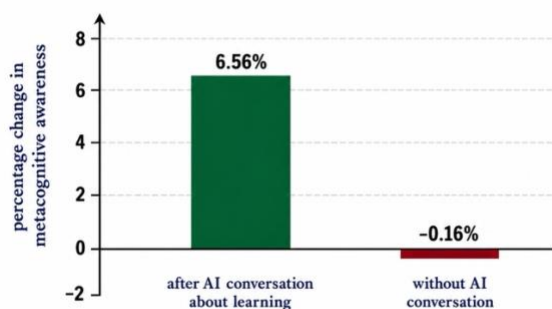


You might want to think about thinking.
(Sometimes the best strategy is taking time to figure out which strategy is best!)

THE SCIENCE OF LEARNING

Metacognition



AI chats about learning can improve metacognition ...
(Lowry, et al., 2025).

...and observed usage of higher numbers of metacognitive strategies is correlated with producing more successful solutions to organic chemistry problems (Blackford, et al., 2023).

AI PROMPTS YOU CAN USE TODAY

Use these as templates and modify them to fit your situation.

1

Diagnose the Problem.

I'm struggling with this material, but instead of teaching it to me, help me identify what study-strategy problem I might have. Ask questions to figure out what I could do better, then provide research-based feedback from learning science.

2

Seek Strategies.

Talk with me about how I study and learn across multiple courses and about my ability to retain, understand, and apply what I learn. When you have enough background, recommend three learning-science strategies I can use to learn more effectively. Explain each strategy and why you selected it.

3

Learn from Feedback.

Here's my assignment and the feedback I received. Analyze what the feedback suggests about my learning process and identify study strategies that could help me improve. Explain why each strategy fits the problems you see.

Different learning challenges require different study strategies

If you want to...	RETAIN facts	RECALL information	CONNECT ideas	UNDERSTAND ideas	USE knowledge
If the challenge is...	"I keep forgetting what I've studied."	"I can't bring it to mind when I need to know it."	"I don't see how things tie together."	"I can repeat it, but it doesn't make any sense."	"I get it, but I don't know what to do with it."
Then try...	SPACED PRACTICE	RETRIEVAL PRACTICE	DEEP PROCESSING	PRODUCTIVE STRUGGLE	INTERACTIVE LEARNING

