2025). Emotional prompting amplifies the generation of disinformation by large language models. *Frontiers in Artificial Intelligence*, Volume 8. Sec. Medicine and Public Health. <https://www.frontiersin.org/journals/artificial-intelligence/articles/10.3389/frai.2025.1543603/full>

Resources

AI Support for Educators
[Microsoft Elevate for Educators](#)

Bias, Media Literacy, and Critical Evaluation
[Real, Fake, or Deepfake? This Lesson Helps Students Decide](#)

[Emotional prompting amplifies disinformation generation in AI large language models](#)

Designing AI Prompts
[A Decision Tree to Guide Student AI Use](#)

[AI Guidance for Schools Toolkit](#)

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[Writing Instruction in the Age of AI - Keys to Literacy](#)

[10 Easy Ways Teachers Can Use ChatGPT | ISTE](#)

Foundational AI Concepts

[AI Glossary of Terms](#)

[Empowering Educators in the Age of AI | NEA](#)

[Understanding How AI Works Makes It More Effective in Lesson Planning](#)

[Thinking About Equity and Bias in AI](#)

Human–AI Collaboration and Reflection

[Human-Centered AI Guidance for K-12 Public Schools](#)

[Human-in-the-Loop Is Not a Buzzword: It's a Teacher's Job | Getting Smart](#)

Learning to Refine Prompts

[Effective Prompts for AI: The Essentials - MIT Sloan Teaching & Learning Technologies](#)

[Elements of a Good Prompt: Microsoft](#)

[Getting started with prompts for text-based Generative AI tools | Harvard University Information Technology](#)

[Prompt Engineering - AI and Academic Research: A Guide](#)

[Microsoft Copilot Prompts Tutorial](#)

[Prompt Library - Lesson Planning — AI for Education](#)

Submission Guidelines & 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)

(200-350 word count)

Do not include any information that will make you or your students identifiable to the reviewers.

Please answer all of the following questions:

1. What grade level and subject do you teach? Include any relevant demographics or learning considerations (e.g., multilingual learners, IEP/504 supports, age range, or general classroom context) that help reviewers understand your teaching environment.
2. Why did you choose this micro-credential on AI iteration? Share a specific reason or instructional challenge that motivated you.
3. What professional growth goals or student outcomes do you hope to achieve? Provide at least one concrete example of how you hope this will impact your teaching or students.

Passing: A passing response clearly describes the educator's teaching context, purpose, and motivation for pursuing this micro-credential. It includes specific details about the classroom setting, relevant AI considerations, and the educator's goals for professional growth or student outcomes. The response provides at least one concrete example of how AI iteration connects to their teaching practice or student learning needs.

Part 2. Work Examples/Artifacts/Evidence

To earn this micro-credential, please submit the following three artifacts as evidence of your learning. See the Rubric for the passing score.

Do not include any information that will make you or your students identifiable to your reviewers.

Artifact 1: Prompt Revision Lesson Design

Design a classroom lesson or lesson segment that teaches students how to refine AI prompts. This artifact should reflect a typical lesson plan equivalent in detail. *This artifact may be adapted from an existing lesson or lesson segment and does not require a full formal lesson plan.*

Your submission should include the following components, described at a level equivalent to a lesson plan.

- 1. Student Learning Objective**
- 2. Lesson Design Using “I Do”, “We Do”, “You Do”**
 - **I Do (Educator Modeling):** Plan how you will explicitly model prompt refinement. Provide at least one educator example showing an *original prompt*, the *anticipated AI response*, and your *planned revision*, with short notes explaining what changes you will highlight and why.
 - **We Do (Collaborative Practice):** Outline a guided activity in which students work in pairs or small groups to refine prompts. Describe task directions, timing, and the teacher cues you will use to help students see how wording affects AI results.
 - **You Do (Independent Practice):** Describe how students will independently create and refine their own prompts. Identify what they will produce or submit (for example, a short, written explanation or comparison chart).
- 3. Assessment of Student Learning**
- 4. Accommodations and Modifications**
- 5. AI Tool Use (Brief Description)**

Artifact 2: Student Examples—One that Worked and One that Did Not

Demonstrate student learning and professional reflection on how students engaged in the AI prompt-refinement process in your lesson from Artifact 1.

Submit one combined product that includes the following four sections.

- 1. Lesson Reference:** Re-state the learning goal or objective students were addressing, including any reflections you have after conducting your planned lesson from above. (*One - two paragraphs orienting the reviewers on changes that arose from the original plan*).
- 2. Successful Student Example:** Provide one student example that shows effective prompt refinement. Include:
 - The original prompt and revised prompt (remove names or identifying info).
 - A summary explaining:
 - Why was this example successful?
 - What did the student change?
 - How did the AI response improve?
 - What learning evidence did you see?
- 3. Unsuccessful or Challenging Example:** Provide a contrasting student example that shows misunderstanding or limited success. Include:
 - The original prompt and revised prompt

- A summary (four to six sentences) explaining what made the attempt less effective (unclear wording, bias, missing detail, etc.) and what support you provided or would provide next time.

4. Analyze: (150 to 300 words) Explain what these two examples reveal about students' understanding of the AI Iteration Competencies and outline your next steps to strengthen that understanding in future lessons.

Artifact 3: Application & Creation — Sharing AI Literacy

The goal of this final section is to demonstrate your ability to apply and share your understanding of the five AI-iteration competencies in a meaningful way. You will **choose one** of two options below.

3A: AI Prompt Visual for Students

Create a student-friendly visual, like an anchor chart, that guides students through the process of writing, testing, and refining AI prompts.

Your visual should:

- Clearly outline the steps students should follow to work effectively with generative AI.
- Include short reminders or tips connected to the five competencies (e.g., “Experiment with wording,” “Check for bias,” “Reflect on your role vs. AI’s role”).
- Be visually clear, age-appropriate, and easy to display digitally or in print (poster, anchor chart, infographic, or digital handout).
- Submit as a single PDF.

OR

3B: Create a Presentation for Colleagues

Design a short professional-learning presentation that introduces educators to the five AI Iteration Competencies and demonstrates how you integrated them in your classroom.

Your presentation should:

- Explain each competency in clear, educator-friendly language.
- Include at least one example or outcome from your own lesson (student samples, reflections, or results).
- Highlight best practices, challenges, and strategies for responsible AI use.
- End with one or two discussion or reflection questions for your audience.
- Submit as a PDF of your slide deck.

Part 2. Rubric

	Proficient	Basic	Developing
Artifact 1: Refining AI Prompts Lesson	<p>The student's learning objective is stated and focuses on AI prompt refinement, iteration, or reflective use of AI.</p> <p>The lesson clearly teaches iterative AI prompting using the "I Do – We Do – You Do" model.</p> <p>Assessment describes how student learning will be evaluated based on reasoning, reflection, or evidence of refinement rather than AI-generated output.</p> <p>Accommodations or modifications are identified to support diverse learners.</p> <p>AI tool use is briefly described and aligned to existing classroom practice.</p>	<p>The student's learning objective is present but vague or loosely connected to AI prompt refinement.</p> <p>The lesson includes most components but lacks detail or one of the "I Do-We Do-You Do" components.</p> <p>The assessment focuses primarily on task completion or AI-generated output rather than on student thinking.</p> <p>Accommodations or AI tool use are briefly mentioned or inconsistently addressed.</p>	<p>Student learning objective is included but may be broad, partially unclear, or inconsistently connected to AI prompt refinement or iteration.</p> <p>The lesson is missing key components or does not address iterative prompting with the suggested "I Do-We Do-You Do" format.</p> <p>Assessment or accommodations are missing.</p>

<p>Artifact 2: Student Examples—One that Worked and One that Did Not</p>	<p>Includes two contrasting student examples (one successful, one unsuccessful) with original and revised prompts.</p> <p>Each example includes concise explanations showing why the student succeeded or struggled and how the AI output changed.</p> <p>Reflection clearly analyzes students' understanding of the AI Iteration Competencies and identifies realistic next steps to advance student learning.</p>	<p>Includes two contrasting student examples (one successful, one unsuccessful) with original and revised prompts.</p> <p>Explanations are present but limited or lacking clear reasoning.</p> <p>Reflection present but general or without specific next steps.</p>	<p>Only one example or unclear evidence.</p> <p>Explanations are missing or unrelated to objectives.</p> <p>Reflection is missing or not connected to competencies.</p>
<p>Artifact 3: Application & Creation — Sharing AI Literacy</p>	<p>The product clearly demonstrates understanding of the five AI Iteration Competencies and applies them appropriately to the chosen audience (students or educators).</p> <p>Information is accurate, concise, and easy to follow; examples or visuals directly support understanding of</p>	<p>The product shows some understanding of the competencies but lacks clarity and alignment with the audience.</p> <p>Information is accurate in general, but it's missing</p>	<p>Product unclear or unrelated to the competencies.</p> <p>Content is inaccurate, incomplete, or difficult to interpret.</p>

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	<p>the AI Iteration Competencies.</p> <p>Visual or presentation is organized, engaging, and ready to use digitally or in print. Layout supports learning.</p>	<p>examples, visuals, or clear explanations.</p> <p>Design present but may need revision for clarity, organization, or accessibility.</p>	<p>Design is disorganized or not suitable for sharing.</p>
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Part 3 Reflection

(200-400 words)

For tips on writing a good reflection, review the following resource:

[How Do I Write a Good Personal Reflection?](#)

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

Answer all of the following questions:

1. How will you connect your learning from this micro-credential to your curriculum or instructional practice? Describe one or more specific ways you plan to integrate AI iteration into lessons, units, or classroom routines.
2. How does your experience with iterative AI connect to your student outcomes? Include evidence that you have of improved student outcomes.
3. Based on what you observed, what specific adjustments or extensions will you make in future lessons to deepen students' ability to refine prompts to think critically, use AI responsibly, and reflect on their process?

Passing: A passing reflection clearly and thoughtfully addresses all three questions, uses specific classroom examples or evidence of student learning, and demonstrates meaningful professional reflection that connects practice, outcomes, and next steps.