

AI Cognitive Load Design Audit

A design checklist for learning experiences that integrate AI tools

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#	Audit question	Yes	No	Partial
Section 1 — Before you design				
1	<p>Have you defined what the learner needs to be able to do without AI present?</p> <p><i>If you can't answer this, it's hard to know what cognitive work to protect.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	<p>Do you know where this learner's cognitive struggles are likely to occur?</p> <p><i>Knowing the hard spots tells you where scaffolding helps vs. where it removes necessary friction.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	<p>Is the evidence of learning defined before any content or AI use is planned?</p> <p><i>Evidence-first design keeps the end goal from being shaped by the tool.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Section 2 — During design				
4	<p>Is there a pre-task activation moment before learners access AI support?</p> <p><i>Asking learners to retrieve or reflect before AI use significantly improves retention.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	<p>Does the practice task require the learner to exercise the target skill — not just review AI output?</p> <p><i>Design the practice task first. Then decide where AI can support the edges.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	<p>Is AI positioned as a scaffold (hints, feedback, idea generation) rather than a solution provider?</p> <p><i>The learner should be the decision-maker throughout.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	<p>Are there prompts requiring the learner to evaluate, push back on, or improve AI-generated content?</p> <p><i>Critical engagement prevents passive acceptance.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	<p>Is there at least one AI-free moment where the learner must produce something independently?</p> <p><i>Retrieval practice requires no shortcut available.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Section 3 — Feedback and reflection				
9	<p>Does AI-generated feedback loop back to a learner decision?</p> <p><i>e.g., 'Here's what the AI noticed — what do you think? What would you change?'</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10	<p>Are reflection prompts embedded that require learners to process or make sense of AI-generated content?</p> <p><i>Reflection bridges passive receipt and active learning.</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

AI Cognitive Load Design Audit (cont.)

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Section 4 — Assessment			
11	Could a learner pass your evidence task using AI alone, without demonstrating real understanding? <i>If yes, the task needs to be redesigned.</i>	<input type="checkbox"/>	<input type="checkbox"/>
12	Does the evidence task require genuine application and judgment specific to the learner's context? <i>Generic outputs signal generic thinking. Specificity forces real cognition.</i>	<input type="checkbox"/>	<input type="checkbox"/>
13	Is the learner positioned as decision-maker throughout — not as a passive recipient of AI outputs? <i>Learner agency is the throughline. If AI is driving, the learner is a passenger.</i>	<input type="checkbox"/>	<input type="checkbox"/>

Reading your results

Look at the overall pattern of your responses — not a numerical score. The three patterns below signal where your design stands and what to prioritize next.

Pattern	What it means	Priority
Mostly Yes	Strong AI design. Cognitive work is well-protected throughout.	Low
Mix of Yes/Partial	Good foundation — identify which Partial items to address first.	Medium
Several No	High dependency risk. Revisit practice, evidence, and reflection tasks.	High

When you find a No or Partial

Don't redesign everything. Focus on the highest-risk gaps first:

- **Practice task (Q5):** Highest priority. If AI is doing the core cognitive work here, the skill will not transfer.
- **Evidence task (Q11–12):** Second priority. An AI-passable assessment measures nothing.
- **Pre-task activation (Q4):** Easy win. Add one retrieval or reflection prompt before AI access.
- **Reflection prompts (Q10):** Also easy. Require learners to explain or evaluate AI output in their own words.

The design question to keep returning to:

Is the learner still doing the cognitive work the learning goal requires — or is AI doing it instead?