

## Rethinking WebQuests in the AI Era

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In a physics classroom, students were given a classic WebQuest task designed to guide them through online research and reflection, using physics questions directly related to sustainable development principles, specifically solar cooking. The task aimed to examine the impact of modern technologies on students' curiosity and ability to explore curated resources and answer open-ended questions such as "What is your opinion about solar cookers?". However, instead of engaging with the provided materials, many 14–15-year-old students turned to ChatGPT for quick answers—effectively skipping over the thinking and research process entirely. This experience highlighted a growing disconnect between traditional digital learning tools and the realities of today's classroom. WebQuests, once innovative tools for structured online inquiry, were created for a very different internet—one based on fixed websites and static content. Now, with generative AI tools offering instant explanations and summaries, students can easily bypass the core of the WebQuest: the process of searching, evaluating, and synthesising information.

This poster explores the implications of this shift and suggests how WebQuests might be adapted for a world where AI is part of every student's digital toolkit. It doesn't argue that AI should be avoided—in fact, quite the opposite. If used thoughtfully, AI tools can support learning by offering feedback, sparking discussion, and expanding access to information. But to be effective, these tools need to be integrated into the learning design, not treated as threats or shortcuts.

We propose several adaptations to help bring WebQuests into the AI age:

- AI as a research partner: Students use AI to explain a concept (e.g. how a solar cooker works), then verify and critique the response using other sources.
- Prompt design challenges: Students compete to create prompts that get the most accurate or useful explanations from ChatGPT, and discuss what makes a good question.
- Peer teaching with AI: Students evaluate and improve an AI-generated explanation of solar energy for a younger audience, then present their version to classmates.
- Devil's advocate arguments: Students ask ChatGPT to argue against using solar cookers, then write scientific rebuttals using both physical principles and societal arguments.
- Fact-checking AI: Students analyse an AI-generated text full of false or misleading claims, and work to correct the errors.

These activities emphasize process, not just product. Students are asked to reflect on their interaction with AI, explain how they arrived at their conclusions, and demonstrate that they understand the content—not just that they can reproduce it.

Alongside the opportunities, the poster also points out key challenges: students may overly rely on AI, lose opportunities for peer collaboration, or fail to develop critical thinking skills if the AI's answers go unquestioned. There are concerns around academic integrity, misconceptions from AI errors, and reduced engagement if students feel AI can "do it better."

Ultimately, this case study suggests that integrating AI into tools like WebQuests is not just a technical update—it's a shift in how we think about learning. Teachers remain essential as guides, helping students use these new tools critically and creatively. If we can adapt our teaching to embrace AI without losing sight of the learning journey, we open the door to deeper engagement and more meaningful inquiry.

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