

# Write ChatGPT Prompts to Improve Learning

Prompts, tips & templates to improve learning outcomes and protect academic integrity.

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As the online educational landscape continues to change, one thing is certain:

#### Al is here to stay.

Al helps to create highly personalized learning paths and can help you better understand learner performance.

While there is concern surrounding the adoption of AI tools, understanding how to leverage AI when creating your test questions and assignments is key to achieving better learning outcomes. But where do you begin? We'll show you tips and strategies from Paul Morales, Senior Vice President of Information Security & Technology at Honorlock, that can improve learning outcomes by better assessing knowledge and protecting academic integrity.

### Use prompts to better understand your learners

ChatGPT can be utilized to analyze learners' written responses. At can quickly identify trends in the topics learners write about, writing abilities, etc. We are going to look into five basic prompt examples and dive into examples with templates.

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#### Get started with five basic prompts

#### 1. Grammar & syntax check

Evaluate the following written response for grammatical errors and provide corrections. Pay particular attention to verb tense, subject-verb agreement, punctuation, and sentence structure: [Insert written response here]

#### 2. Content understanding analysis

Analyze the following essay and summarize the main points and arguments. Identify a thesis statement, supporting evidence, and the conclusion. Provide an assessment of how well the arguments are developed and connected: [Insert essay here]

#### 3. Originality & plagiarism assessment

Compare the following written submission with known sources to assess originality. Check for direct quotations, paraphrasing, and citation errors. Provide a detailed report on any similarities and differences found, and assess the likelihood of plagiarism: [Include written response here]punctuation, and sentence structure: [Insert written response here]

#### 4. Structure & coherence feedback

Review the following response and provide feedback on its structure, coherence, and flow. Analyze the topic sentence, supporting details, transitions, and conclusion. Offer specific suggestions for improvement and highlight areas that are well-executed: [Insert written response here]

#### 5. Argument strength & evidence evaluation

Evaluate the following written response for the strength of its argument and the evidence provided. Assess the logical consistency, relevance of the evidence, and persuasiveness of the argument. Identify any logical fallacies or unsupported claims, and provide recommendations for strengthening the argument: [Insert written response here]

#### Dive deeper with templates

While basic prompts can provide general information, detailed prompts dig deeper into learner performance, offering greater insight into their strengths and areas for improvement.

#### Steps to use the templated prompts:

- 1. Fill in the essay title and the essay text.
- 2. Detail expectations in the "Desired Traits/Elements for Correct Answer" section.
- 3. Instruct the ChatGPT to evaluate the essay based on your criteria and provide an analysis as detailed in the "Analysis Goals" section.

\*Remember, while this template is detailed, always ensure that ChatGPT (or other AI) has adequate context to deliver an analysis that meets your needs. The more information you can provide the better the analysis will be.

#### Scenario 1: Analyzing short essay responses

**Essay Text:** [Insert essay here]

#### Desired traits/elements for correct answer:

**Thesis statement:** Describe what makes a good thesis statement

Example: The thesis statement should state the pros & cons of renewable energy.

**Supporting arguments:** Describe the supporting points and evidence you expect *Example: The essay uses at least three examples of renewable energy sources and their benefits.* 

Organization: Highlight the specific structure you're looking for

Example: The essay should include a 1-3 sentence Introduction then section titles with paragraphs addressing each point, and a conclusion that summarizes the essay.

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**Relevance:** Describe any specific points or themes that must be present Example: Discussion on the impact of renewable energy on the environment.

**Counter arguments:** Detail any counter arguments you want addressed Example: At least one counter argument about the limitations of renewable energy.

**Language & style requirements:** Highlight language/stylistic requirements Example: The essay is written in a formal tone and consistently uses the present tense.

**Citations:** Describe your expectations regarding source usage and citation style Example: At least two peer-reviewed sources are cited in APA format.

Other: Add additional criteria or specifications as needed.

#### **Analysis goals**

**Trait evaluation:** For each of the desired traits/elements listed above, evaluate the essay on a scale of 1-10, with 10 being perfect alignment with the desired trait and 1 being no alignment.

**Feedback & suggestions:** Provide specific feedback on areas of improvement for the essay, referencing the desired traits/elements as necessary.

**Overall Assessment:** Give a brief summary of the essay's strengths and weaknesses based on the desired traits/elements.

#### Scenario 2: Aggregate analysis to address gaps in instruction

**Description:** Provide responses from multiple test takers for each assessment item.

#### Data format:

#### Question 1:

• Response A: [Answer]

• Response B: [Answer]

#### Question 2:

• Response A: [Answer]

• Response B: [Answer]

**Assessment type (Optional):** [Multiple choice/True or False/Short Answer/Essay]

#### **Request for analysis**

- Patterns & commonalities: Identify recurring trends in incorrect answers.
- Misconceptions: Highlight evident misconceptions based on answer patterns.
- **Instructional gaps:** Identify potential areas where instruction may have been unclear or lacking.
- **Feedback & suggestions:** Provide recommendations for instructional improvements based on the analysis.

#### **Additional context (Optional):**

- Topic of assessment: [Provide topic or subject of the assessment]
- Instructional methods used: [Brief description of teaching methods/materials]
- Any other relevant information: [Any other context that could aid in the analysis]

#### Usage tips

- Provide as much context as possible.
- Ensure a diverse sample size for better insights
- Use the analysis to refine teaching methods and address identified gaps.

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#### **Example prompt for ChatGPT:**

Given the provided responses, assessment types, and additional context, please perform the checked analyses to identify patterns, misconceptions, and potential instructional gaps.



#### 1. Input data

- Description: Learner responses for a specific math assessment item.
- Data format:
  - Question 1 (What is 5 x 4?):
    - Response A: 20
    - Response B: 54
    - Response C: 54
  - Question 2 (Solve for x: 2x = 10):
    - Response A: x = 5
    - Response B: x = 12
    - Response C: x = 5
- · Assessment type: Multiple choice

#### 2. Request for analysis

- Patterns & commonalities: Identify recurring trends in incorrect answers.
- Misconceptions: Highlight evident misconceptions based on answer patterns.
- Instructional gaps: Identify potential areas where instruction may have been unclear or lacking.

#### **ChatGPT response:**



**Patterns & commonalities:** For Question 1, a recurring incorrect answer is '54', suggesting that some learners might be confusing multiplication with concatenation.

**Misconceptions:** For Question 1, the misconception seems to be a fundamental misunderstanding of multiplication. Instead of multiplying 5 and 4 to get 20, some learners seem to be joining the numbers to get '54'. For Question 2, an incorrect answer of 'x=12' suggests confusion in the division process.

Instructional gaps: There might be a need to revisit basic multiplication concepts and emphasize the difference between mathematical operations and numerical arrangements.

Additionally, reinforcing basic algebraic operations and ensuring learners understand the logic behind them can be beneficial.

#### **Scenario 3: Assessment comparison**

**Description:** Provide a question and response from a test taker in the template below to compare to your model answer.

**Question:** [Insert the assessment question here]

**Learner 1's response:** [Insert answer/response here]

**Model answer:** [Insert the ideal or model answer here]

**Analysis:** Please compare the Learner's response with the model answer. Identify areas of alignment, and gaps in understanding, and provide feedback for improvement.

When you input the response number, question, response, and the model answer into the template, you can then ask ChatGPT to analyze the comparison and provide feedback. This structured format will help the model understand the context and provide a more accurate analysis.

#### **ChatGPT prompt:**



Question: Explain the process of photosynthesis.

**Learner's response:** Photosynthesis is when plants take in sunlight and convert it into energy. They use this energy to grow and produce oxygen.

Model answer: Photosynthesis is a process used by plants, algae, and some bacteria to convert light energy, usually from the sun, into chemical energy in the form of glucose or other sugars. During this process, carbon dioxide and water are converted into glucose and oxygen using the energy from sunlight. The glucose provides energy and building materials for growth, while the oxygen is released into the atmosphere.

**Analysis:** Please compare the Learner's response with the model answer. Identify areas of alignment, gaps in understanding, and provide feedback for improvement.

#### **ChatGPT response**:



Learner captures the basic idea that plants use sunlight for energy and produce oxygen through photosynthesis. However, there are some gaps in their understanding:

- Depth of understanding: Learner's response answer lacks the depth and detail present in the model answer. They did not mention the conversion of carbon dioxide and water into glucose.
- Specificity: Learner's response does not specify that the energy from sunlight is converted into chemical energy in the form of glucose or other sugars.

Feedback for improvement: Learner has a foundational understanding of photosynthesis. To deepen knowledge, remember that plants not only produce oxygen but also convert carbon dioxide and water into glucose using sunlight. This glucose serves as an energy source and building material for the plant. Keep up the good work and aim to include more details in your answers!

#### **Scenario 4: Keyword Extraction**

**Description:** Insert an assessment question and response in the template, along with analysis goals for your prompt.

**Question:** [Insert the assessment question here]

**Learner response:** [Insert answer/response here]

**Analysis:** Please extract key terms or phrases from the Learner's response to identify main themes or topics they've addressed.

When you input the question and their Learner's response into the template, you can then ask the ChatGPT to analyze the response and provide a list of key terms or phrases. This structured format will help the model understand the context and provide a more accurate analysis.

#### **ChatGPT Prompt:**



#### Learner response

**Question:** Describe the main factors that contributed to the Renaissance period.

Learner's response: The Renaissance was a cultural movement that spanned the 14th to the 17th century, originating in Italy in the Late Middle Ages and later spreading to the rest of Europe. It was marked by a renewed interest in the art, science, and literature of Ancient Greece and Rome. Key factors that contributed to the Renaissance include the fall of the Byzantine Empire, the invention of the printing press, and the patronage of arts by wealthy merchants and rulers.

**Analysis:** Please extract key terms or phrases from the Learner's response to identify the main themes or topics addressed.

#### **ChatGPT Response:**



From the Learner's response, the key terms or phrases that stand out are:

- Cultural movement
- 14th to the 17th century
- Italy
- · Late Middle Ages
- · Art, science, and literature
- · Ancient Greece and Rome
- Fall of the Byzantine Empire
- · Invention of the printing press
- · Patronage of arts
- Wealthy merchants and rulers

These terms provide a clear overview of the main themes Learner addressed in the response about the Renaissance period.

#### **Scenario 5: Temporal Analysis**

**Description:** Insert a learner's initial response and their later response below to identify changes in understanding, as well as progress.

**Assessment topic:** [Topic of Study]

**Response in [Month/Year]:** [Insert learner's initial response here]

**Response in [Later Month/Year]:** [Insert learner's later response here]

**Analysis:** Please compare the Learner's responses from [Month/Year] and [Later Month/Year] to identify changes in understanding and provide feedback on their progress.

You can fill in the placeholders with the relevant information for each learner and topic, and then use the prompt to get an analysis of the learner's progression over time.

#### **ChatGPT Prompt:**



#### Learner response

Assessment topic: Understanding of Quantum Mechanics

Response in September: Quantum mechanics is about really small things like atoms and particles. It's different from regular physics because things can be in two places at once, and there's a cat that's both alive and dead.

Response in December: Quantum mechanics is a fundamental theory in physics that describes the behavior of matter and energy on the scale of atoms and subatomic particles. It introduces the concept of wave-particle duality, where particles like electrons exhibit both wave-like and particle-like properties. The uncertainty principle, formulated by Heisenberg, states that certain pairs of physical properties cannot be simultaneously measured with precision. The mention of the cat refers to Schrödinger's cat thought experiment, which illustrates the concept of superposition in quantum theory.

**Analysis:** Please compare the Learner's responses from September and December to identify changes in understanding and provide feedback on progress.

#### **ChatGPT Response:**



#### From the comparison of Learner's responses:

**September:** In September, the Learner's grasp of quantum mechanics was basic. They recognized it as a study of small particles and had a rudimentary understanding of its counterintuitive nature, referencing the popular Schrödinger's cat analogy without much depth.

**December**: By December, the Learner's comprehension has evolved considerably. They now identify quantum mechanics as a fundamental theory, understand the significance of wave-particle duality, and mention the uncertainty principle. Their reference to Schrödinger's cat is more informed, indicating a deeper understanding of superposition in quantum theory.

Feedback for improvement: Learner, your progression in understanding quantum mechanics from September to December is commendable. You've transitioned from a basic awareness to a more nuanced grasp of key principles. To further enhance your knowledge, consider exploring topics like quantum entanglement and quantum field theory. Keep up the excellent work!

#### **Disclaimer**

If you're using any Large Language Model (LLM), such as ChatGPT, and are concerned about adhering to data privacy regulations such as FERPA (Family Educational Rights and Privacy Act), it's essential to ensure the safety and security of learner data.

Large Language Models (LLM): This eBook features examples using ChatGPT by OpenAI, but these prompts are generally applicable for all large language models. A large language model is a group of language models that are able to generate and understand language. These are commonly used to predict language based on prompts, which can be used for a variety of tasks. Some other examples of this are BLOOM, LLAMA by META, Claude VI, Bard, and Cohere. These can be used for chatbots, marketing prompts, creative inspiration, editing, and more.

**Review the LLM's data usage policy:** Always check and keep updated with the data usage policy of the platform you're using. This will give you a clear understanding of how your data is managed and protected.

**Use on-premise or private deployment:** If data privacy is a top concern, consider using a version of the model that can be deployed on your servers or infrastructure. This will ensure that all data processed by the model remains within your control.

**Anonymize learner data:** Before processing any learner response with the model, remove or mask any personally identifiable information (PII). This includes names, learner IDs, or any other specific details.

**Use local processing:** Process data locally whenever possible. This might not provide real-time feedback, but it's a more secure way to analyze data without potential external exposures.

#### Write ChatGPT Prompts to Improve Learning

**Prompt disclaimer:** While adding disclaimers such as "Do not store this data" might not technically prevent logging, it sets a tone emphasizing data privacy.

**Educate stakeholders:** Make sure all stakeholders, including educators and learners, understand how the technology operates and the best practices for its secure use. Regularly review practices: Periodically audit and review your technological practices to ensure they remain compliant with relevant data privacy laws.

**Encryption:** Ensure data encryption, both during transmission and when stored, to provide an additional layer of security.

Consult your institutional/organizational policies: It's crucial to align with your institutional/organizational policies on the use of AI and handling of learner data. Seek guidance from internal stakeholders or relevant committees to ensure you're in compliance.

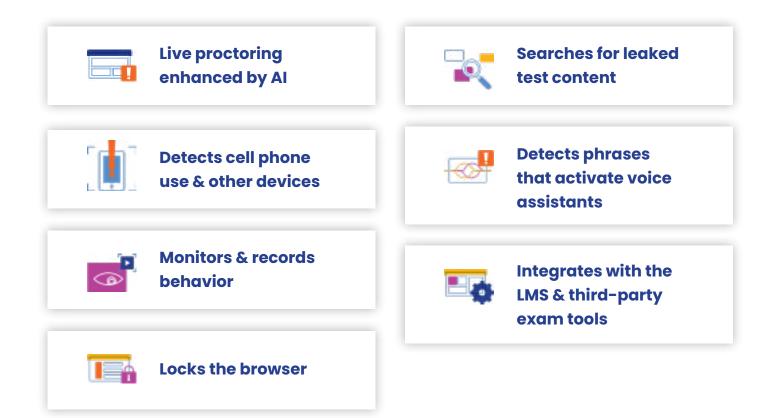
\*\*\*Incorporating LLMs in the educational process can offer significant advantages, but it's paramount to prioritize data privacy and safety. Always proceed with caution and seek guidance when needed.

#### Control the use of AI tools using prompts

Honorlock's blended proctoring solution has powerful features that can control and prevent the use of AI tools as well as other forms of cheating during online exams and assignments.

#### **Honorlock Features**

From detecting cell phones and voices during exams to preventing the use of ChatGPT, Honorlock protects academic integrity from all angles.



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#### **About the Author**



Paul Morales
SVP Information Security and Technology at Honorlock

Paul Morales, with over 15 years of experience, currently serves as the Senior Vice President of Information Security and Technology at the leading EdTech firm, Honorlock. His career began in Higher Ed Consulting, transitioning into EdTech in 2014. He later diversified into the aviation and defense, and healthcare sectors, playing pivotal roles in steering technology strategies. Known for his expertise in Information Security, Automation, and Artificial Intelligence, Paul adeptly blends traditional systems analysis with modern approaches. His journey reflects a deep commitment to leveraging technology for operational excellence across various industry domains.

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