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Chapter 2

Writing Prompts and Avoiding Plagiarism

CHAPTER CHALLENGE

- Learn how to ask for the information you need and analyze AI-generated content for credibility.

Despite the enthusiasm around AI and its potential, there is still a feeling of “proceed with caution” for some. When mentioning AI to educators, there are mixed responses but almost always we hear some of the following:

- Am I allowed to use that?
- Isn't this a bad thing for education?
- This is scary.
- How do I know this information is true and unbiased?

The apprehension is not solely due to the shock factor in terms of all that AI can do; it is also fueled by the unease associated with the content it generates. According to a 2023 meta-analysis on ChatGPT, some of this concern comes from its unique ability to answer questions, complete writing, and even complete assignments or exams on behalf of a user (Lo, 2023). Taking time to learn how to ethically engage with AI in productive ways, how to avoid plagiarism, and how to thoughtfully analyze the output is essential. This approach starts with getting good information from these systems, which requires writing effective prompts. We will be covering all these essential aspects throughout this chapter.

As responsible users of AI, it's important to be critical of its output. Biases can persist in AI despite its human-like abilities. In fact, AI can reflect the biases that already exist in the world. We must remain vigilant in ensuring the accuracy and objectivity of the information it produces.

**Stop and Jot**

Are you nervous about anything related to AI? If so, what?

Have any of your students submitted AI-generated work without including an attribution of their sources?

What do you need to add to the curriculum to ensure the ethical use of AI?








AI PROMPT-WRITING SKILLS

When teachers and students use the various AI models, there is a direct correlation between the quality of the input and the resultant quality of the output. The skill of crafting strong prompts—human-written requests, directions, questions, or cues for AI—is crucial. In this rapidly evolving technological revolution, mastering the art of communicating with AI systems is quickly becoming an essential skill. The more proficient users are at asking for what they are looking for, presenting the prompt request in a way that the computer understands, the more likely they are to get what they want.

Consider human interactions for comparison. After all, AI is meant to engage users in a human-like exchange to get a desired response. If you ask a colleague for a science experiment without providing additional details, you'll receive whatever your colleague infers that you need. On the other hand, if you ask for an experiment related to specific content and include a list of materials, you're more likely to receive a tailored and relevant suggestion.

Self-Assessment

Write a prompt that you might use to solicit information from an AI system. Use the scale to assess the quality of the prompt. What areas do you want to strengthen?

Aspects of Quality Prompts	
Specificity: Was the prompt specific enough to solicit information?	
Direction: Did you tell the system what you wanted rather than ask a question?	
Context: Did you provide context or the why of the request?	
Length: Did you tell the system about how long you expected the response to be?	
Format: Were you clear about the format of the output you needed?	
Inclusion and Exclusion Criteria: Were you clear about what you do want and what do you not want?	
Creativity: Did you allow your creativity to shine?	

Some of your prompt-writing skills will develop over time with repeated use and experience, including trial and error. (Remember how you learned to write search engine queries.) And in the future, AI itself will become more sophisticated in being able to predict what users are seeking. For now, here are some of the aspects we have found to be particularly helpful when writing prompts for AI.

- *Specificity:* As needed, include information about grade level, type of student, standard, time dedicated to the task, and materials to use to help AI give an output that is the closest match to what you are looking for.
- *Direction:* Some of the best prompt-writing advice we got early on was, “Tell, don’t ask.” Instead of asking AI questions in the same manner as you might approach Google, input a specific set of directions that it can follow. A strong prompt names a precise request and make use of the capabilities of this technology in its ability to surpass a question/answer format.
- *Context:* Providing background information will lead to a reply that better matches the request. In your prompt, include the “why” behind your request, using phrases like
 - “I am asking this because . . .”
 - “I need this to help students who are . . .”
 - “I will use this with or when . . .”
 - “This is an assignment meant to . . .”
 - “I am a ____-grade teacher, helping students with ____.”
- *Length:* When you are inputting a request from AI, you probably have a sense of what you are looking for. Giving specific directions around the length of the response is an important part of prompt writing. You might ask for a certain number of paragraphs, problems, or steps.

- *Format:* If you have a preferred format for the output, include that information in the prompt. For instance, you should specify whether you are requesting a passage, bulleted list, table, or T-chart. Be explicit about your expectations, and the technology will respond accordingly.
- *Inclusion and Exclusion Criteria:* In the prompt, minimize the need for multiple revisions by explicitly stating elements you want included or excluded in the reply. Imagine potential outcomes as you write the prompt, such as “I would like it to include . . .” or “I would like to avoid including . . .” This approach will contribute to more precise results.
- *Creativity:* When writing a prompt, keep in mind that you are inviting the human-like technology to think with and for you, including thinking outside the box. To allow AI to help your own creativity shine, start prompts with phrases such as these:

“Give me ideas for _____.”

“Help me imagine a new way of doing _____.”

“What other ideas do you have for _____?”

Try It Out!

Playing with Prompts

Step 1: Visit your favorite chatbot on an OpenAI site.

Step 2: Enter the following prompts (or similar versions) sequentially. As you read the outputs, notice the differences.

1. Write a story.
2. Write a story at a third-grade level.
3. Write a story at a third-grade level that uses dialogue and description of actions, thoughts, and feelings to develop events.
4. Write a story about a class of San Diego students who visit the zoo. Write it at a third-grade level that uses dialogue and description of actions, thoughts, and feelings to develop events. Make the example a paragraph long.
5. Write a story about a class of San Diego students who visits the zoo. Write it at a third-grade level that uses dialogue and description of actions, thoughts, and feelings to develop events. Make the example a paragraph long and avoid adding words that do not sound like words a third-grade student would use.

Step 3: Reflect on the differences in AI-generated responses. How was the response different with each prompt?

Step 4: Make a list of important reminders when prompt writing.

1. _____
2. _____
3. _____
4. _____

PLAGIARISM

Plagiarism is the act of taking someone else's original work or ideas and presenting them as your own. Typically, by the upper-elementary grades, students taught how to avoid plagiarism by learning to credit sources and use strategies to state things in their own words. We teach students that plagiarism is not only ethically wrong but can result in serious consequences, ranging from a zero on an assignment to expulsion from school. It is no wonder that this is one of the most talked about concerns with the use of AI in education. Since AI is technically creating a unique human-like response, using extensive data and algorithms to do so, it creates blurred lines for what use of the content it generates is or is not plagiarism.

After working on the paragraph above, we went to AI for some assistance. Here is the prompt and writing we entered.



You

Is the writing clear? Is there anything I should change? I am writing about AI and plagiarism for an audience of teachers learning to use AI in the classroom.

Plagiarism is the act of taking someone else's original work or ideas and presenting them as your own. Typically, by the upper elementary grades, students taught how to avoid plagiarism by learning to credit sources and use strategies to state things in their own words. We teach students that plagiarism is not only ethically wrong but can result in serious consequences, ranging from a zero on an assignment to expulsion from school. It is no wonder that this is one of the most talked about concerns with the use of AI in education. Since AI is technically creating a unique human-like response, using extensive data and algorithms to do so, it creates blurred lines for what use of the content it generates is or is not plagiarism.



ChatGPT

Your writing is clear and addresses a relevant concern about AI and plagiarism in education. However, you can make a few revisions for clarity and emphasis. Here's a revised version:

Plagiarism, defined as the act of presenting someone else's original work or ideas as one's own, is a critical concept in education. Typically, by the upper elementary grades, students are taught how to avoid plagiarism by learning to credit sources and employ strategies to express information in their own words. We emphasize to students that plagiarism is not just ethically wrong but can lead to severe consequences, ranging from receiving a zero on an assignment to expulsion from school.

The integration of AI into education has sparked heightened discussions, and one of the primary concerns revolves around plagiarism. AI, with its ability to generate unique, human-like responses through extensive data and algorithms, blurs the lines between what constitutes original content and potential plagiarism. Teachers navigating the use of AI in the classroom must grapple with the challenge of distinguishing between authentic student work and AI-generated content.



Source: Created with ChatGPT.

Although we decided to keep the writing as is, would using the revised version cross the line of claiming work we did not solely create as our own? In this case, we do not think so. The original content was our own, and we used this AI tool (with our own prompting) to get feedback via a revised version. However, it does give some food for thought and it requires careful consideration when using AI in classroom instruction.

For years, teachers and educational institutions have used plagiarism detection sites trained to flag material that is not the original work of the writer. In fact, most older students have grown accustomed to requirements of running a paper through detection software before turning it in. Many educators also hoped that these sites would flag an overreliance on AI. However, the more sophisticated the AI tools become, the less likely they are able to be flagged by plagiarism detection tools.

In a 2023 study, Weber-Wulff and colleagues examined twelve plagiarism detection tools for their ability to flag AI-generated content accurately and reliably. They found that none of the twelve tools were above 80 percent in accuracy, and only five of those were above 70 percent. The authors also reported that the amount of false positives (human-generated content inaccurately labeled as machine-generated) is especially problematic. The tools are also imprecise, and they report only a percentage without identifying specific passages (e.g., “14% likely comes from GPT-3, GPT-4, or ChatGPT”). “Therefore,” the authors state, “a student accused of unauthorized content generation only on this basis would have no possibility for a defence” (p. 26).

Though the detection tools educators have used in the past might not be the answer, there are some digital tools and apps we have found to help. For instance, the Google extension Draftback offers a visual replay and a timeline of a document’s creation. It has features that allow users to identify instances where large portions of text were copy and pasted or when the content was generated in an unusually short time frame.

So, even with tools like Draftback in mind, what does this mean for educators? Simply banning the use of AI will not work. Instead, teaching students how to use AI responsibly by modeling and practicing ways to use AI while maintaining the integrity of original work is essential. In addition to teaching students how to avoid plagiarism, we might also think about the assignments and tasks themselves: Does this assignment encourage original thought? Does this assignment bring in student critical thinking skills? Could changes be made to this assignment to make the work students have to produce AI-resistant? In Chapter 6, when we look more closely at assessment, we will explore more around this concept.

Classroom Connection

Teaching Students About Plagiarism

Using AI with students in the classroom offers a great opportunity to teach learners about plagiarism. Instead of providing students with a list of what they cannot do when it comes to using the work of another author or AI system, teach them what they *can* do. For this we suggest leaning on the work of Vosen (2008), who suggests a sequence of four to five lessons, outlined below.

Step 1: Knowledge

Teach students what plagiarism is. You might do this through a guided exploration or even engage students in an activity where they need to navigate different aspects of the concept, such as plagiarism versus paraphrasing, quoting versus copying, and understanding authorized versus unauthorized use.

Step 2: Expansion

As a part of building learners' knowledge about plagiarism, move students to application by exploring real-world examples of plagiarism and its repercussions. We suggest sharing examples that are specific to AI cases, such as the firing of *Sports Illustrated* CEO Ross Levinsohn in December 2023 for posting AI-generated stories from fake writers (Kraft, 2023).

Step 3: Analysis

After students have gained a deeper understanding of plagiarism and all the nuances around it, it is important to have them look closely at references: both in-text citations and works cited pages. This is the ideal time to teach students how to cite the use of AI and explain where and when it is appropriate. Major citation systems used in schools, including the Modern Language Association (MLA; 2023; <https://style.mla.org/citing-generative-ai/>) and the American Psychological Association (APA; 2023; <https://apastyle.apa.org/blog/how-to-cite-chatgpt>), have guidelines for appropriate citation of AI-generated content.

Step 4: Synthesis

During synthesis, have students work with their own writing using AI. As part of this task, ask them to determine when and where to add citations. This is a perfect opportunity to model for students and have them engage in active practice, including working in groups or partnerships. Students may need several opportunities to practice this step.

Step 5: Evaluation

As you reach the end of this series of lessons, ask students to engage in evaluation. Guide students to revisit the discussions held on the first day and identify their evolution of knowledge about what *plagiarism* is and why it is an important concept to learn. As a culminating activity, Vosen (2008) proposes that the class can debate topics such as “Should students fail if they plagiarize?” We imagine that you could make AI a part of this debate topic too.

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In the coming years, we are likely to see formalized policies for schools and organizations about what is and is not considered acceptable with the use of AI-generated content. That said, even after policies are established, the guidelines are likely to be revised as familiarity with the tools, their capabilities, and the limitations become more apparent. In fact, in early 2023, some school districts—including Baltimore, Los Angeles, and New York City—enacted policies restricting the use of AI; within three months they reversed their stance.

RESPONSIBLE ANALYSIS OF OUTPUT

As educators, we know it is important to be mindful of what we put in front of students. We review assignments, print and digital texts, and multimedia to make sure that the content is appropriate for our audience and that the materials help us reach a necessary learning

intention. While AI may initially appear as superhuman, it is crucial that educators look carefully with a critical eye at the content it generates, just as you would any other new resource. The beauty of AI is that if the original output is not exactly what you intended, you can ask for revisions and changes until you get an end product that matches your intention.

The report *Artificial Intelligence and the Future of Teaching and Learning* by the U.S. Department of Education’s Office of Technology (2023) is instructive. The report emphasizes the crucial involvement of a human in the loop, and it stresses that teachers must remain at the helm of all instructional decisions about material used and feedback given. The authors of the report also stress that AI has limitations and that human users must exercise professional judgment when looking at the material AI generates.

In most cases, you will find that there is no need to revise AI output for basic things such as sentence structure and punctuation. Indeed, for a decade or more most of us have used AI communication tools in email systems and as grammar checks. Rather, you should find yourself looking critically at the content provided and the clarity of the output. Does it possess the style and voice you were looking for?

Table 1 contains a list of criteria we have found useful when analyzing the responses we get from AI on teacher-facing and student-facing sites.

Table 1 • Criteria for Analyzing AI Responses

Criteria	Questions for Teacher Consideration	Prompts for Revision
Content	<ul style="list-style-type: none"> • Is the information accurate? • Are there any misleading or questionable statements? • Does the output match what you are teaching? • Does the information seem appropriate for a specific set of students? • Is the output too much or too little based on the purpose? • Is the information up to date? • Other _____ 	<ul style="list-style-type: none"> • Make the content appropriate for _____. • Change the section about _____. • Revise _____ so that it includes _____. • Where did you get the information included? • Adjust to match the learning standard _____.
Clarity	<ul style="list-style-type: none"> • Is the language clear or are there places it could be clearer? • Is the output organized appropriately? • Does the output match the needs of an audience? • Is there a way output could be more concise? • Other _____ 	<ul style="list-style-type: none"> • Make the content appropriate for _____. • Change the section about _____. • Revise _____ so that it includes _____. • Where did you get the information included? Provide a list of sources. • Adjust to match the learning standard _____.
Voice	<ul style="list-style-type: none"> • Does the output use the same tone as the person using it? • Does the tone match the audience or purpose? • Are there any words or phrases that should be changed or avoided? • Is the language used appropriate for the grade level? • Is the voice too complex or generic? • Other _____ 	<ul style="list-style-type: none"> • Avoid using words like _____ and _____. • Rewrite or regenerate for _____ -grade students. • The purpose of this is to _____. Revise accordingly. • Reword the part about _____ in order to _____.

Task Takeover

Lesson Planning

Using AI to help generate ideas for lessons, learning objectives, and success criteria is one of its great benefits, and it is also the time to use your professional judgment and experience. Let's try another task with AI. Imagine that you want to teach your students a lesson on how they can responsibly use generative AI to revise their own writing.

Step 1: Visit the Eduaide website: <https://www.eduaide.ai>.

Step 2: Select the Content Generator feature and the Learning Objective and Success Criteria tool.

Step 3: In the Topic or Keyword box, type in “Teach students how to use generative AI responsibly to revise their writing.”

Step 4: Analyze the ideas generated using the Criteria for Analyzing AI Responses (Table 1).

- Do the lesson objectives seem appropriate for your students?
- Do the concepts and skills offer a logical learning progression for your class?
- Does the voice and tone sound reasonable for your class?

CREDIBILITY

At some point, you've probably gone on an unexpected journey on the internet, starting with a search for one thing and finding something else entirely. (Some people call this *going down the rabbit hole*.) While this serendipitous journey is sometimes fun and can be quite informative, users need to consider whether the sources they have encountered on this path are credible. With this in mind, as we have noted, one challenge with the information generated by AI is that it lacks source information. Thus, for educators, it can be quite difficult to teach students about the credibility of the sources they encounter when they are evaluating information generated by AI, because often there are no sources included at all. The use of AI in education brings with it the need for teachers and students to think carefully about the credibility of sources and the information's reliability.

Credibility refers to the assurance that information is accurate and that users can trust the sources. As we have noted, content generated by AI presents a unique challenge to source credibility as there is technically no human author. This does not imply that the information provided lacks credibility; rather, it emphasizes the need for human users to critically assess the output and be strategic in how and when they use the generated material. We recognize that AI systems are aggregating content from the internet. For example, when we asked ChatGPT where it obtained the sources for one of our inquiries, the system responded, “My knowledge is derived from the diverse

range of sources available on the internet up to my last update in January 2022” (OpenAI, 2023). That’s not actually very helpful.

A parallel can be drawn with a situation from the early 2000s: the advent of Wikipedia, a site hailed as the first complete online encyclopedia—a seemingly ideal resource for learning about a wide variety of topics in a short period of time. However, because it is a platform that relies on volunteers and users to contribute information, users soon recognized instances of inaccuracies and bias. While Wikipedia remains among the top ten most visited websites even today, users have learned to approach its information critically, acknowledging its limitations and using it accordingly. Interacting with AI-generated content requires a similar approach.

Analyzing sources for credibility is not a skill unique to Wikipedia and AI. In the age of the internet, social media, and rapid technological dissemination of information, the prevalence of misinformation is huge. Human users must develop the ability to evaluate and question information they encounter across platforms critically. Below are key questions for you and your students to consider when assessing the reliability of information, especially AI-generated information.

- Does the information presented need verification?
- Should additional sources be cross-referenced?
- Is there any inherent bias or one-sidedness in the information?
- Are there alternative perspectives that should be considered?
- Has the information on this topic been updated recently? (Most of the AI systems that we use are updated annually and do not have the most updated information available.)

Ask a Bot

AI itself has the capability to teach users about its credibility, reliability, and even its limitations. Here’s a simple way to take some time to engage with an OpenAI site in a conversation that is centered around credibility.

Step 1: Sign in to your favorite OpenAI chatbot.

Step 2: Ask the chatbot guiding questions about its credibility.

- Where do you get your information?
- What sources do you draw from?
- Where do you get your data?
- How do I cross-check the information AI shares?
- Are artificial intelligence sites credible?
- What should users know about the information AI shares?
- How up to date is the content provided through AI?

Step 3: Reflect on the experience and consider what you might need to teach students about AI credibility.

- Would you trust this information based on the results shared?
- Would you want to seek any clarification on the information presented?
- Would you change your original request for information based on the AI results?

Effectively learning how to prompt AI and becoming a critical consumer of generated content is a fundamental responsibility for all users. Although this may take time and practice, it is important to recognize the importance of both prompting and responsible use when it comes to effective, but most importantly, ethical use of the tools. In fact, these skills are so important that they are already becoming an important set of skills supported and taught in higher education. Many institutions are now offering dedicated courses on the topic, such as Western Michigan’s “AI: Prompt and Response.” Some universities have brought together faculty from various departments to lead groups focused on the research, education, and practice behind AI, like HAI (Human-Centered Artificial Intelligence) at Stanford University. Most universities have started implementing guidelines for student use of generative AI on assignments and assessments such as the “Guidelines for Use of Generative Artificial Intelligence in Assessment” at San Diego State University (shared in Figure 6 below). We have no doubt

Figure 6 • Guidelines for Use of Generative Artificial Intelligence (gAI) in Assessments and Deliverables at SDSU

Principles of use for generative AI (gAI), including systems such as ChatGPT, Bard, and Bing, which can produce content in response to natural language queries, is becoming increasingly prevalent. Students need to understand the principles guiding gAI use in assessments and deliverables. Proficiency, verification, and documentation are key principles to keep in mind:

- A. Proficiency: Proficiency is more than just memorizing facts. It involves building flexible knowledge structures to solve problems and evaluate potential solutions. Use gAI effectively, students should have a firm grasp on the subject matter.
- B. Verification: Students must take full responsibility for gAI-generated materials, ensuring they are accurate and factually sound. Generative AI can produce incorrect or misleading information, making verification crucial.
- C. Documentation: Proper documentation is essential for all non-original ideas and sources, as gAI may create fictional references, also known as “hallucinations.” When documentation is required, students must follow standard practices for cit-ing sources.

Classification levels of allowed use of gAI in Assessments and Deliverables: The following classification levels determine the permitted use of gAI in-course assessments and deliverables:

- AI-1: Disallowed
- AI-2: Restricted
- AI-3: Documented
- AI-4: Unrestricted

Source: San Diego State University, 2024.

that K–12 schools, districts, and states will follow suit, in fact many already have, and hope this chapter and those that follow will help build your skillset and understanding for all there is to come.

Check for Understanding

Consider the following AI-generated discussion questions. If you are reading alone, feel free to write responses. Alternatively, if you are able, engage in meaningful dialogue with colleagues. Use all you have learned in this chapter to discuss prompt writing, the ethics of AI, and the task of teaching students about plagiarism. (See Appendix for answers to all Check for Understanding questions.)

Discussion Question #1: What are your concerns about integrating AI into education, particularly in terms of ethical use and avoiding plagiarism? How do you think educators can address these concerns effectively?

Discussion Question #2: Considering the guidelines provided for crafting strong prompts for AI, how important do you think it is for educators to master the skill of communicating with AI systems? What potential challenges do you foresee in prompt writing for AI, and how could these be mitigated?

Discussion Question #3: How can educators effectively teach students about plagiarism in the context of AI-generated content? What strategies or activities could you employ to ensure students understand the ethical use of AI-generated material and the importance of proper citation and attribution?

CONCLUSION

Writing a good prompt is key to getting useful information from AI systems. However, this process is not just a one-shot deal. If you review the response and it's not what you expected, needed, or wanted, then you can provide additional prompts to get closer to the information you want. We hope that you have practiced creating prompts using the aspects outlined in this chapter. And we hope that you were able to evaluate the quality and credibility of the information that was provided. In doing so, you're using critical thinking skills, and your students will develop those skills as well. Along the way, you'll need to teach students about plagiarism and how to cite their sources. While this task can be challenging when it comes to evaluating the sources for material generated by AI, we hope the discussions in this chapter will help you make a start.