

MODULE 2 · THE LEARNING-SCIENCE

Lecture 2.3

Oracle, Tutor, Adversary: Choosing the AI Posture

Once you know the cognitive operation that must stay student-owned, choose the posture that fits it.

Three postures for learning



Oracle

fast answers

Useful for experts.
Risky for novices.



Tutor

questioning coach

Useful for novices.
Requires explicit boundaries.



Adversary

object of critique

Useful for evaluation.
Requires existing knowledge.

Once you know the cognitive operation, choose the posture.

Oracle: fast, fluent, default

HIGHEST-RISK POSTURE FOR NOVICES

Student: What is the main argument of [text]?

AI: *[Confident summary in two paragraphs.]*

It removes retrieval and elaboration before the student has tried.

Use Oracle only after students have enough prior knowledge to evaluate the answer.

Tutor: questions before answers

Student: What is the main argument of [text]?

Tutor: What did you notice in paragraph 1 that surprised you?

Student: The author seems to be defending [X].

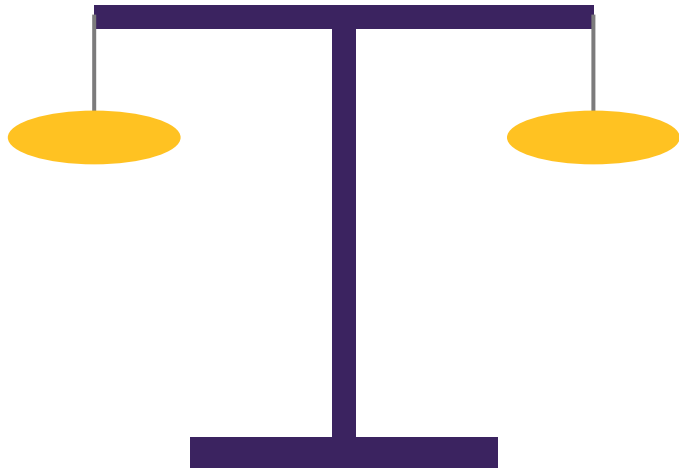
Tutor: Good. What evidence in paragraph 3 supports or complicates that reading?

Tutor is not a personality. It is a boundary structure.

Tutor mode should delay answers until the student has shown thinking.

Adversary: critique what it produces

Use this only when students have enough knowledge to judge the output.



Judge what you see.

EXERCISE

AI produces a literature review on [topic]. The student critiques it for factual errors, missing perspectives, confidence calibration, and source quality.

The student submits the critique — not the literature review.

Use when students have enough knowledge to judge what they are seeing.

The most common posture mismatch

Feeds your Friction Audit

Novice + Oracle

=



Illusion of Competence

The product looks good, but the internal model was skipped.

Novice + Adversary

=



Shallow Critique

The student cannot effectively evaluate the AI because their mental model is still emerging.

Design check: Match the AI posture to the learner stage and the cognitive operation.

Boundaries that keep the posture intact

Tutor

Do not give the answer until the student has shown work twice. Then give a hint — not the answer.

Adversary

Produce three plausible-but-flawed responses. Do not reveal which is strongest.

Oracle

Give a direct answer only after the student has completed an attempt and named what they need checked.

No tool demo required: draft the posture and boundary

ASSIGNMENT FOCUS: POSTURE DESIGN

Draft a Tutor or Adversary instruction for the friction you named in your audit. You may test it against a live tool. You do not need paid AI access.

No AI access? Write the instruction as you would write it for a graduate TA. Same structure.

Your deliverable: a draft instruction plus one boundary.



REFLECTION PROMPT

Draft a Tutor or Adversary instruction for the friction you named. You may test it with a live tool, but you do not need paid AI access. If you have no AI access, write the instruction as you would give it to a graduate TA.

Participant action: Write one AI posture instruction, one boundary rule, and one sentence explaining what student thinking remains protected.