

Generative AI in Education

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@sharplm

GPT 4o advanced voice mode



“As of October 1, 2024, Advanced Voice is available to all Enterprise, Edu, Team users, and most Plus and Free users, except for those in the European Union, Switzerland, Iceland, Norway, and Liechtenstein.”

<https://help.openai.com/en/articles/8400625-voice-mode-faq>

Access large language models for free

ChatGPT (powered by GPT-4o) <https://chatgpt.com/>

Microsoft Copilot (powered by GPT-4o) <https://copilot.microsoft.com/>

Google Gemini <https://gemini.google.com/app>

Claude 3 <https://claude.ai>

Some limitations of free access

Limited access to powerful model (usage limits)

Less powerful model

Slower response times

Limits to size of documents that can be uploaded

Fewer integrations with other tools (Microsoft Office, Google Workspace)

Less support

Each language model has different abilities (e.g. ChatGPT and Claude for tutoring, Copilot for online resources)

Prompting

You are an expert tutor in *<topic area>*. I am a *<type of student>*.

I want you to tutor me in *<topic>*. You should assume I have limited knowledge of the topic.

You should tutor step by step through a chat dialogue with me, continually assessing my current state of knowledge, teaching one item at a time, checking my understanding, and adjusting your teaching to my response.

When I ask, you should provide a summary of my current knowledge that I can show to my teacher.

Who

What

How

When

Prompting

You are an expert tutor in *English for academic purposes*. I am a *school student*.

I want you to tutor me in *academic writing*. You should assume I have limited knowledge of the topic.

You should tutor step by step through a chat dialogue with me, continually assessing my current state of knowledge, teaching one item at a time, checking my understanding, and adjusting your teaching to my response.

When I ask, you should provide a summary of my current knowledge that I can show to my teacher.

Who

What

How

When

Google's prompt template

Objective and Persona (what and who)

Instructions (how)

Constraints (do's and don'ts)

Context (background information)

Output format

Examples

Recap

<https://cloud.google.com/vertex-ai/generative-ai/docs/learn/prompts/prompt-design-strategies>

```
<OBJECTIVE_AND_PERSONA>
You are a [insert a persona, such as a "math teacher" or "automotive expert"]. Your task is
to...
</OBJECTIVE_AND_PERSONA>

<INSTRUCTIONS>
To complete the task, you need to follow these steps:
1.
2.
...
</INSTRUCTIONS>

----- Optional Components -----

<CONSTRAINTS>
Dos and don'ts for the following aspects
1. Dos
2. Don'ts
</CONSTRAINTS>

<CONTEXT>
The provided context
</CONTEXT>


<OUTPUT_FORMAT>
The output format must be
1.
2.
...
</OUTPUT_FORMAT>

<FEW_SHOT_EXAMPLES>
Here we provide some examples:
1. Example #1
Input:
Thoughts:
Output:
...
</FEW_SHOT_EXAMPLES>

<RECAP>
Re-emphasize the key aspects of the prompt, especially the constraints, output format, etc.
</RECAP>
```

Context documents

I am a high school student.
You are my teacher. List five
ways I can improve this essay.

 high school essay.docx
Document

I am a high school student. You are my teacher. List five ways that I can improve this essay.



Here are five ways to improve your essay:

1. Thesis Statement and Introduction

Strengthen the introduction by clearly stating your thesis. Introduce the main argument that happiness and success are distinct, providing a roadmap for the essay.

2. Organization and Structure

Ensure each paragraph has a clear main idea that supports your thesis. Use topic sentences to guide the reader. For instance, separate the anecdote about Mr. Anderson into its own paragraph and clearly connect it to your argument about personal accomplishment and happiness.

3. Evidence and Examples

Provide more varied and detailed examples to support your points. For instance, while the anecdote about Mr. Anderson is effective, include additional examples from different contexts, such as historical figures, literature, or broader societal observations.

4. Transitions and Flow

Improve the flow between paragraphs with smoother transitions. This will help your essay read more cohesively. For example, use phrases like "Similarly," "In contrast," or "Another example is" to connect your ideas and evidence more seamlessly.

5. Grammar and Style

Address grammatical errors and refine your style for clarity and readability. Examples of such errors include:

Prompts for images

Content

Subject: person, animal, character, location, object

Environment: indoors, outdoors, on the moon, underwater, in the city

Emotions: happy, sad, angry, sedate, calm, raucous, energetic

Composition: close-up wide angle, shot from above,

Lighting: soft, ambient, overcast, neon, studio lights, golden hour

Colour: vibrant, muted, bright, monochromatic, colorful, black and white, pastel

Output

Orientation: portrait, landscape

Aspect ratio: 3:2, 16:9, 1:1

Type: poster, email header image

Style

Medium: photo, painting, illustration, sculpture, doodle, tapestry

Art movements: Cubism, Pop Art, Impressionism

Materials: photo, yarn, origami

Art style: hyper realistic, steampunk, collage

A tranquil scene of an Irish village nestled in rolling hills, painted in the style of Monet. Landscape, 1:1

<https://docs.midjourney.com/docs/prompts-2>

<https://zapier.com/blog/ai-art-prompts/>

<https://www.adobe.com/uk/products/firefly/discover/ai-art-prompts.html>

A tranquil scene of an Irish village nestled in rolling hills, painted in the style of Monet. Landscape, 1:1



OpenAI DALL·E 3



Adobe Firefly




Google Imagen 3

It seems I wasn't able to generate the image as requested due to DALL·E's content policy, which restricts exact imitation of specific artists' styles. However, I can create a version inspired by Monet's techniques without directly replicating his work. Would you like me to proceed with that?

Custom chatbots



TeachSmart ▾



TeachSmart
Friendly pedagogy expert using 'Practical Pedagogy' for innovative advice.
By Michael Sharples

How can I make my literature class more interactive? Can you suggest project-based learning activities?

What are effective strategies for inclusive education? How to implement flipped classroom techniques?

 Message TeachSmart... 

ChatGPT can make mistakes. Consider checking important information.

<https://chat.openai.com/g/g-RCHNUwnD1-teachsmart>

Engaging Class, Quiet Students

November 10, 2023



Anonymous

How can i make class more engaging without alienating quiet students?



TeachSmart

Engaging your class without alienating quieter students can be achieved by incorporating adaptive teaching methods. These methods involve using data about a student's prior and current learning to tailor a personalized educational path. While typically implemented through computer systems in which students engage with customized instruction based on their responses, adaptive teaching also extends to non-technological approaches.

However, the integration of adaptive teaching into classroom environments poses certain challenges. Research on intelligent tutoring systems has shown positive outcomes compared to traditional teaching methods. Still, when applied in classroom settings, the results have been less consistent, particularly in secondary education. These mixed outcomes highlight the need for teacher development in managing new technologies and integrating adaptive pedagogy into classroom teaching. Additionally, the pressure to progress all students through the curriculum, regardless of individual mastery levels, can be a barrier.

To engage quieter students without overwhelming them, teachers can adapt their approach by closely observing students' interactions and learning processes. For example, teachers can encourage collaborative work on problems or projects, allowing quieter students to contribute in a less direct, pressured environment. By focusing on how students think and learn, teachers can connect classroom teaching to real-life scenarios, creating a more inclusive and engaging learning experience. This approach involves adapting teaching to the emerging ideas, activities, and questions from students, fostering an environment where quieter students can participate comfortably.

Overall, while adaptive teaching can be enhanced with technology, it fundamentally relies on the teacher's ability to understand and respond to the diverse needs and learning styles of all students, including those who are quieter or less outspoken.



Anonymous

what does this look like in action?



TeachSmart

Implementing adaptive teaching in a way that engages all students, including the quieter ones,

[Chat with TeachSmart on ChatGPT](#)

[Report content](#) | [Terms of use](#) | [Privacy policy](#)

<https://chat.openai.com/share/5377bb2b-0ca1-42af-883b-07feb1c0d1c1>

Create a custom chatbot in ChatGPT

The screenshot displays the ChatGPT interface. On the left sidebar, the 'Explore GPTs' option is circled in red. In the top right corner, the '+ Create' button is also circled in red. The main content area is titled 'GPTs' and includes a search bar, category filters, and sections for 'Featured' and 'Trending' GPTs.

My GPTs + Create MI


GPTs

Discover and create custom versions of ChatGPT that combine instructions, extra knowledge, and any combination of skills.


Top Picks Writing Productivity Research & Analysis Education Lifestyle Programming

Featured


Curated top picks from this week




Market Research and Competitive Analysis...
Expert assistant for cutting-edge marketing insights and analysis, using APIs to Wolfram and other...
By Mike Benjamin



Code Tutor
Let's code together! I'm Khanmigo Lite, by Khan Academy. I won't write the code for you, but I'll hel...
By khanacademy.org




Writing Assistant
Enhanced writing & editing support.
By Mohammed Ziara




SciSpace
Do hours worth of research in minutes. Instantly access 287M+ papers, analyze papers at lightnin...
By scispace.com

Trending

Most popular GPTs by our community

1  **image generator**
A GPT specialized in generating and refining images with a mix of professional and friendly tone.image generator
By NAIF J ALOTAIBI

Scholar GPT

2  **Write For Me**
Write tailored, engaging content with a focus on quality, relevance and precise word count.
By puzzle.today

Canva

Academic Writing Guide
• Draft

Create Configure

Hi! I'll help you build a new GPT. You can say something like, "make a creative who helps generate visuals for new products" or "make a software engineer who helps format my code."

What would you like to make?

A guide to writing academic English


I'll start setting this up as a guide for writing academic English.

I'll first need to refine the overall behavior.

Next, let's settle on a name. How about "Academic Writing Guide"?

Yes, that's good

Great! Now, let's create a profile picture. I'll generate an initial image, and then we can make any adjustments you'd like.



Here's the profile picture I generated. Do you like it, or would you like any changes?

Message GPT Builder

Preview

Academic Writing Guide


Message Academic Writing Guide

Academic Writing Guide
• Live • Anyone with a link

Updates pending

Share Update

Create Configure



Name
Academic Writing Guide

Description
A guide to help university students in writing academic English

Instructions
It should guide students step by step in writing academic English, based on the "Brief Guide for Academic English" and other academic resources. It should tutor one topic at a time and test the student's knowledge for each with brief questions or worked examples.

Conversation starters

Knowledge
If you upload files under Knowledge, conversations with your GPT may include file contents. Files can be downloaded when Code Interpreter is enabled

HECAcademicEnglishWrit...
PDF

Upload files

Capabilities
 Web Browsing
 DALL-E Image Generation
 Code Interpreter & Data Analysis

Actions
Create new action

Additional Settings

Academic Writing Guide

A guide to help university students in writing academic English

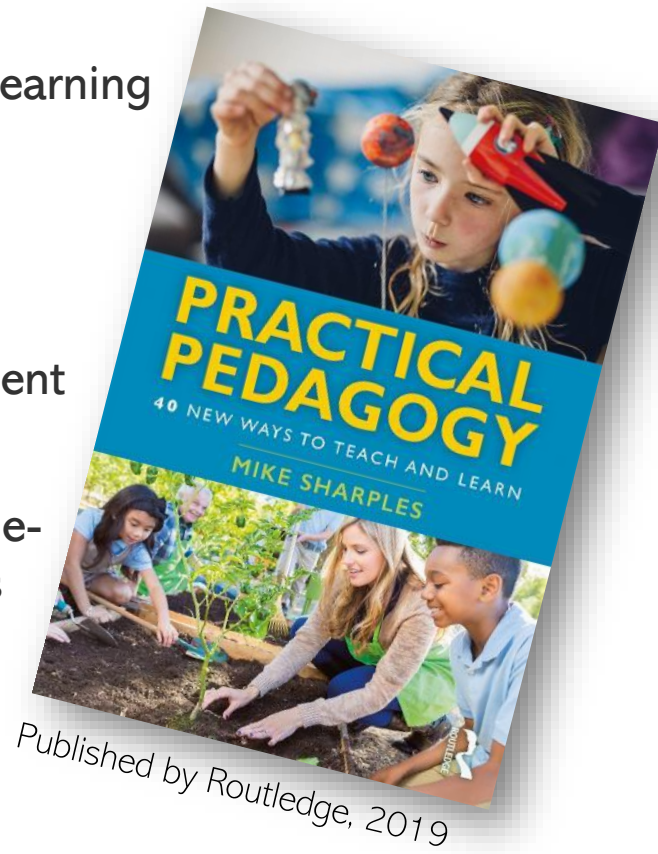
Message Academic Writing Guide

Innovative pedagogies with AI

Adaptive teaching
Spaced learning
Personal inquiry
Dynamic assessment
Stealth assessment
Translanguaging
Crossover learning
Seamless learning
Incidental learning
Learning from gaming
Geo-learning
Learning through social media
Navigating post-truth societies

Explore first
Teachback
Learning through argumentation
Computational thinking
Learning from animations
Learning to learn
Assessment for learning
Formative analytics
Threshold concepts
Learning through storytelling
Learning in remote labs
Context-based learning
Event-based learning
Learning for the future

Embodied learning
Immersive learning
Maker culture
Bricolage
Massive open social learning
Crowd learning
Citizen inquiry
Rhizomatic learning
Reputation management
Open pedagogy
Humanistic knowledge-building communities



Example - Teachback

What do you understand by "teachback"?



"Teachback" is a pedagogical technique where students reinforce their learning by teaching the content or concept they have just learned to others. This method leverages the idea that by explaining or teaching material, learners consolidate their understanding and identify gaps in their knowledge. Teachback involves active recall and the organization of knowledge, helping students to engage deeply with the material and demonstrate mastery. This approach is often used to encourage reflective learning and improve comprehension.

In practice, teachers may ask students to explain newly acquired concepts to peers or even back to the teacher, fostering both confidence and communication skills in addition to reinforcing content learning.

I would like you to use a teachback method to teach me a basic understanding of the history of Malta.



Sure! Let's dive into a brief history of Malta, and then I'll invite you to "teach it back" to me afterward.

A Brief History of Malta

Malta, a small island nation in the Mediterranean, has a history that stretches back thousands of years. Here's a quick overview of its key periods:

1. **Prehistoric Malta:** Around 5900 BCE, Malta was first inhabited by settlers, likely from nearby Sicily. These early inhabitants left behind impressive stone structures, such as the **Megalithic Temples**, some of the oldest free-standing buildings in the world. The temples at Ġgantija are

Now it's your turn to teach back! Can you explain a few key events in Malta's history, like who first settled Malta, what the Knights of St. John did, and how Malta became part of the British Empire? I'll help clarify any parts as needed.

Malta was first settled by inhabitants from Sicily. The knights of St John controlled Malta and built it as a fortress. After occupation by Napoleon, the Maltese revolted and asked for protection from Britain.



Great job! You've got the key points down.

- **First settlers:** Yes, they came from Sicily around 5900 BCE, and these early settlers left behind the famous **Megalithic Temples**.
- **Knights of St. John:** Spot on! They transformed Malta into a strategic **fortress** and successfully defended it during the **Great Siege of 1565** against the Ottomans.
- **Napoleon and British Rule:** Exactly! Napoleon's brief occupation led to the **Maltese revolt**, and they sought British protection, becoming a **British colony** by 1800.

Just to round it out: Malta gained **independence** in 1964 and joined the **European Union** in 2004.

Feel free to ask if you'd like to dive deeper into any part!



Example – Threshold concepts

I want you to teach me a threshold concept in "resilience in educational contexts". Assume I am a masters student studying this topic.



Great! Let's dive into a threshold concept related to *resilience in educational contexts*. One key threshold concept here is:

"Resilience is not an inherent trait but a dynamic process of interaction between individuals and their environment."

This concept can transform your understanding of how resilience functions, especially in educational settings. It shifts the view from seeing resilience as something students either "have" or "don't have" (a fixed trait) to understanding it as a process that develops through ongoing interactions with their environment (a dynamic process). Let's break it down:

1. Resilience as a Dynamic Process

- **Common Misunderstanding:** People often think of resilience as a fixed trait or personal quality—either you're a resilient person, or you're not.
- **Threshold Concept:** Resilience is *not* something you're born with. Instead, it's a *process* shaped by interactions between individuals and the social, cultural, and institutional environments they are in. For example, a student might become more resilient through supportive relationships with teachers, access to resources, or the opportunity to learn from failure.

In educational contexts, this means resilience can be *developed* and *strengthened* over time through the right interventions and support systems, rather than just expecting some students to "bounce back" on their own.

2. Environmental and Social Factors

- **Misunderstanding:** Resilience is solely about internal strength or determination.
- **Threshold Concept:** The environment plays a crucial role in resilience. For students, this includes

Implications for Educational Practice:

- **Recognizing the Role of the Environment:** Teachers and schools need to create supportive, adaptive environments that help students build resilience, especially those facing adversity.
- **Designing Resilience-Building Curricula:** Courses that incorporate problem-solving, self-reflection, and emotional regulation can help students learn resilience.
- **Personalized Support:** Schools should offer targeted interventions based on students' specific contexts and challenges, understanding that resilience is not universally the same.

Practical Example:

Imagine two students who fail an important test. Without understanding this threshold concept, you might think one student is simply more "resilient" than the other because they cope better. However, applying the threshold concept, you realize that the first student has a supportive teacher, strong peer relationships, and access to tutoring services, while the second student is dealing with stress at home, lacks academic support, and doesn't feel connected to school. Resilience, then, is not about inherent toughness—it's shaped by the social and educational environment.

By understanding this concept, you can move beyond seeing resilience as a static trait and instead focus on designing educational practices that actively cultivate resilience in all students, especially those facing adversity.

Would you like to explore any specific aspects of this further or dive into practical ways to foster resilience in educational settings?



More examples of innovative pedagogy with AI?

Adaptive teaching

Spaced learning

Personal inquiry

Dynamic assessment

Stealth assessment

Translanguaging

Crossover learning

Seamless learning

Incidental learning

Learning from gaming

Geo-learning

Learning through social media

Navigating post-truth societies

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Massive open social learning

Crowd learning

Citizen inquiry

Rhizomatic learning

Reputation management

Open pedagogy

Humanistic knowledge-building communities

