



Designing Homework for the AI Era

Moving from answer production to reasoning, reflection, and AI literacy

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Research in Brief

This opinion article examines how generative AI tools such as ChatGPT and other automated systems change the meaning of homework. The authors argue that the key issue is not simply whether students use AI, but whether AI replaces the thinking that the homework was intended to develop.

The article distinguishes between using AI as a support and using it as a substitute. For example, a student may first attempt a mathematics problem and then use an AI tool to check or explain the result. In contrast, submitting an AI-generated essay without reading, evaluating, or revising it removes much of the intended learning process.

The authors propose redesigning homework around reasoning, metacognition, creativity, personal interpretation, and reflection. Suggested approaches include comparing two solution methods, analysing errors in an AI-generated solution, designing and solving an original problem, explaining reasoning, and asking students to reflect on what they found difficult and how they would improve. The article also recommends making AI use explicit in some assignments so that students learn to question and evaluate AI output rather than treating it as a “magic box.”

Because this is an opinion article rather than an empirical intervention study, its classroom recommendations should be treated as proposals rather than experimentally established effects.

✓ Try Tomorrow

- Ask students to attempt the task before consulting AI, then compare their solution with the AI response.
- Give error-analysis tasks: students identify, explain, and correct mistakes in an AI-generated answer.
- Require a short reflection such as “What did you find difficult, and why?” or “How did you improve your solution?”

★ One Key Takeaway

Homework can remain a meaningful learning opportunity when it requires students to think, explain, evaluate, and reflect rather than simply produce an answer.

Keywords

generative AI, ChatGPT, homework design, metacognition, AI literacy, academic integrity, reflection

Source Article

Gogh, E., & Kovari, A. (2025). “Homework in the AI era: cheating, challenge, or change?” *Frontiers in Education*, 10, 1609518. DOI: 10.3389/feduc.2025.1609518. Opinion article.