

AI Beyond the Hype: Transforming Data Overload into Actionable Insights.

**Prompt Writing** 

by Bob Hutchins



### What is Prompt Writing?

1 Definition

The art of crafting clear, specific instructions for AI to generate desired outputs.

2 Importance

Well-written prompts lead to more accurate and useful Algenerated content.

3 Applications

Text generation (lesson plans, reports, assessments). Image creation (visual aids, infographics). Video production (educational animations, tutorials).



### Four Core Approaches to Educational Prompting

- Zero-Shot PromptingOne direct instruction for straightforward tasks.
- 3 Prompt ChainingBuild responses in sequential steps for complex projects.
- Few-Shot Prompting
  Provide examples or samples to guide Al output.
- Direct Stimulus Prompting

  Offer detailed parameters tailored for educational content.

### The One-Prompt Method for Quick Tasks

#### **Single Instruction**

Provide a single, straightforward instruction.

#### Best Use

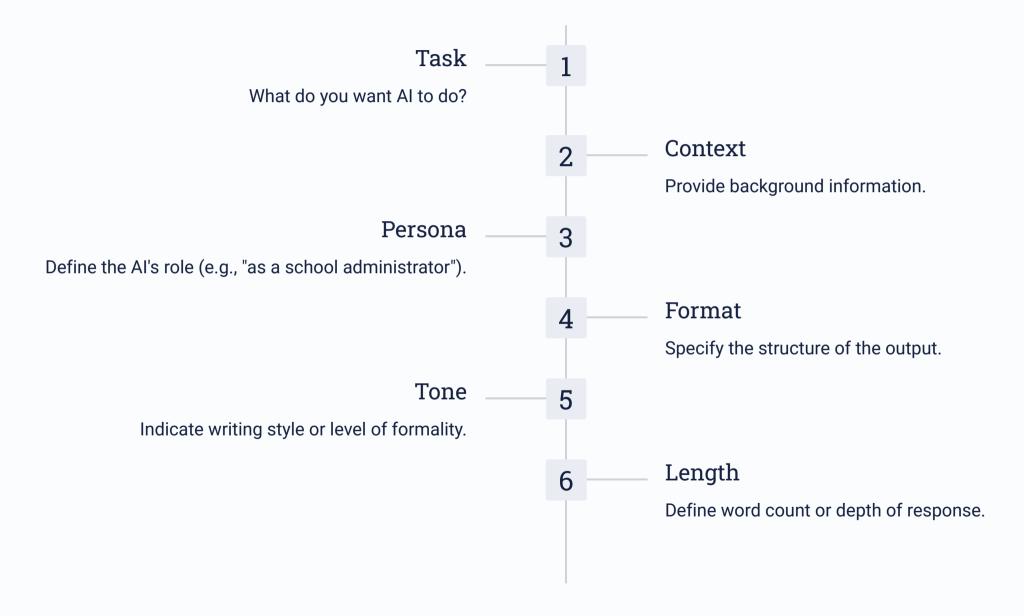
Best for simple, immediate tasks such as quick translations or definitions.

**Example Prompt:** "Translate the following educational policy statement into Spanish: 'All students have the right to access quality education."

### **Basics of Effective Prompt Writing**

1	Be specific and clear  Avoid vagueness
2	Provide context Subject, grade level, learning objectives
3	Use descriptive language  Precise wording improves accuracy
4	Define persona  Role-based prompts, e.g., "Imagine you are a veteran teacher"
5	Include format or style  Bullet points, narrative, formal/informal
6	Specify the target audience Students, parents, administrators

### **Prompt Writing Structure**



### Example Text Prompt – Lesson Plan

#### **Good Prompt**

"As a middle school science teacher, create a detailed lesson plan for a 7th-grade class on photosynthesis. Include: objectives, materials, step-by-step activities, key discussion questions, and an assessment. The tone should be engaging and interactive. Limit the length to 500 words."

#### **Bad Prompt**

"Write a lesson plan about photosynthesis."

#### Why?

- The good prompt defines a persona ("middle school science teacher"), grade level, specific lesson components, tone, and word count.
- The bad prompt is too vague and lacks context.

### **Tips for Crafting Effective Prompts**



Use clear, concise language

To avoid ambiguity.



Break complex tasks into steps

Lesson plan > objectives > activities > assessment.



Experiment with phrasing

To see how Al interprets different word choices.



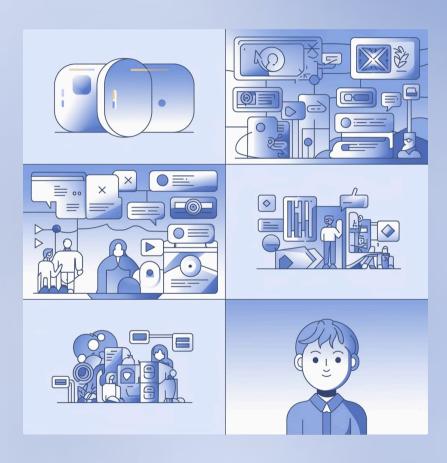
Iterate and refine

Based on Al output.



Consider AI's limitations

It may lack deep subject expertise.



# Common Pitfalls in Prompt Writing

### Being too vague or general

Results in low-quality responses.

## Assuming AI understands missing context

State objectives clearly.

### Overloading AI with too much information

Confuses AI and dilutes output.

### Neglecting to specify output format

List, paragraph, report.

#### Forgetting persona

E.g., "You are an instructional coach" helps AI shape tone and perspective.

### **Creating Engaging Image Prompts**

#### AI Tools

- DALL·E
- Midjourney
- Stable Diffusion for image generation

#### **Best Practices**

- Define the subject (What should be in the image?)
- Specify the style (Realistic, cartoon, 3D-rendered, sketch)
- Describe composition (Centered, panoramic, action scene)
- Include color themes (Bright primary colors for young learners, pastel for soft tones)
- Define persona ("As a graphic designer creating classroom posters...")

### **Image Prompt Structure**

Subject

Main focus of the image

2 Style
Artistic or visual approach

Composition

Layout and arrangement

3

4

5

Colors
Specific color schemes

Persona

Define a role ("Imagine you are an educational illustrator")

Additional details: Textures, lighting, background.

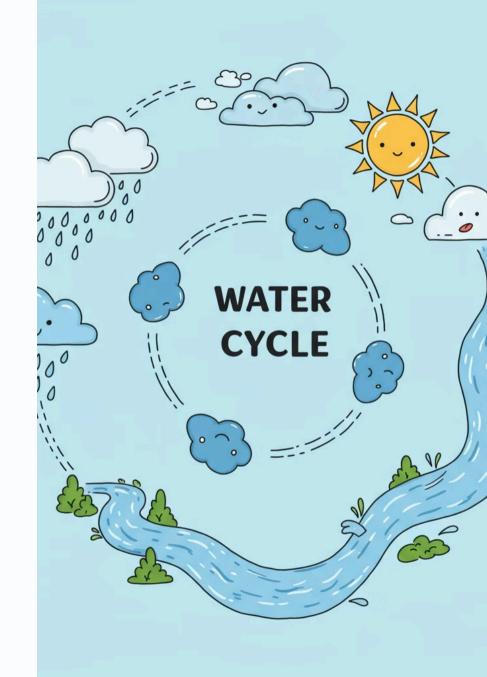
### Example Image Prompt

#### **Good Prompt**

"As an educational illustrator, create a graphic about the water cycle. Use a blue and green color scheme. Include cartoon-style illustrations of clouds, rain, rivers, and the sun. Arrange elements in a circular layout with simple labels for each stage."

#### **Bad Prompt**

"Make a water cycle picture."



### Tips for Image Prompting

### Use precise adjectives and nouns

"Vivid sunset over a rainforest" vs.

"sunset"

### Reference art styles or famous artists

"In the style of Van Gogh" or "like a NASA illustration"

### Specify composition and perspective

"A bird's-eye view of a solar system"

#### Include details on lighting and mood

"Soft morning light with a warm glow"

#### Define persona

"As a textbook designer, create a labeled diagram..."

### Generative Video AI for Education

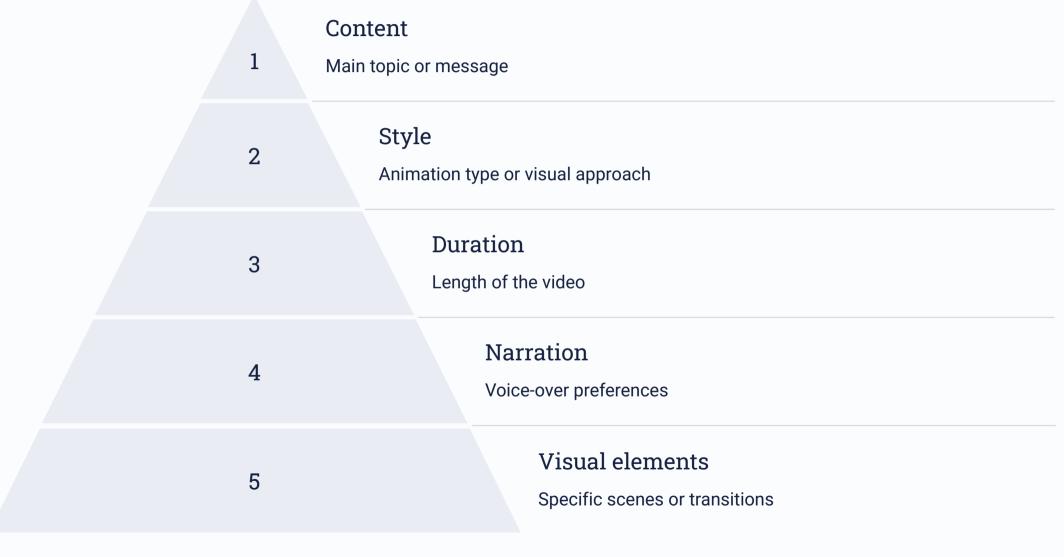
#### AI Tools

- Runway ML
- Synthesia
- Sora
- D-ID for Al video generation

#### Common Uses

- Animated educational explanations
- Virtual presenters narrating lesson topics
- Historical recreations and concept simulations

### Video Prompt Structure



Persona: Role-based instruction ("As an educational filmmaker...")

### Example Video Prompt

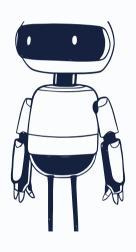
#### **Good Prompt**

"As an educational filmmaker, create a 15 second animated video explaining gravity for elementary students. Use colorful 2D animations with simple characters. Include scenes of falling objects, planets orbiting the sun, and astronauts in space. Add a friendly voice-over with clear explanations."

#### Bad Prompt

"Make a video about gravity."

## Practical Applications of Generative AI in the Classroom



#### **Automated Grading**

Al can help grade multiple-choice tests and provide initial feedback on essays, freeing up teacher time for more personalized instruction.



#### Personalized Learning Paths

Al algorithms can analyze student performance and create customized learning plans, adapting to each student's pace and learning style.



#### Virtual Tutoring

Al-powered chatbots can provide 24/7 support to students, answering questions and offering explanations on various subjects.