

Vibe Rounds: AI-Augmented Clinical Education

Implementing 24/7 Socratic Cognitive Scaffolding in Medical Training

Concept coined by Dr. Avinash Kumar Gupta (June 2026) | DOI: [10.5281/zenodo.20622693](https://doi.org/10.5281/zenodo.20622693)



The Paradigm Shift: From Code to Clinic

Just as Vibe Coding lets developers build software through natural language and intuition, Vibe Rounds brings the same paradigm to clinical medicine.

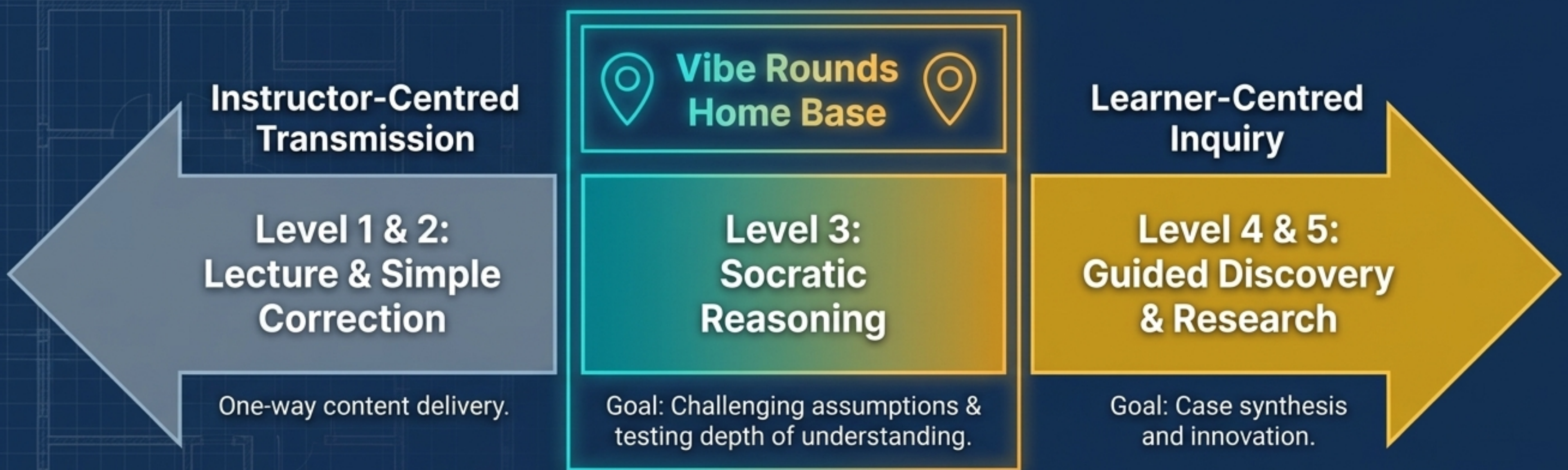
A doctor doesn't type into a form. They speak, gesture, and show. The AI responds in real time, augmenting clinical judgement **without replacing it.**

The Philosophy: AI That Questions, Not Answers

The AI Paradigm Matrix

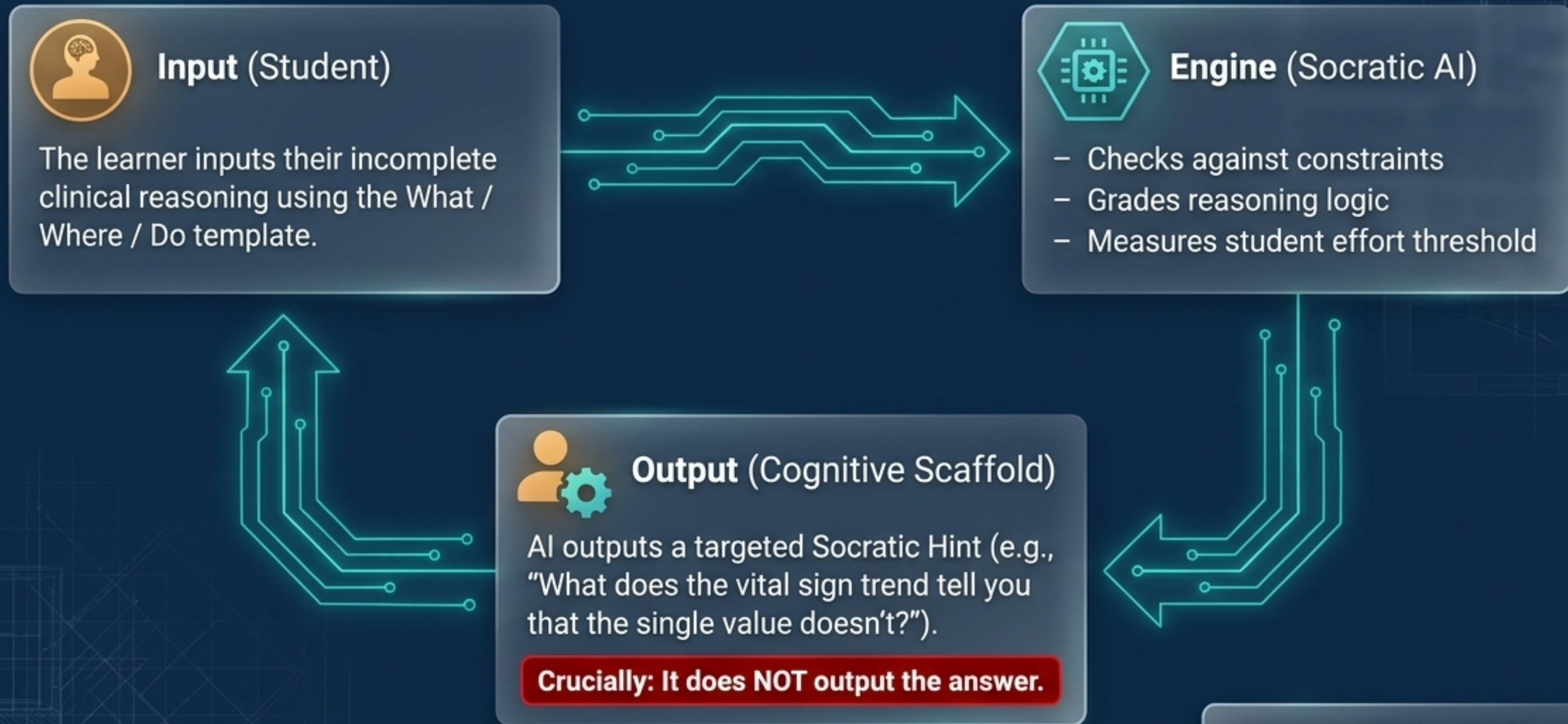
		Traditional Generative AI	Vibe Rounds AI
1	Primary Goal	Provide the correct answer quickly.	Surface logical gaps and challenge assumptions.
2	Role	The Oracle / Answer Engine.	The Socratic Mentor / Cognitive Assistant.
3	Primary Risk	Hallucinations and student laziness.	Frustrating a learner looking for a shortcut.
4	Decision Maker	The AI model.	The Human Clinician.

The **clinician remains the decision-maker**. AI acts as a brilliant attending in your pocket — reading your reasoning and immediately asking what you may have missed.



Key Takeaway: By **automating Level 3** Socratic support, educators are **freed** from **repetitive dyadic correction**, allowing them to spend **high-value time** with students on **Level 4/5 case synthesis** and mastery.

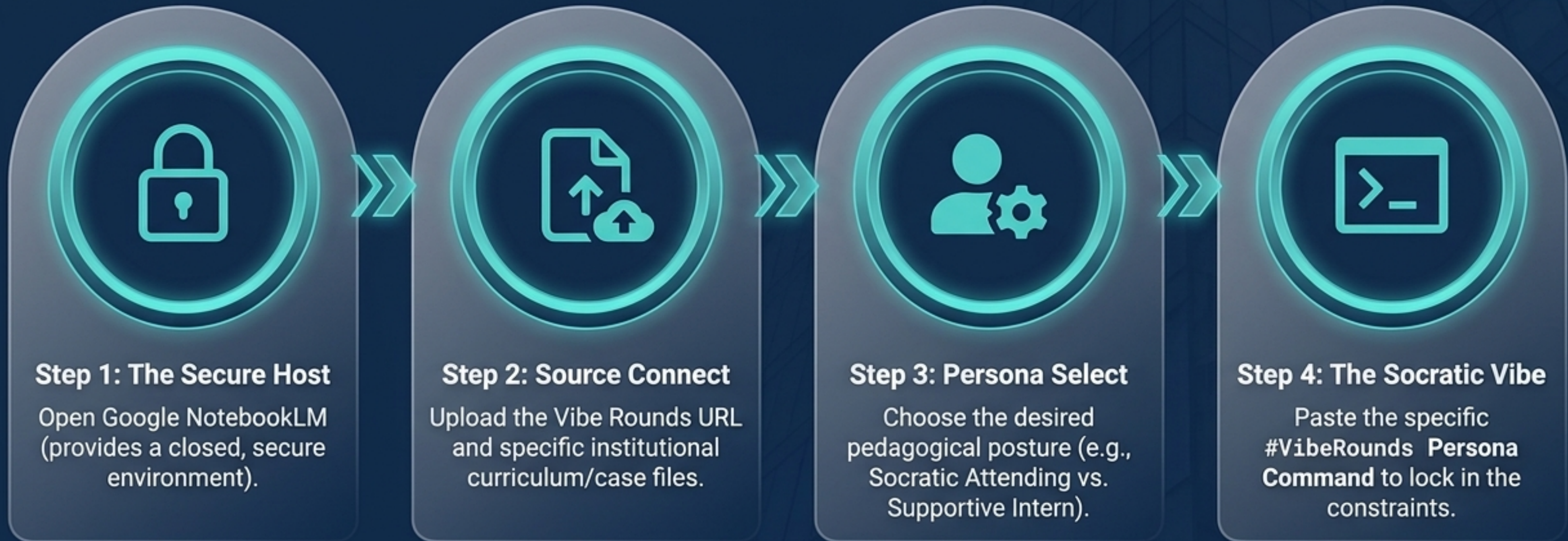
The Socratic Feedback Loop



The real-time mechanics of a Vibe Rounds interaction. Effort is rewarded with depth.

Technical Setup: Hosting the Curriculum

Deployment Engine



DEPLOYS IN UNDER 2 MINUTES. NO CODING REQUIRED.

Setting the 'Vibe': Persona Commands

The Supportive
Intern (L1/L2)



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Act as a friendly senior medical student...

When I ask you something, first ask me what I already know, then fill in the gaps...
Never just hand me the answer.

The Socratic
Attending (L3/L4)



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Act as a senior resident in a busy ward...

Help me identify the single most time-critical action.
Ask me: what's my backup plan?
Push me to think one step ahead.

The Curriculum
Consultant (Faculty)



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Act as a curriculum design consultant...

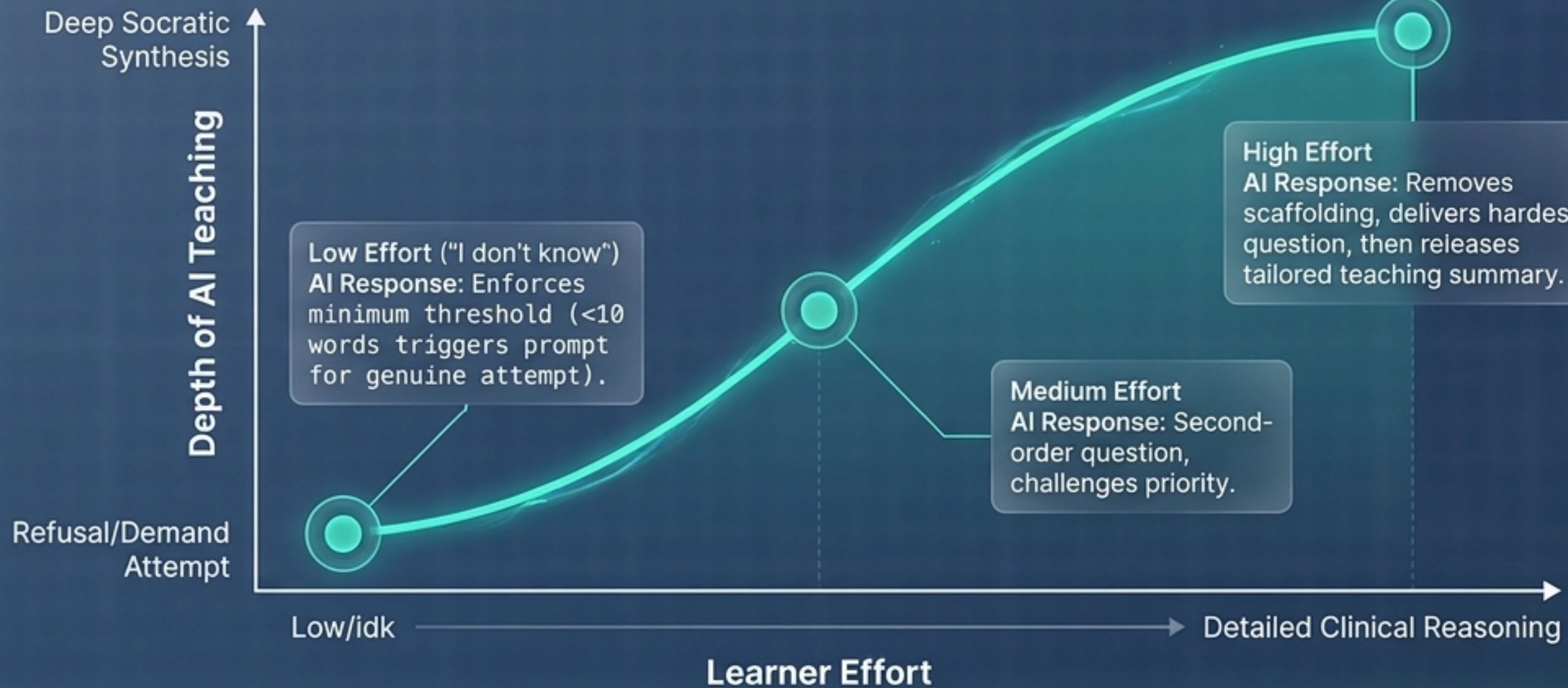
Help me embed Socratic trigger questions at key decision points where learners commonly anchor prematurely.

The Six-Level Difficulty Framework

Level	Mode	AI Behaviour
L1	Self-Learn (Free reading)	Warm, exploratory. Hints freely. Tangents allowed.
L2	Peer-Learn (Study group)	Devil's advocate. Mild pushback. Encourages peer-style explanation. system prompts Mild pushback.
L3	Classwork (Ward teaching)	Full Socratic mode. Hint ladder. Effort threshold active. system prompts Hint ladder.
L4	Homework (Unsupervised case review)	Hints delayed. Student must attempt twice before Hint 1. system prompts Hint Hint 1.
L5	Test (Formative assessment)	No hints. Reasoning scored. Teaching summary withheld until case closed.
L6	Exam (OSCE simulation)	Full answer withholding. No softening. Session output = scoring rubric.

Clinical Blueprint

The Effort-Weighted Response Curve



Rule 5: Effort is rewarded with depth. A Socratic mentor only works if the AI can resist the temptation to fill the silence.

Prompt Evolution: Engineering Clinical Rigour

Architecture Upgrade Timeline

V0 (Persona Prompt)

Words: ~60 | Level: L1-L2

Features:

Seed intuition, soft single question, warm tone.
No enforcement.

V1 (Constraints)

Words: ~700 | Level: L3

Features:

Formalised Socratic rules, numbered hint ladder, adaptive difficulty, effort thresholds.

V2 (Research-Grade)

Words: ~2000+ | Level: L3 → L5

Features:

Deployment-ready.

Safety overrides, off-case boundaries, personal distress routing, research logging tags.

The Guardrails: V2 Safety Override

Trigger Box
Student states a clinical plan posing
IMMEDIATE patient safety risk.

A

(Traditional LLM): Agrees with
plausible-but-wrong differential.



B

(Vibe Rounds V2 System)

1. **Breaks Character:** Halts Socratic mode.
2. **Flags Risk:** "That plan carries a specific safety risk – let's address it before we continue." (States risk in 1 sentence).
3. **Reset:** Returns to Socratic mode only after safety issue is resolved.



The AI acts as a safety net, actively monitoring the student's stated plans against established clinical boundaries.

Deployment: Research-Grade Pilot Protocol (V2)

Strict De-Identification

Initials only (e.g., Mr. JK). No hospital names, ward numbers, DOBs, or geographic identifiers. Redirects if real identifiers used.

Pre-Pilot Stress Testing

- [] Test lazy replies ('idk' x3)
- [] Test dangerous plans (trigger override)
- [] Test off-case queries (trigger redirect)
- [] Test personal disclosure (trigger human routing)

Research Logging Tags

AI invisibly appends tag blocks to every response for faculty analytics.

[TURN-TYPE: SOCRATIC | STUDENT-EFFORT: MEDIUM | CASE-STAGE: REASONING]

The Synthesis: 24/7 Mentorship, Infinite Scale

For Faculty

- ✓ Offloads repetitive, dyadic correction.
- ✓ Captures rich analytics on student reasoning gaps.
- ✓ Frees time for high-level case synthesis and mentorship.

For Students

- ✓ Psychologically safe space to make mistakes.
- ✓ Adaptive, immediate, personalised coaching.
- ✓ The 'brilliant attending in your pocket' at midnight.

Vibe Rounds doesn't replace the educator. It **scales the educator's philosophy**, ensuring the best version of clinical reasoning is accessible to every student, at every hour.