Prompt Design - guidelines for GPT UiO/Microsoft Copilot

This guidance document is designed by IDEA for UV teachers interested in using AI in teaching. The tips, examples, and resources are current as of 14.02.2024.

GPTs are flexible tools for generating text, but text responses are only as good as the input information. By applying the eight prompting tips below, teachers can improve the responses and their interactions with GPT UiO or Microsoft Copilot.

Prompt design tips

1. **Instruct a GPT with clear actions by using clear verbs**
2. **Provide context**
3. **Add constraints**
4. **Refine output with follow-up prompting**
5. **Divide complex tasks into simpler subtasks**
6. **Ask for evidence and sources**
7. **Dictate voice and tone**
8. **Indicate output format and style**

Always remember…

GPTs are Large Language Models. Their role as an AI is to predict the most likely combination of words and provide those words as an output based on your input. These Large Language Models are not knowledge databases.

GPT UiO and Microsoft Copilot are not guaranteed to produce 'correct' answers to scientific questions, nor are they guaranteed to provide scholarly sources of information if you do not explicitly ask for scholarly references. Always use the tool with a degree of caution and do not accept a GPT's output without scrutiny.

Be aware of UiO data handling policies when using GPT UiO (green and yellow data) and Microsoft Copilot (green data). Do not input any data that does not align with the data management policies UiO has in place.

Learn more about GPTs and use of AI from UiO

UiO provides a *How to use AI as a teacher* web page. Here you can find resources to learn more about what AI is and find inspiration for teaching with AI.

Prompt a GPT for better output

1. Instruct a GPT with clear actions by using clear verbs

What do you want GPT UiO to do for you?

By using clear action words (verbs) to demonstrate your intent, you can dictate the type of output a GPT will generate. Carefully select the verbs of your written commands and be as clear as possible to the GPT.

GPTs generates different responses based on what commands and actions you prompt with.

Example prompts that will produce different results

- ***Compare and contrast*** *cognitivism and behaviourism in education.* - ***Summarize*** *cognitivism and behaviourism in education.* - ***Discuss*** *cognitivism and behaviourism in education.*

Example list of action words (verbs) when prompting

Analyze	Explain	Defend	Include
Clarify	Simplify	Infer	Compare
Compline	Produce	Scrutinize	Recommend
Summarize	Differentiate	Rephrase	Expand
Develop	Propose	Argue	Cite

Example prompt of clear actions and tasks for a GPT

Analyze and score the following text based on Strunk and White's Elements of Style. Provide feedback on which sentences can be improved and how these sentences can be improved*: "Apathetic students, illiterate graduates, incompetent teaching, impersonal campuses-so rolls the drum-fire of criticism of higher education. More than two years of reports have spelled out the problems. States have been quick to respond by holding out carrots and beating with sticks. There are neither enough carrots nor enough sticks to improve undergraduate education without the commitment and action of students and faculty members. They are the precious resources on whom the improvement of undergraduate education depends. But how can students and faculty members improve undergraduate education? Many campuses around the country are asking this question. To provide a focus for their work, we offer seven principles based on research on good teaching and learning in colleges and universities."*

Text source: Chickering A.W., & Gamson, Z.F. (1987). *Seven principles for good practice in undergraduate education*.

2. Provide context

Expand on your prompts so the GPT has more information to generate more relevant responses for you. Provide information on what you will use the generated output for. This may include contextual information about:

- Your intended teaching methods and learning activities
- The level of education your students have
- Potential problems you have encountered and are attempting to solve
- The study level of your students
- The topic you are teaching
- Etc.

Prompts with explicit context and clear actions for the GPT will provide more relevant responses.

Example Prompts

> *I am teaching a university course for first-year bachelor students. I would like to engage in more student-centered learning activities, but students are having difficulty understanding the basic theories of the course. Create a student-led learning activity where students engage with the theory of the zone of proximal development.*

> *I teach a second-year master course at the Faculty of Education. The course is on advanced research methods. As an assignment, I have asked students to write a short research design for their Master's thesis. The students are studying Behaviour and Special Education. The research design should include:*
> *- a motivation and justification for their research*
> *- a one paragraph literature review*
> *- a justification for their chosen research design, and*
> *- appropriate research methods for data collection and analysis.*
>
> *Perform the following tasks:*
> *1. Create an assignment template based on the aforementioned criteria.*
> *2. Provide an example text of an exemplary assignment based on this template.*

3. Add constraints

Similar to adding context to your prompts, you can refine GPT outputs by placing specific constraints or limitations on the generated output. Using limiting words within your prompt defines the relevant boundaries for the GPT's answers.

Example prompts

> *Create a student assignment for **a group of five university students, studying teacher education in Norway**. The assignment will require the student group to **create a lesson plan to teach advanced math high school students at a Norwegian videregåendeskole** how to use AI to assist student in advanced mathematics. The assignment can **only use GPT UiO or Microsoft Copilot** as an AI to help the university students perform the task.*
>
> *Include an example of how GPT UiO or Microsoft Copilot can clarify calculus to a high school student.*

> *What **educational science research** on AI for improving university student reading comprehension has been conducted **in European universities**? List five **open access peer-reviewed** literature sources.*

4. Refine output with follow-up prompting

GPTs are designed to mimic natural language, not to understand and produce precisely what you intend it to produce. Therefore, you may need to refine the generated output by asking further questions or providing follow-up instructions with your prompts.

You may ask a GPT to refine a section, to reword or clarify the response, to alter the format, and much more. Apply the prompt designs mentioned in this guide to improve your follow-up prompts.

Example follow-up prompt – improving the response

> *You forgot to include information on the knowledge dimensions of the Revised Bloom's taxonomy – factual, conceptual, procedural, metacognitive. Reproduce the response to include these dimensions.*

Example follow-up prompt – GPT did not properly follow instructions and responded as both people in an imaginary conversation

> *Revise. Only respond as the concerned parent, not as both the parent and teacher. Your role is to engage in a conversation with me. Do you understand?*

Example follow-up prompts – change format or style of output

> - *Provide the same response but in the form of a bulleted list instead of a table.*
> - *Revise to use clear language.*
> - *Update to include a citation for each sentence where a reference was used.*

5. Divide complex tasks into simpler subtasks

GPTs may struggle to understand complex tasks if your instructions are not subdivided into simple and clear tasks. Write long instructions in full paragraph form may not produce the results you intend. Subdivide your entire tasks into simpler steps by, for example, prompting using a numbered list or bulleted list.

Example prompt

> *The revised Bloom's taxonomy could be a useful framework to integrate technology and AI into my teaching and student assignments. Remember that this taxonomy includes both the cognitive process dimension and the knowledge dimension.*
>
> *Please:*
> 1. *Summarize educational research from the last ten years on the revised Bloom's taxonomy and digital technology integration in university teaching in one paragraph. Cite the information in each sentence;*
> 2. *Provide me with examples of how AI programs like ChatGPT and Microsoft Copilot could be used in a student assignment to support university students' learning;*
> 3. *List the dimensions of the revised Bloom's taxonomy where AI is most suitable to support knowledge development for university students.*

6. Ask for evidence and sources

GPT UiO is not good at automatically providing evidence and citations. It is unclear which information is generated to merely appear as natural language and which information is being copied or paraphrased from an actual source. You must prompt GPT UiO to provide explicit references.

NOTE – GPT UiO does not have direct access to scientific databases and gathers information from other sources on the Internet.

Example prompt for GPT UiO

> *Explain what Gagne's theory of learning is and its impacts and debates in the field of educational sciences. **Use scholarly sources. Cite these sources in their corresponding sentences. Provide a reference list**.*

Microsoft Copilot can automatically cite sources of information, however these sources can be either generic webpages or scholarly sources. It is good practice to prompt Copilot to use scholarly sources when generating text. Sources are cited within the generated text and a hyperlink is provided by Copilot under the **Learn More** section of a response.

Prompt example for Microsoft Copilot

> *Explain what Gagne's theory of learning is and its impacts and debates in the field of educational sciences. **Use scholarly sources.***

7. Dictate voice and tone

GPTs are capable of taking on personas and responding in various tones (formal, informal, conversational, colloquial, scholarly, friendly, arrogant, etc.). Voice and tone prompts can be used to alter the conversational responses of a GPT.

Example prompt for student activity – Handling difficult conversations with children's parents.
Students engage in a fictional conversation as a teacher with the GPT based on the following voice and tone prompts.

> *You are the parent of a child in my eighth-grade class. Your child has been misbehaving, causing distractions during class, and bullying other children. Your role is to respond as a fictional parent of this child in a conversation with me, the teacher.*
>
> *You have the following responsibilities:*
> *- Denying all allegations of your child's wrong-doing,*
> *- being arrogant and uncooperative,*
> *- assuming these issues are being fabricated by the teacher and other students,*
> *- reassert the innocence of your child*
>
> *Response tones should vary between being:*
> - *Dismissive*
> - *Threatening*
> - *Angry*
> - *Disinterested*

8. Indicate output format and style

GPTs are not only capable of engaging in conversation or summarizing information but can generate output in several different formats and styles. These can include producing templates, outlines, tables, references, structured lesson plans, assessment rubrics, computer coding, and more.

Similar to voice and tone, output style and format can be used to create simpler or more complex responses, based on your prompts. This can be useful to clarify complex information to improve student understanding, or to challenge a student with more complex output.

Example prompts

> Create an essay rubric for a first-year university student writing on theories of education. The rubric should be based on the Revised Bloom's taxonomy, with both knowledge and cognitive process (factual, conceptual, procedural, metacognitive) dimensions. Produce the rubric in the form of a table, with the knowledge dimension as rows and the cognitive process dimensions as columns. Populate the rubric with actions a student should undertake during the written assignment.

> My students misunderstand the difference between research design and research methods. Provide a simplified explanation of the difference between research design and research methods. Provide concrete examples of both. Generate output in the form of a table that compares and contrasts research design and research methods.

Resources

Using AI in the classroom

UiO Tjenester - [UiO How to use AI as a teacher](#)

Inspiration for teaching with AI - [A Teachers Prompt Guide to ChatGPT: aligned with what works best](#)

Chapman University – [Artificial intelligence in the classroom](#)

Prompt Design resources

Advanced prompt engineering - [Prompt Engingeering guide from OpenAI (GPT UiO)](#)

Additional prompt examples – [Best advanced ChatGPT prompts for teachers and educators](#)

In-depth prompts examples for assignments – [24 best ChatGPT prompts for teachers in 2024](#)