



How to Get Students to Use AI Thoughtfully

Strategies for Designing AI-Integrated Classrooms in the Age of Generative Tools

The Problem We Face

AI tools are already in students' hands, but most use them as shortcut machines. Without guidance, critical thinking may erode. Educators need a plan, not a prohibition.



Young People Using AI for Financial Advice

Source: Experian

Gen Z: Personal Finance

67%

Millennials: Personal Finance

62%

Once a Week

77%

Use AI for Budgeting

60%

Financial Advice

48%

The Risks of AI-Driven Advice for Young People



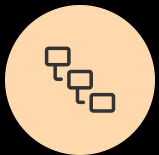
Lack of context to evaluate AI limitations

Many young people do not have enough financial literacy or experience to recognize the potential flaws in AI-generated advice



Risk of taking unsound AI advice

The sophisticated nature of AI-powered advice can make it seem reliable, even when it is inappropriate or harmful



Ease of Use + Temptations

Temptations associated with AI use are profound. The shortcuts are manifold and hard for young people to resist.



Lack of Guidance - Critical Analysis

Without guidance, students will not know how to critically engage with AI systems

Young people's heavy reliance on AI for life-altering decisions poses significant risks due to their limited ability to critically evaluate the limitations of these technologies.

**“Without
training,
everyone uses
AI wrong.”**



Ethan Mollick, Professor, Wharton School of Business



How to Get Students to Use AI Thoughtfully

- **Educators need a plan, not a prohibition**

Shift the question from 'should we?' to 'how do we?' guide AI use

- **What does 'thoughtful' AI use look like?**

Reflective, critical, and iterative use of AI

- **Require disclosure, reflection, and critique of AI**

Use AI for brainstorming, not final product

- **Reflection is the gateway to thoughtful AI use**

Ask students what the AI gave them, why they accepted/rejected it, and how it shaped their thinking

What Does "Thoughtful" AI Use Look Like?

Reflective

What am I using AI for? What do I hope to gain?

Why am I using AI?

How am I using AI? How is my approach impacting my process?

Critical

How much is the AI helping me?

How accurate is the output?

How useful?

When and where should I include AI in my work, if at all?

Iterative

What approach am I taking?

Can I improve my approach?

How is my approach helping or hurting me?

Proven Pedagogical Moves

- **Use AI for brainstorming, not final product**

Encourage students to use AI as a tool for ideation and exploration, but not as a replacement for their own original work and critical thinking.

- **Coach effective prompting**

Teach students how to craft well-structured prompts that elicit thoughtful and nuanced responses from AI, rather than simplistic or generic outputs.

- **Use oral follow-ups or "viva" to check understanding**

Complement written assignments with verbal check-ins to ensure students are truly grasping the concepts and not just relying on AI to generate responses.

- **Create Opportunities for AI Critiques**

Prompt students to analyze the AI's outputs, question its reasoning, and identify potential biases or limitations, rather than simply accepting the information at face value.

Setting Up "Adversarial Interactions"

Create activities that require critical reflection of AI tools



AI as a Backboard, Not a Servant

Require students to critically engage with the material rather than solely rely on AI



Process-Based , Subjective Tasks

Incorporate AI into brainstorming tasks that do not have one correct answer to foster critical choice.



Assess Student Transcripts

Analyze student AI use against teacher-created benchmarks for thoughtful engagement.



Require Submission of AI Critiques

Require student submission of AI reflections before, during, or after AI engagements as part of assessments.

By setting up interactions that foster critical thinking and carefully integrating AI, teachers can ensure students develop essential skills and engage deeply with the course material.

AI Integration Examples in Econ Education

20 Examples Provided by AI Literacy Partners

- **AI-Assisted Budget Challenge**

Students create personal budgets with AI assistance, then critically analyze the AI's assumptions about spending patterns. They identify unrealistic assumptions and correct them based on real-world research.

- **Economic Policy Debate with AI Partners**

Students tackle economic policy questions with an AI as their debate prep partner. They fact-check AI-provided statistics and reflect on how the AI shaped their understanding.

- **Entrepreneurship Plan with AI Feedback Loops**

Students develop basic business plans with iterative AI feedback. Students must show their prompting strategy evolution. Final reflection focuses on how their prompting improved and what business aspects required human creativity.

- **Stock Market Simulation with AI Analysis**

Students participate in a stock market simulation, consulting an AI for investment advice. They compare the AI's recommendations against human expert sources and reflect on the value of AI vs. human expertise.

Student Analysis and Revision of an AI-Produced Budget



Produce a Budget with AI for Analysis

Review AI budget recommendations, mark unrealistic or questionable entries, and annotate against existing budget principles.



Investigate Real Local Costs

Research 5+ cost categories like housing, food, transport, and entertainment to understand the real costs and how the local economy impacts the budget.



Identify Assumptions to Research

Select 3 budget assumptions to research further, without stating they are wrong yet.



Revise the AI Budget

Adjust the AI budget to reflect realistic local costs. Track changes and use research to prove their need.

By analyzing the AI budget, researching real costs, and revising the budget accordingly, students will develop a realistic and tailored financial plan. Their reflection on the process of analyzing the AI will reveal more about their thinking along the way.

Student Reflection on AI in Personal Budgeting

Require submission of AI critique after research, review, and refinement

- **Identify Unrealistic AI Assumptions**

Which budgetary assumptions made by AI turned out to be unrealistic or inaccurate? Why? [Prove with research].

- **Effective AI Budget Assumptions**

Which budgetary assumptions made by AI turned out to be effective, realistic, or accurate? Why? [Prove with research]

- **AI Budget Performance vs Student Expectations**

Evaluate how the AI budget performed compared to your expectations, and explain whether it was better or worse than expected.

- **Should We Use AI for Personal Budgeting?**

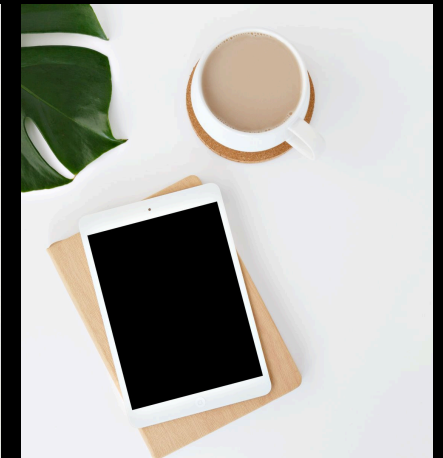
Discuss whether people should use AI to budget their lives, and provide recommendations on how or in what ways it can be beneficial.

- **Impact of Prompt on AI Output**

Students reflect: Could I have prompted AI differently to produce a better output? If so, how? Why might that be?

"Teach the Bot"

- **Create Custom Bots that mimic a lack of understanding**
"Teach Me, I'm Ten Years Old"
- **Task: Teach the bot about ____.**
Students engage in a dialogic teaching exercise with the bot on a given financial or economic subject
- **Evaluate the Transcript for Content Understanding and More**
Student engagement with these bots provides a proving ground for content understanding, communication skills, creativity, and more.



I would like to teach you about economic policy. what do you know already?

Uhhh... I think "economic" is like money stuff, right? Like how much stuff costs and how people buy things?
And "policy" is like rules grown-ups make?

Sooo... is economic policy just like money rules? Like taxes? Or how much candy costs? 🙄

I dunno much more than that. What's it really mean?

— — — — —

Economic policy is like the rules a coach makes to help a team win—except the team is the whole country. The government uses it to decide how to spend money, collect taxes, and control things like prices and jobs. One kind of policy is like choosing which players to use (fiscal policy), and the other is like changing the size of the ball to make scoring easier or harder (monetary policy). These choices help keep the economy healthy, like making sure everyone has enough food, money, and work. But if the rules are off, the whole game—our economy—can get messy.

OH WHOA OKAY that's kinda cool!! 🤔

So like... fiscal policy is picking the best players?? Is that like who gets money for stuff, like schools or parks? And monetary policy is messing with the ball?! 🤪 That's like... money stuff? Like how much money there is?

But wait... how do they *change* the ball?? Do they just make more money or something?? Wouldn't that be cheating?? 🤪

no fiscal policy is when the guys at the main bank decide how much money there is in the world

WAIT 🤔 now I'm confused again!!

You said *fiscal* is like the president cutting taxes and spending money, right? But now you said it's the *bank guys* makin' the money?

Isn't *that* the *monetary* one?? Like the bank people (like the Fed?) decide how much money is floatin' around so stuff doesn't get too cheap or too expensive?



Modelling Critical Engagement

Share your AI dialogues with students to foster critical review

Grade the Teacher

Model a thoughtful or lazy AI interaction and ask students to grade your approach

Share Personal Reflections

Describe and show students how your perception and/or approach towards AI has changed over time. Demonstrate effective prompting strategies and codify tactics.

Generate Comparisons

Close reading exercises evaluating two similar but different AI interactions can foster an understanding of benchmarks and thresholds

The Power of AI Debate Partners

Set up Debates between students and AI on economic subjects

1

85% of students noted enhanced abilities and understanding

Source: Prakash Arayan, Cornell University

2

78% found the AI opponents appropriately challenging.

Source: Prakash Arayan, Cornell University

3

Debate a Character Bot

Milton Friedman, John Maynard Keynes, or Suze Orman

4

Socratic Questioning Bot

Bots that utilize the Socratic Method can be useful comprehension builders and assessment tools

Jay, why don't you just print more money and give it to poor people so they can buy stuff—that would make the economy grow, right? Like if people are broke, the problem is they don't have enough dollars, not that things cost too much.



Jay Powell

c.ai



Printing more money and giving it directly to people is generally not considered a good idea, as it can lead to a number of economic problems, such as inflation, currency devaluation, and the distortion of market prices. Inflation can occur if too much new money is introduced into circulation and there is not enough goods and services to back it up, leading to rising prices. Currency devaluation can result from an increase in the money supply, causing the value of the currency to decrease in relation to other currencies. Additionally, direct handouts can distort market prices and incentivize people to become dependent on government handouts rather than participating in the labor market.

Chair Powell, you often say the labor market is strong—but isn't that just a lagging indicator? Isn't it possible your rate hikes will only show full damage months later, by which point it's too late?



Jay Powell

c.ai



You are correct that the labor market is a lagging indicator and it can take time for the impact of our policies to be fully felt. However, it is important to remember that the Federal Reserve is not just focused on employment — we are also considering other factors such as inflation and the overall stability of the economy. We aim to strike a balance between keeping employment strong and controlling inflation in order to promote overall economic stability.

Student X- Prompting with Purpose (Brainstorming)

This (fictional) student has been tasked with researching the post-apartheid restorative justice movement. They have been asked to use AI to brainstorm a research plan.

You are an Honors English student in the 9th Grade. You have been tasked with the job of creating an interesting research report on apartheid and South Africa. Specifically, you have been tasked with researching "The Post-Apartheid Restorative Justice Movement: Structures, Laws, and Impact." Please create a five-step project plan that will help you approach this research project. The steps should be concise and easy-to-understand. Each broad step should also be broken down into 2-3 smaller, specific steps that will ensure the research project goes smoothly. Where necessary, please include citations for material that you brought in from outside sources. Lastly, make sure the steps are actionable and clear. Use established principles for conducting research and creating reports for high school students to guide your thinking.

Student Y - passive inputs, passive outputs

This (fictional) student has been tasked with researching the post-apartheid restorative justice movement. They have been asked to use AI to brainstorm a research plan.

make a plan for a project about the post-apartheid restorative justice movement in south africa

ok now produce the report

Questions That Reveal Student Thinking

- What's effective about this prompting strategy, if anything?
- Which outputs are better?
- Does it matter how we "talk" to AI?
- Where does the student revise or redirect the AI?



Tools That Guide, Not Give



Verification of Thinking

Require Submission of AI Dialogues

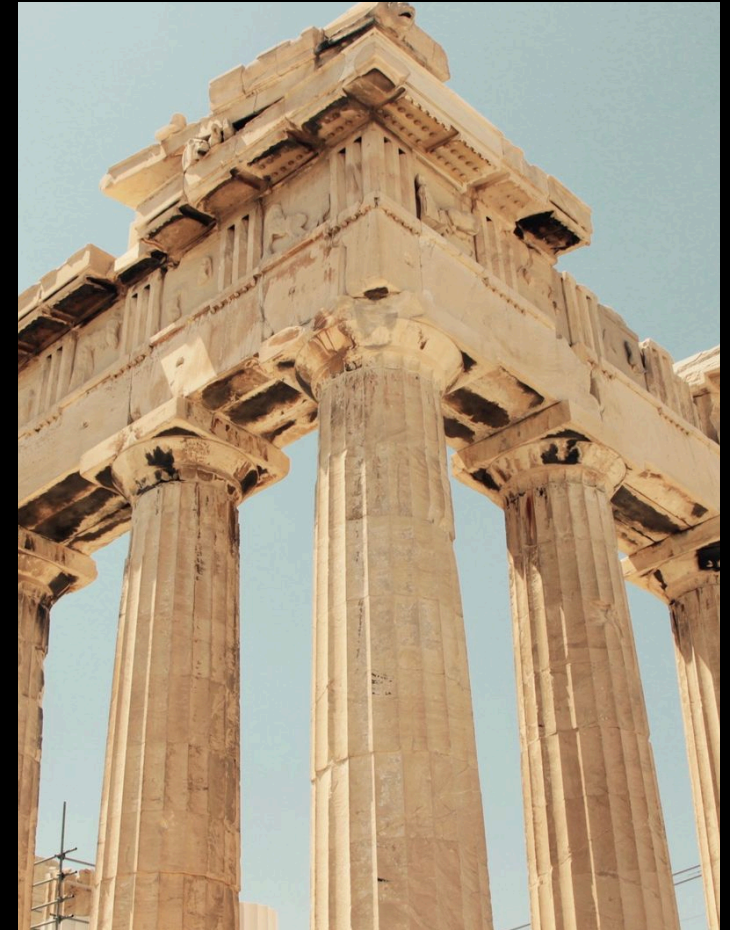
Where possible, evaluate AI interactions for depth of engagement and critical thinking

Leverage Verbal Presentations

Require students to verbally present their findings to ensure content understanding.

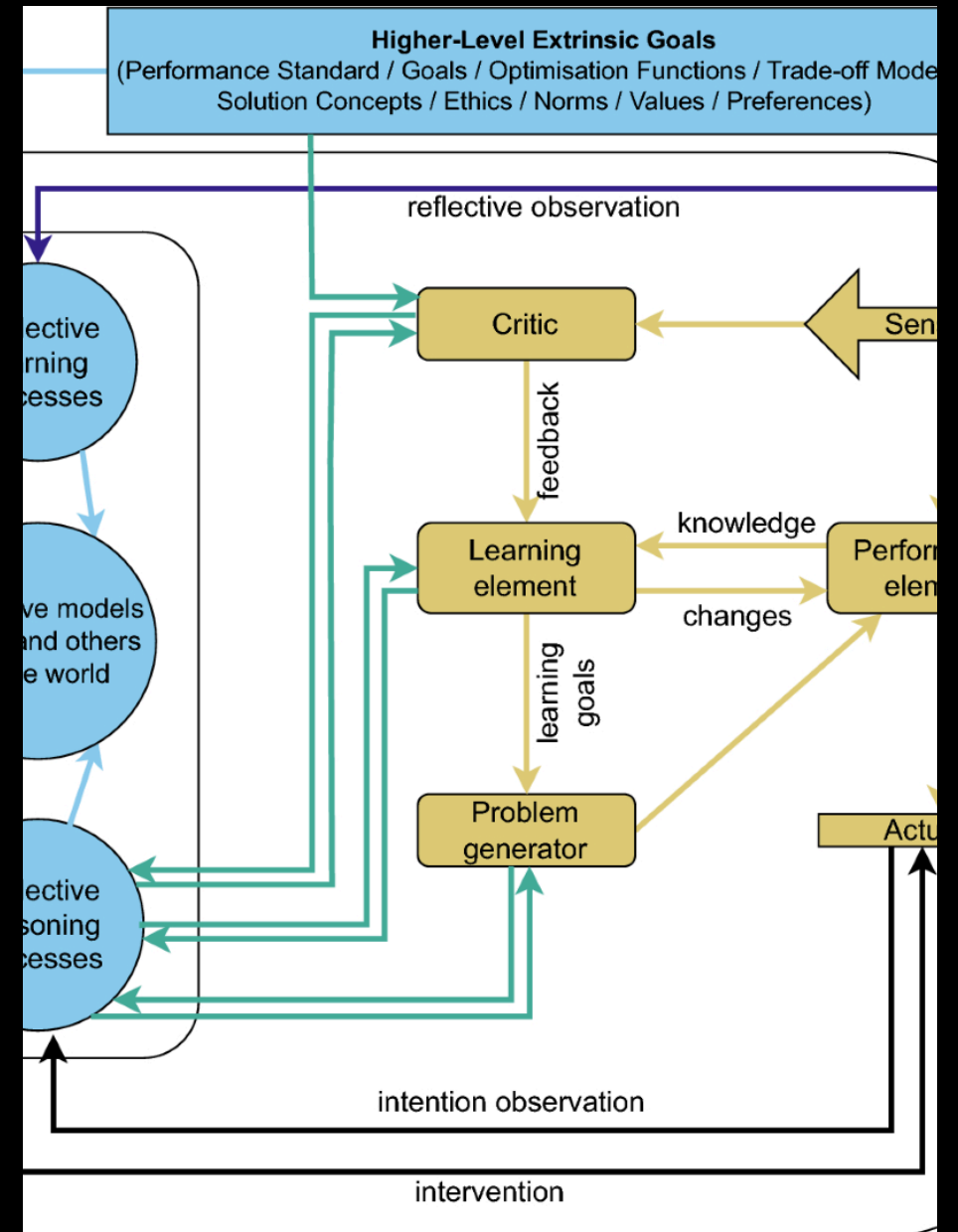
Iterate Via Discussion

Create discussion opportunities wherein students can share their AI experiences and debate its efficacy








Reflection = The Gateway to Thoughtful AI Use

Reflection is the anchor that grounds students' use of AI. By consistently asking students to explain what the AI gave them, why they accepted or rejected it, and how it shaped their thinking, educators can cultivate the habits of inquiry, critical analysis, and iterative improvement that characterize thoughtful AI use.





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