

Designing for Depth: Assignment Strategies that Prevent Cognitive Offloading



Housekeeping



- **Webinar Recording will be shared with all attendees within 2 days.**
 - [Access previous recordings here](#)
- **Ask all questions with the Q&A feature.**
 - The Q&A feature will allow for questions to be answered by all panelists.
- **Use the chat for discussion and sharing.**
- **Panelists & Packback team members will be monitoring the Q&A and using the chat to share resources.**

Today's Panelists



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Dr. Stephen LeMay

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Agenda

- *Framing the Conversation: Plagiarism vs. Cognitive Offloading*
- *Assignment Design in the Age of Generative AI*
- *Dead Education Theory and the Risk of Full Automation*
- *Final Notes & Considerations*



Plagiarism vs. Cognitive Offloading

- When students delegate *everything* over to AI, they miss out on the parts of learning that matter most.
- If students don't think, reflect, or wrestle with ideas during the completion of assignments, they won't grow.
- How can we *prevent cognitive offloading* during assessment design, in order to avoid relying too heavily on AI detection?

ChatGPT May Be Eroding Critical Thinking Skills, According to a New MIT Study

TIME

TECH

ARTIFICIAL INTELLIGENCE



by Andrew R. Chow
CORRESPONDENT

"Our research demonstrates a significant negative correlation between the frequent use of AI tools and critical thinking abilities, mediated by the phenomenon of cognitive offloading."

Open Access

Article

AI Tools in Society: Impacts on Cognitive Offloading and the Future of Critical Thinking

by Michael Gerlich

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Societies 2025, 15(1), 6; <https://doi.org/10.3390/soc15010006>

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Quick Poll

**Have you updated your
assignments in the last two years
to account for AI?**

*Please answer with the polling
function!*

Case Study: Stephen Lemay

How This Project Structure Keeps Students in the Driver's Seat

- Every step is designed to require student thinking, decision-making, and reflection.
- AI is used, but not blindly followed. Students must compare outputs and justify choices.
- Reflection and rationale are just as important as the final product.
- This process creates *evidence* of learning, not just polished results.



Multi-AI Consultation

- Use 3 AI Tools
- Document All prompts and iterations
- Capture outputs with timestamps



Comparison Matrix

- Evaluate accuracy, usability, speed, and relevance
- Score each AI's suggestions
- Explain which output you chose and why



Final Analysis & Excel Workbook

- Apply AI-supported decisions in a model
- Document assumptions, logic, and errors
- Ensure reproducibility



Reflective Report

- Describe your experience using AI
- Note successes, conflicts, and what you learned
- Share recommended use for future

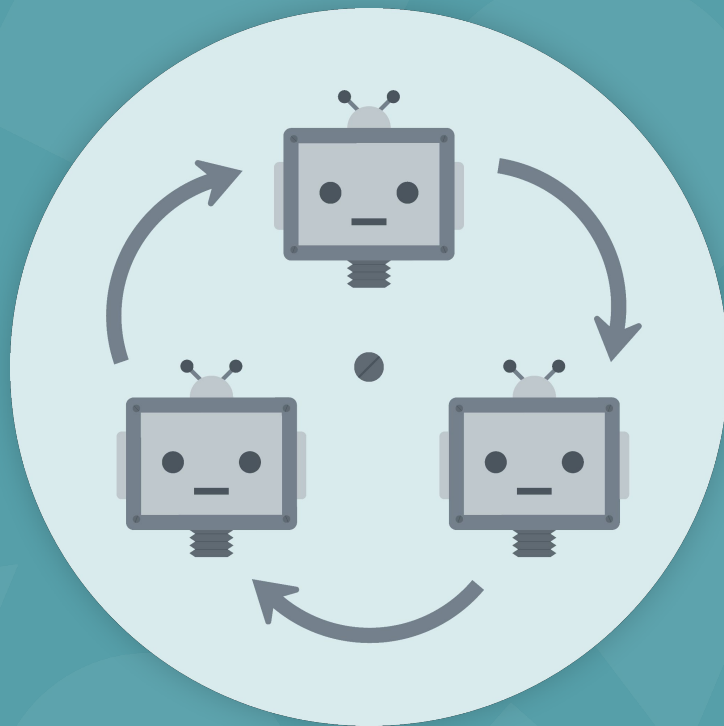
Chat Prompt

What resources have you used to redesign your assignments?

Please answer and share in the chat function!

Dead Education Theory and Keeping Humans in the Loop

- Occurs when AI writes assignments, AI completes them, and AI evaluates them—leaving human thought out entirely.
- Mirrors the “Dead Internet Theory”: systems perform for other systems, not for people (Schneier, 2023).



Quick Poll

Which part of the "Dead Education Loop" feels most urgent to address in your own teaching?

Please answer with the polling function!

Final Thoughts & Considerations



Curious to learn more about how you could benefit from Packback's platform? Email curious@packback.co and a member of our team will get in touch!

packback



Designing Assignments to Promote Critical Thinking

The Four Steps of Effective Prompting:

1. **Context:** Include background to provide setting and stakes
2. **Task:** Clearly articulate the assignment you are trying to create using actionable verbs
3. **Constraints:** Include boundaries like length, tone, and audience
4. **Ethics:** Signal the ethical or pedagogical intent of the assignment

You are supporting a middle school science teacher preparing materials for a 6th-grade unit on environmental science. Students have basic background in ecosystems but are new to climate science.

Design a homework assignment that introduces students to the role of greenhouse gases in climate change. Include a brief reading (~150 words) at a 6th-grade reading level, 3 multiple-choice questions that check basic understanding, and 2 short-answer questions that encourage explanation of causes or effects.

For example: "In your own words, describe one way human activity can affect the Earth's atmosphere." Avoid complex scientific jargon. Use scientifically accurate but neutral language, avoiding politically charged or emotionally loaded terms. Ensure the questions are inclusive of diverse learners and flag any statements that a teacher should review for accuracy or sensitivity before use.

Context

Task

Constraints

Ethics