

Prompt Engineering for Education

Category: Artificial Intelligence in Education

Prompt engineering for education is the systematic design, testing and refinement of instructions used with generative AI to support a specified educational purpose. It translates learning aims, disciplinary context and quality criteria into an interaction that can be evaluated and improved.

Unlike prompt literacy, which is a broad capability for critical use, prompt engineering emphasises a repeatable design process. Even a carefully engineered prompt does not control the model completely; outputs require review and the process must remain aligned with pedagogy ([White et al., 2023](#)).

Prompt Design Process

1. **Specify:** Define the learning outcome, users, context and acceptable form of AI assistance.
2. **Structure:** Provide instructions, relevant inputs, constraints, examples and an output format.
3. **Test:** Run representative cases, including ambiguous, multilingual and boundary cases.
4. **Evaluate:** Judge accuracy, educational usefulness, inclusivity and consistency against explicit criteria.
5. **Document:** Record versions, known limitations, permitted data and the human review required.

Examples in Practice

A lecturer designing a Socratic tutor may instruct the system to ask one probing question at a time, avoid supplying the answer and refer to stated assessment criteria. Trial conversations reveal where it gives away solutions, allowing the prompt and the teacher's monitoring procedure to be revised.

Why It Matters

A structured method can make AI-supported activities more purposeful, testable and shareable across a teaching team. However, prompt improvement cannot repair unsuitable source data or eliminate variable responses, so technical design must be combined with educational judgement, learner evidence and continuing oversight, including retesting after system updates in authentic learner interactions ([Mishra et al., 2023](#)).

Further Reading

6. White, J., et al. (2023). [A prompt pattern catalog to enhance prompt engineering with ChatGPT](#). arXiv.
7. Mishra, P., Warr, M., & Islam, R. (2023). [TPACK in the age of ChatGPT and generative AI](#). Journal of Digital Learning in Teacher Education, 39, 235–251.
8. Miao, F., & Cukurova, M. (2024). [AI competency framework for teachers](#). UNESCO.

Related Terms: Prompt Literacy | Instructional Design | AI Pedagogy | Generative AI Literacy