

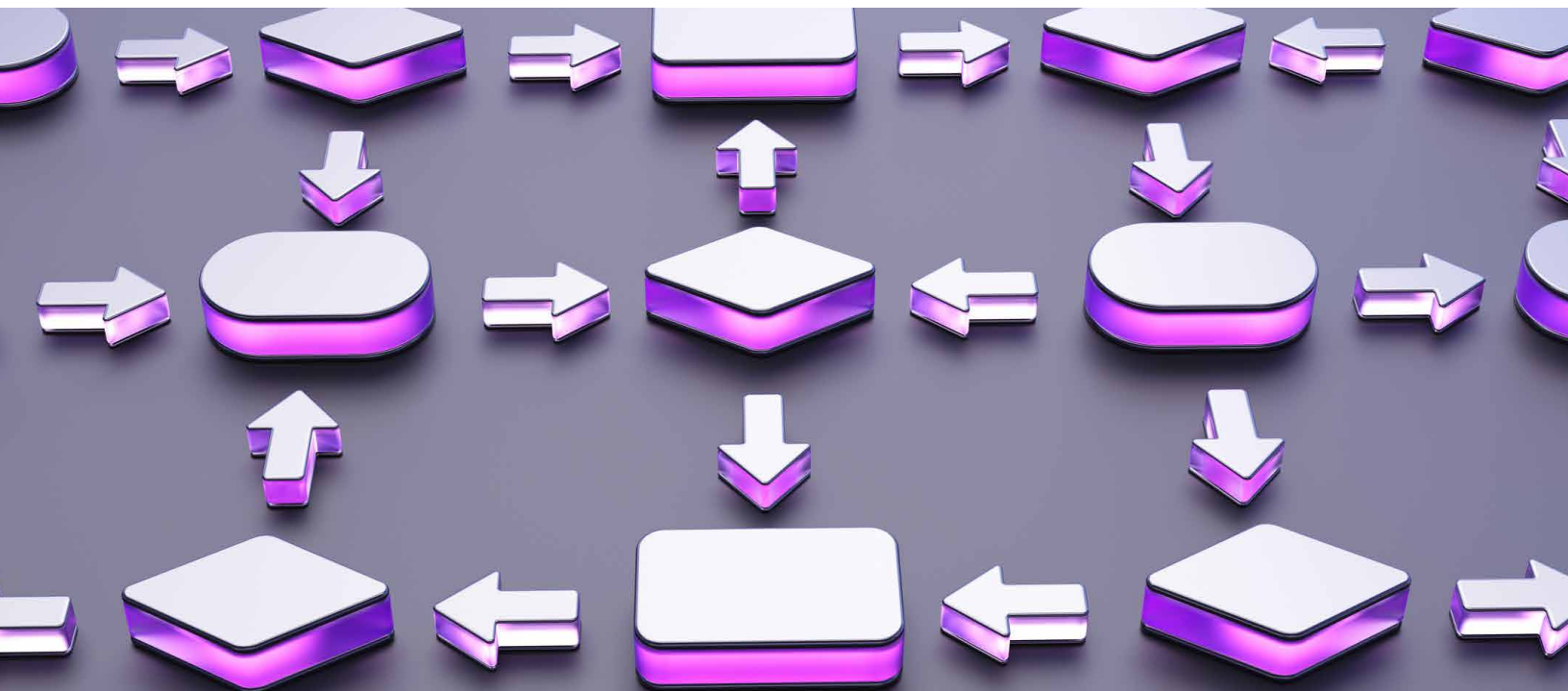


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MUST READS

Cultivating Sound Thinkers in the AI Era

Practical Approaches to Developing Student Judgment



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Foreword

By now, many students are using generative AI for their schoolwork, whether to break down complex topics, brainstorm new ideas, or refine their writing. It's clear that responsible AI use can support deeper learning—but without guidance, students risk undermining their human judgment, curiosity, and independent thinking.

As their educators, we must ensure our students engage with AI wisely and prepare them to enter a workforce shaped by these same tools. This list of articles from *Inspiring Minds* offers practical strategies for teaching students to approach AI critically, question assumptions, and take ownership of their reasoning.

You'll find techniques and assignments that challenge students to stretch their thinking, make meaningful connections, and reach their own conclusions. You'll also find specific classroom exercises that foster strong engagement and encourage thoughtful reflection.

Collectively, these ideas demonstrate how students can use AI tools to deepen their learning, not outsource their thinking. By using them, you can help your students become more deliberate, confident decision-makers with the knowledge and sound judgment they'll need to thrive.

Lucy Swedberg

Executive Editor

Harvard Business Impact

AI Should Push, Not Replace, Students' Thinking

3 Human Skills to Cultivate in Class

by Nick Potkalitsky

Published on hbsp.harvard.edu / July 7, 2025 / [Read Online](#)



Eugene Mymrin / Getty Images

In my writing classrooms, I've observed that students initially view generative AI as either a threat to resist entirely or a panacea to embrace uncritically. It's our responsibility as educators to teach them a more nuanced approach.

Possibility literacy offers exactly that—a framework for engaging thoughtfully with AI's paradoxical nature as a predictable, efficiency-boosting learning tool while still prioritizing human agency, creativity, and critical thinking. Unlike general AI literacy, possibility literacy emphasizes not just using AI effectively from session to session, but using it with understanding of AI's inherent contradictions and how to navigate them intentionally. Rather than focusing solely on operational

skills (e.g., prompting techniques), possibility literacy teaches students how to recognize when AI enhances versus constrains their thinking—and how to maintain conscious control over how these tools influence their learning process.

The Paradoxes of AI

At the heart of possibility literacy lies the recognition that AI creates productive paradoxes: tensions that we can't resolve but that we can navigate intentionally. For example, consider the agency paradox; AI can increase writing capability, but that may come at the cost of diminished intellectual agency for the writer.

You can read more about these paradoxes—and why they're actually a good thing—in my [LinkedIn newsletter](#).

Possibility literacy transforms students' binary approach to AI into something more sophisticated: a way to thoughtfully investigate AI's potential contributions to their learning while maintaining their own intellectual authority and ethical integrity. We can embrace this approach by giving students assignments that develop three key skills: pattern recognition, directed divergence, and reflective synthesis.

These skills are distinctly human capabilities—cultivating them requires assignments that both emerge from students' perspectives and are connected to their personal experiences. Here, I'll explore each of these three skills and the assignments I use in my undergraduate writing classes for instilling them in my students.

1. Pattern recognition: Students become algorithmic archaeologists

In an AI context, pattern recognition involves developing an ability to identify and interpret how AI systems function and shape information. When students learn to recognize recurring patterns in AI-generated

content, they can then uncover the invisible structures shaping AI outputs. They see that, though AI systems appear objective, their output reveals subtle biases and specific points of view that students should learn not to broadly accept.

In my composition class, I have students complete an exercise in which they systematically document patterns across different gen AI tools' responses to the same prompt. I provide students with template prompts (you can [access them here](#)) that they use to explore complex social issues like healthcare reform and environmental policy. After initial exploration, students develop variations on the prompts, experimenting with phrasing and question structures.

This two-phase approach allows them first to identify consistent patterns across topics and then to discover how subtle changes in prompt construction can influence AI output. Students quickly notice that, regardless of their prompt variations, each system consistently frames issues through a particular ideological lens or rhetorical structure.

When students learn to recognize recurring patterns in AI-generated content, they can then uncover the invisible structures shaping AI outputs.

Here's an example. A student in one of my classes conducted an extensive "algorithmic archaeological dig" across four gen AI platforms developed in different geographical regions: [Mistral](#) (French), [DeepSeek](#) (Chinese), [Jais](#) (Arabic), and [ChatGPT](#) (American). She prompted each system to analyze potential solutions to climate change and documented their responses in a systematic comparison.

The ideological inflections were subtle but revealing. The French model highlighted government coordination and international agreements,

emphasizing collective responsibility over individual or corporate action. The Chinese system focused more on balancing environmental protection with economic development and emphasized state-directed green infrastructure. The Arabic model offered perspectives on climate justice for developing nations and discussed resource distribution considerations that weren't prominent in the other systems. The American system emphasized market-based solutions like carbon pricing and technological innovation, framing climate action primarily through economic opportunity.

Mapping these patterns, the student uncovered the subtle interpretive frameworks embedded within each system. She later reflected that she had previously thought AI was giving her objective environmental policy analysis, but now she could see how each system subtly steered the conversation in a certain direction, reflecting the cultural, political, and economic contexts in which they were developed. This awareness fundamentally changed her approach to using AI for research, prompting her to deliberately consult multiple systems and critically evaluate their underlying assumptions.

This documentation process helps students recognize when and how AI systems might be subtly channeling their thinking along predetermined paths. Rather than uncritically accepting AI-generated content as comprehensive or neutral, they develop a more critical awareness of its limitations and tendencies—the first step toward reclaiming their intellectual agency.

2. Directed divergence: Students push AI beyond its conventional paths

While pattern recognition helps students understand AI's limitations, directed divergence teaches them to intentionally push beyond these constraints. This approach involves strategically guiding AI systems toward unexpected outputs by introducing constraints, unusual combinations, or intentional disruptions.

When my creative writing students experiment with story creation using AI tools, they quickly discover how these systems tend to reproduce familiar narrative structures and character archetypes. Generic hero journeys and predictable plot resolutions dominate initial outputs. However, by adding unexpected constraints, students push AI beyond its conventional patterns.

Rather than simply accepting whatever the AI produces or rejecting it entirely, students learn to guide these systems thoughtfully, using algorithmic assistance to expand rather than replace human imagination.

For example, when asked to generate ideas for a creative writing assignment, a standard prompt like “Write a short story about overcoming a challenge” produced predictable results—stories with generic characters facing obstacles, having an epiphany, and ultimately succeeding. However, when students added unexpected constraints—“Write a story where the protagonist’s main obstacle is their own success” or “Create a narrative where the resolution happens through a misunderstanding”—the resulting concepts were dramatically more innovative. These constraints pushed the AI beyond its normal patterns, generating novel story ideas that students then developed into sophisticated narratives.

In this exercise, constraints become possibilities. By limiting AI’s default tendencies, students create space for genuinely novel concepts and approaches. More importantly, this approach helps students develop creative agency in their AI interactions. Rather than simply accepting whatever the AI produces or rejecting it entirely, they learn to guide these systems thoughtfully, using algorithmic assistance to expand rather than replace human imagination.

3. Reflective synthesis: Students integrate AI with their own human judgment

Reflective synthesis involves developing critical decision-making skills so students know when to use AI and when to rely on their own thinking. This approach helps students recognize their agency: They can use AI to enhance their capabilities while maintaining their intellectual independence.

In my classroom, reflective synthesis takes the form of self-derived learning outcomes that guide students' assessment of AI implementation. Rather than imposing predetermined goals, I ask students to articulate their own learning objectives at the beginning of a project. These personalized outcomes then serve as a framework for deciding how (or whether) to integrate AI tools in their work.

One student observed that she was now making conscious choices about where AI helped her learn versus where it shortcut her thinking.

For instance, a student in my literature class created this learning outcome: "I want to deepen my ability to identify narrative techniques while developing my own interpretive voice." She designed a structured process for analyzing a challenging literary text: first developing her initial interpretation independently, then using AI to generate alternative readings, and finally synthesizing these perspectives. In her reflection, she noted moments when she consciously rejected AI suggestions that felt reductive and incorporated others that illuminated overlooked textual elements.

This approach ensures students maintain agency over both what they want to learn and how they integrate AI in their work. The focus shifts

from AI as a replacement for thinking to AI as a collaborator in service of student-directed learning. One student observed that she was now making conscious choices about where AI helped her learn versus where it shortcut her thinking. The assignment made her more aware of her own learning process.

Tips For Creating A Possibility-Rich Learning Environment

Here are practical strategies educators can adopt to create classroom learning environments that foster AI possibility literacy:

- **Design assignments that privilege process over product.** Rather than evaluating only final outputs (which AI can increasingly produce), assess students' documentation of their in-progress thinking processes, decision-making, and metacognitive reflections. This shift makes the distinctively human aspects of learning more visible and valuable.
- **Create spaces for collaborative governance.** Involve students in developing guidelines for AI use in your classroom. This participatory approach helps them understand technology governance as a process in which they have both a voice and a responsibility.
- **Value personally meaningful work.** Design assignments that center students' experiences and emerge from their perspectives. Inherently personalized tasks resist algorithmic replication while developing students' authentic voices and intellectual commitments.
- **Model reflective technology use.** Share your own decision-making processes regarding when and how you use AI tools in your work. This transparency helps students see that thoughtful implementation involves ongoing reflection rather than fixed rules.

Beyond the binary: A new vision for education in the AI age

Possibility literacy recognizes that, in an era when information is increasingly accessible and many routine cognitive tasks can be performed algorithmically, education must focus on developing capacities that remain essentially human.

The good news is that these capacities aren't diminished by AI—they're made more valuable. As basic content creation becomes easier, the ability to think critically about that content becomes more essential. Possibility literacy transforms AI from a challenge to be managed into an opportunity for deeper learning. By engaging thoughtfully with AI's paradoxes, students develop not just technological competence but intellectual agency, critical awareness, and creative confidence—qualities necessary not only to navigate today's algorithmic landscapes but to shape the technological future they will inherit.

Possibility literacy transforms AI from a challenge to be managed into an opportunity for deeper learning.

Last year, I witnessed this transformation during a final project presentation. One student who had initially avoided AI stood confidently before her peers to present her analysis of dystopian fiction tropes across multiple AI systems. She explained how she had documented patterns in their outputs, strategically directed them toward unconventional perspectives, and synthesized these insights with her own reading.

In her conclusion, she explained how her perspective on AI had evolved. Before the class, she saw AI as a scary replacement for human thinking. Now she understood it as a complex system with both capabilities and limitations that she could actively navigate. Most importantly, she realized that the true power lay not in the algorithm itself but in how she chose to engage with it.

In that moment, I saw possibility literacy embodied: a student who had moved beyond fearful resistance to develop a thoughtful relationship with AI. Her journey represents the transformation our education systems must nurture—one that centers student agency and personalization in an age when algorithms increasingly shape the landscape of possibility.

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Nick Potkalitsky, PhD, has over 20 years of teaching experience across K–12 and higher education, specializing in helping educators integrate digital tools into learning environments. He is the author of *AI in Education: A Roadmap for a Teacher-Led Transformation* and publisher of the Educating AI Substack, where he bridges academic research and practical application. As founder and CEO of [Pragmatic AI Solutions](#), he develops customized AI-implementation strategies for educational institutions. His work in curriculum design, digital pedagogy, and AI literacy has been featured at leading educational technology conferences.

Help Students Think Critically in the Age of AI

3 Ways to Adjust Your Assignments to Encourage Deeper Thought

by **Michael Roberto**

Published on hbsp.harvard.edu / December 19, 2024 / [Read Online](#)



Eugene Mymrin / Getty Images

As educators, our mission is to inspire students to engage deeply with the material we teach, equipping them with the critical-thinking skills they'll need in a world that changes by the minute. With generative AI in the picture, that mission has become more crucial—and we can even use gen AI as a powerful tool to accomplish it.

Doing so requires us to intentionally rethink and renew our assignments and teaching approaches. And if we get it right, by encouraging students to use AI as a thought partner and remain active participants in their own education, we can help them analyze more deeply, solve problems more creatively, and think independently.

The three strategies I share here are ways I've adjusted my own courses. They're specific to the case method of teaching, but the principles behind them can easily be extended to other pedagogies. Each of them aims to make AI an ally in students' learning, pushing them to draw insights, evaluate complex ideas, and communicate their conclusions effectively.

With these approaches, we can prepare students to think critically and creatively in an AI-integrated world.

1. Design multi-layered assignments

Making sure assignments require critical thinking has always been important, but it's become even more so in a world where generative AI can do many simple tasks for us.

Whether for in-class or independent work, the best assignments are multi-layered, requiring students to draw connections between various concepts and use those connections to form independent conclusions. Multi-layered assignments, for example, ask students to connect a case study to other readings, to ideas that emerged during class discussions, and to their own personal experiences. They require students to draw multiple connections and to explain their logic, not just their solution or recommendation. These types of exercises promote the best learning, and it's a bonus that AI can't do them for our students.

As educators, our role is to guide students in harnessing the power of AI as a tool for deeper understanding, rather than a shortcut for superficial answers.

In one multi-layered assignment I've developed, students are given three columns of financials from three companies and asked to figure out which column belongs to which company, what generic

competitive strategy each firm is pursuing, and whether one firm might be struggling to position itself effectively. To complete this exercise, students need to understand financial ratios, Porter’s generic strategies framework, and other concepts from strategic management and finance. Students learn how to apply knowledge from multiple class lessons to this exercise. It requires the synthesis of several topics from class, and gen AI can’t do it effectively—I’ve tested it to make sure.

Watch the Webinar

In the Harvard Business Impact webinar “Harnessing Gen AI in the Undergraduate Classroom,” Roberto explores both the challenges and opportunities AI brings to learning. Watch the full webinar [here](#).

That doesn’t mean AI can’t help, and I do allow students to use gen AI as an aid. Students are free to ask ChatGPT questions about calculating financial ratios or what different types of financial data represent, and, in fact, I encourage them to do so. Again, it’s not about discouraging AI use. It’s about helping students understand how to use AI as a tool without becoming overly dependent on it.

Faculty members can build other types of multi-layered assignments by developing tasks that require students to integrate three types of deep work: data analysis, the application of conceptual frameworks, and the creative development of recommendations based on that critical thinking.

2. Modernize writing assignments for the AI era

Writing assignments are perhaps the most common scenarios in which students need guidance in using AI appropriately and effectively. If students use gen AI to do their writing for them, they don’t hone the analytic thinking skills that writing assignments are meant to teach.

Fortunately, I've found ways to develop writing assignments that encourage healthier gen AI use by our students. The key is requiring deep insights that gen AI is incapable of providing.

In the past, I often gave students writing assignments that asked them to summarize basic elements of a case or complete a five forces analysis. However, these are things gen AI can easily do. To guarantee students are working independently, I now ask more involved questions that require students to perform a certain level of independent analysis or to draw connections to class topics.

Tasks I might ask students to do in a more complex writing assignment include the following:

- Examine data in an exhibit
- Evaluate a firm's overall strategy
- Connect a case analysis to concepts from supplementary readings
- Draw on class discussions and their own experiences to support their analysis
- Make a recommendation and be prepared to argue in support of that recommendation

Once you've developed a writing assignment that requires deeper thinking, I encourage you to run it through ChatGPT or another AI tool yourself. If the AI can complete the assignment adequately, you'll know that you need to refine the assignment to require even more independent analysis. Having gen AI complete the assignment has the extra benefit of showing you what it might look like if students try to do the same. You might even show students what an analysis by ChatGPT looks like for a particular assignment, and then ask students to improve upon and go beyond that AI-generated content.

3. Update case questions for deeper analysis

If you teach with the case method, you're likely accustomed to giving students questions to answer after they've read a case. Traditionally, these questions were designed to prepare students for class discussion.

In the age of AI, though, straightforward preparatory questions won't tell you whether students are adequately prepared to contribute analysis come discussion time. Instead, to get them ready for the deeper thinking required of case discussions, create questions that are broader in scope but that push students to analyze more deeply.

For example, for a case I wrote about [Viking River Cruises](#), I might have previously asked students to perform a break-even analysis on a new cruise ship as part of their case preparation. However, ChatGPT can perform a break-even analysis easily—and do it well. So instead, I made the break-even analysis an in-class group activity.

Making sure assignments require critical thinking has always been important, but it's become even more so in a world where generative AI can do many simple tasks for us.

I've altered the before-class questions to be much broader, rather than directing students about the precise type of analysis they should undertake. Students must think critically about the context of the case and synthesize that with other topics they may have learned. They need to identify the conceptual frameworks that might be useful, drawing on everything they have learned in the course. Moreover, they must argue why they chose a particular framework to help analyze the case situation. An AI tool will not know precisely how we have been

learning to break down complex strategic management challenges; it typically will offer a more generic approach.

This strategy needn't only pertain to cases; you can also use it when you're designing questions that accompany other types of readings, such as articles or book chapters. For example, you might ask students to revisit a topic from an earlier class discussion and apply ideas from multiple new readings you have assigned since that dialogue in your course.

Broad questions that force deep thinking and original insights are the type that will develop more advanced independent thinking in our students.

Fostering independent thinking alongside AI

Our role as educators is to guide students in harnessing the power of AI as a tool for deeper understanding, rather than a shortcut for superficial answers. Generative AI is here to stay, and many of our students will rely on it now and in their future careers. By integrating it thoughtfully into our teaching, we can prepare them to use it responsibly and effectively.

The key lies in designing assignments and classroom experiences that challenge students to think critically, analyze independently, and engage meaningfully with the material. These are the skills that AI cannot replicate but can help amplify when used purposefully. By fostering these abilities, we equip students to navigate an AI-integrated world—not just as passive users, but as innovative thinkers and creators who can thrive in any context.

With this approach, we can strike a balance that empowers students to think deeply, leverage AI effectively, and lead confidently in their future careers.

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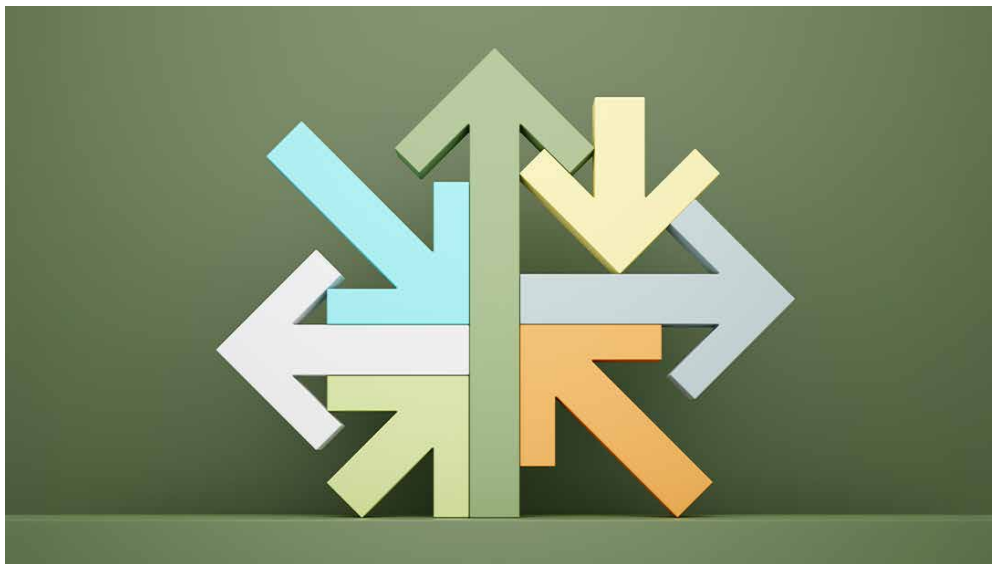
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Use Chatbots to Immerse Your Students in Real-World Scenarios

A 5-Step Process for Creating and Implementing AI Role-Plays

by Phillip Olla

Published on hbsp.harvard.edu / November 6, 2025 / [Read Online](#)



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When I first experimented with AI chatbots in my teaching, I was not convinced they could do more than provide scripted answers and act as class assistants or tutors. But as I explored further, I began to see the potential for chatbots to create realistic role-play environments where students confront messy, ambiguous problems and practice high-stakes decision-making.

In a pilot, I used multiple platforms (such as OpenAI's GPT builder and Scholar AI'D) to design and test chatbot role-playing scenarios in my undergraduate healthcare and business courses. I soon discovered that,

with careful design, these activities transform standard assignments into immersive, reflective learning experiences.

But designing chatbot role-plays for students at any level requires more than simply writing a prompt and pressing “go.” To be effective, these activities must be carefully aligned with course objectives, thoughtfully scripted to capture authentic roles, and deliberately implemented so that students experience both challenges and support.

Here, I’ll offer a structured process to guide you from your initial idea to classroom implementation. By following these five steps, you can move beyond surface-level AI interactions to create scenarios that foster deep engagement, authentic decision-making, and reflective learning across disciplines.

1. Define your learning objectives and craft a scenario around them

Chatbot role-plays can vary widely in complexity to reflect your course goals and level. At their simplest, they involve a single role and a simple scenario, such as a patient interview or customer complaint. More advanced scenarios can incorporate multiple roles or perspectives, requiring students to shift viewpoints or manage several stakeholders simultaneously. They can also draw from datasets—financial statements, market reports, or lab results—to ground students’ decisions in evidence.

In developing a scenario, first clarify your learning objectives for the activity. Ask yourself, *What skills or concepts do I want students to practice and in what context? How complex do I want the scenario to be? What roles do I want students and the chatbot to play?*

In my strategic planning course, I wanted students to define and apply strategic planning concepts in a healthcare setting. I had them assume the role of executives managing a hospital merger and the chatbot acted

as a resistant board member, raising questions about finances, staffing, and patient care to mirror the complexity of real-world organizational leadership. To add context, I provided students with the hospital's financial summary, mission, and key performance indicators.

Including more details helps the chatbot behave with consistency, forcing students to practice persuasion, negotiation, and critical thinking in a safe but demanding environment.

If you're unsure where to begin, try building from what already exists. Rather than inventing a new scenario from scratch, start by modifying an existing assignment or classroom activity: For example, a multiple-choice quiz on contract negotiations or a marketing pitch presentation. These assignments should already have well-defined learning objectives, rubrics, and outcomes, which make them ideal candidates for chatbot design. You can even turn to AI to brainstorm scenarios related to your chosen learning objectives and topics or ensure your proposed scenario aligns with your course goals.

2. Prepare the role-play scaffolding

The most important work happens before your scenario reaches the chatbot builder: crafting the scenario overview, instructions for students, and post-role-play reflection questions. These materials are the backbone of your exercise, and they need to be clearly defined to ensure the learning experience unfolds effectively with students. Here is a description of each element, along with an example from the hospital merger scenario.

Scenario overview: This is a concise description of the scenario. It establishes the role students will play and the context and stakes they

will face. This brief narrative should provide just enough context for immersion without overwhelming students with details.

“You are the chief executive officer (CEO) of a regional hospital. You are preparing to propose a strategic merger with a neighboring health system. Your task is to convince a skeptical board member that the merger aligns with the hospital’s mission, vision, and long-term goals.”

Student instructions: The instructions clarify *what students must do* and *how*. They act as the briefing before the role-play begins. These instructions should guide students through the process step by step and signal how the events will unfold.

1. Before beginning the role-play, review the hospital’s financial summary, mission statement, and key performance indicators (provided in our LMS).
2. Click the link to the chatbot in our LMS and initiate the role-play by typing “Start Simulation.”
3. Engage with the board member to justify your proposed merger using strategic planning principles.
4. When finished, type “End Simulation” to receive feedback and repeat the role-play if desired.
5. End the exercise when you’re satisfied with your results and complete your written reflection.

Reflection questions: Each scenario ends with reflection questions designed to help students analyze their performance during the role-play. These questions should be tied directly to the course learning objectives.

- What arguments most effectively supported your position?
- How did you balance mission alignment and financial sustainability?
- If you were to lead this conversation again, what would you change?

I often use AI as a co-writer during this phase to refine language and tone. For instance, I might ask AI to “rewrite these student instructions in a professional but approachable style” or “suggest a more concise introduction paragraph that maintains formality.”

This is also when I use AI to create the supporting documents (e.g., financial data, mission statement, key performance indicators) for students to refer to in the role-play. You can create these yourself or work with AI to produce data in alignment with your objectives. At every step, always edit and finalize the text yourself to ensure the content is accurate and supports your learning outcomes.

3. Write the chatbot prompt

The heart of the chatbot lies in its prompt—the script that defines the chatbot’s role, tone, and behavior. Though a simple prompt can get you started with basic scenarios, a strong, detailed prompt transforms a generic AI persona into a character with perspective, purpose, and pedagogical intent.

When writing your prompt, include the following key details:

- **Role and identity:** Define who the chatbot is (e.g., “You are a skeptical hospital board member” or “You are a patient presenting with vague symptoms”).
- **Objective or purpose:** Clarify what the chatbot is trying to achieve (e.g., “Challenge the student’s reasoning,” “Evaluate the strength of their argument,” or “Encourage ethical reflection”).
- **Tone and demeanor:** Set the chatbot’s communication style (e.g., formal, empathetic, neutral, confrontational) to match the scenario.
- **Constraints and boundaries:** Specify what the chatbot *should not* do (e.g., “Do not give away the correct answer,” “Do not agree too easily,” or “Avoid using medical jargon”).

- **Expected student behavior:** Indicate how students should interact (e.g., “Students must justify each decision” or “Ask for supporting evidence before responding”).
- **Progression and branching:** Note how the scenario should unfold (e.g., “Adapt based on the student’s responses” or “Introduce new challenges or perspectives as the conversation unfolds”).
- **Debrief or reflection cue:** End the prompt with an instruction for post-scenario feedback (e.g., “After the dialogue, summarize the student’s reasoning and suggest one area for improvement”).

Including more details helps the chatbot behave with consistency, forcing students to practice persuasion, negotiation, and critical thinking in a safe but demanding environment.

Once you’ve written and reviewed your prompt, enter it into the agent or chatbot builder of your choice, then publish your bot and generate the link your students will use to role-play with it. (Here is a [step-by-step guide](#) on how to do this within ChatGPT or the [Study AI’D builder](#).)

Chatbot Building Prompt

You can find the full prompt Olla uses to build his strategic planning chatbot [here](#).

4. Evaluate and iterate

No chatbot works perfectly on the first attempt. Testing means playing through the scenario repeatedly, taking on both the student and chatbot roles to observe tone, pacing, and logic.

In early versions of the strategic planning scenario, I found that the chatbot sometimes broke character—agreeing too quickly or drifting from its board member persona. At other times, the end-of-scenario

feedback was overly polite and failed to provide meaningful critiques. I also encountered technical issues; during longer exchanges, the bot occasionally reset or confused its role with the student's due to the model's limited context window.

When implemented thoughtfully, chatbot role-plays are tools for deep, student-centered learning.

To fix these issues, I refined my prompt to reinforce boundaries, adding phrases such as “Stay in character at all times” and “Do not provide compliments or solutions.” I also shortened instructions and clarified transitions between discussion and feedback.

When problems persisted, I asked AI to review the prompt itself and suggest structural revisions or missing constraints. This meta-testing—using AI to evaluate its own design—helped improve performance quickly. Over time, iteration has become less about fixing errors and more about fine-tuning the role-play's realism, ensuring the chatbot challenges students just enough to mirror the complexity of real-world strategic dialogue.

5. Implement in the classroom

When I introduce this exercise to students, I start by giving them the scenario overview explaining their role as CEO and their objective. Using the chatbot link provided in our LMS, students then role-play for up to 30 minutes. Though one round of the role-play may take them much less time to complete, the chatbot is designed to be used iteratively, providing students multiple opportunities to test strategies, strengthen their arguments, or present data more effectively.

Once satisfied with their performance, students end the role-play and turn to written reflection. Using provided questions (prepared in step 2), students describe the arguments they made, the resistances they encountered, and the ways they might approach the situation differently next time. I encourage students to move beyond simply summarizing the chatbot exchange to analyze their decision-making, connect their responses to course concepts, and identify what they would improve in future exchanges.

In grading students' reflections, I emphasize their demonstration of critical thinking, theory application, and self-awareness, as well as a clear narrative of how their reasoning evolved throughout the experience. Though students submit their chatbot transcripts as well, only the reflections are graded. This approach encourages experimentation; students learn through and are evaluated on exploration rather than a single high-stakes attempt.

Rethinking what chatbots can do

In a course, I typically run chatbot role-plays twice per term, and students consistently describe them as some of the most engaging and thought-provoking parts of the class. Students value the chance to apply their learning in real time and have reported that the exercises give them new insight into the pressures of clinical and administrative decision-making.

When implemented thoughtfully, chatbot role-plays are tools for deep, student-centered learning. Through them, faculty can design role-based scenarios that allow students to wrestle with complexity, make mistakes safely, and develop the reflective skills they will need in professional life.

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Build Undergraduate Students' AI Skills—One Use Case at a Time

Integrate Hands-On Practice Through Simple But Powerful Classroom Activities

by **Michael Roberto**

Published on hbsp.harvard.edu / October 30, 2025 / [Read Online](#)



Just_Super / Getty Images

Many of our undergraduate students see AI as little more than a text generator or a shortcut. That’s unlikely to change until they’ve had a chance to experience the breadth of AI’s capabilities for themselves. As educators, we have an opportunity—and an obligation—to show students how AI can save them time and effort, all while deepening their learning.

To start, ask yourself: In what specific ways can students use AI in their everyday learning tasks, and what activity could help model that? Some potential answers may include summarizing lengthy articles or reports, taking meeting notes, or creating a study guide.

For students in my freshman introduction to business course, I pinpointed a logical starting place—using AI to make sense of large amounts of data. To model this use case, I created an exercise in which I give students hundreds of AI-generated customer reviews for two fictional restaurants. One is successful, one is failing, and students must analyze the reviews to figure out why. The core learning of the activity is understanding why businesses need clear target markets, but it also teaches students that AI is the best tool for parsing so much data.

This activity gives students a hands-on opportunity to develop AI skills while still teaching the topics of my course. Here's a deeper look at how this activity works; it might inspire something similar for your own classrooms.

Watch the Webinar

In the Harvard Business Impact webinar "[Using Generative AI to Create Engaging, Customized Learning Experiences](#)," Roberto shares strategies for spotting opportunities for experiential exercises, using AI to design activities that support student goals, and building prompts that quickly tailor content to learners' needs.

Watch the full webinar [here](#).

1. Generating the materials

My first step was to plan the lesson and develop the activities I wanted to use to teach it. You can have AI assist you in determining what activities to use in your lesson; however, because I enjoy the creative process of formulating the lesson and activities, I developed the idea for this activity myself before turning to AI to help with creating the necessary materials.

I first used ChatGPT to generate vignettes about the two restaurants. The successful one is a farm-to-table restaurant that deliberately

cultivates a menu and atmosphere targeted toward senior couples. The second tries to be all things to all people, and therefore, it ends up disappointing everyone. I also generated an income statement for each restaurant, so students had some basic financial data to reference.

I created an exercise in which I give students hundreds of AI-generated customer reviews for two fictional restaurants. One is successful, one is failing, and students must analyze the reviews to figure out why.

I edited the vignettes to make sure they were clear and distinct. Then, I pasted them back into ChatGPT and asked it for something I could never have created on my own: approximately 300 fictional customer reviews of the restaurants.

Each review included a star rating (one to five) and some text. In a series of prompts, I coached ChatGPT to make sure these reviews would be useful for my lesson on target markets. In initial output, for instance, the AI produced only positive reviews for the successful restaurant and only negative reviews for the failing restaurant—so I had to prompt further to clarify. For both the successful restaurant and the failing restaurant, I told ChatGPT what percentage of the reviews should be positive (80 percent and 30 percent respectively) versus negative (20 percent and 70 percent respectively), and which demographics those reviews should come from.

I also made sure to list the features that guests would like and dislike at each restaurant (e.g., menu variety, décor, service quality). I went a step further by encouraging AI to make some of the reviews a bit wittier and others somewhat harsh (though still appropriate for class), as well

as reducing repetitive wording; this added dimension and realism to the data.

2. Guiding student exploration of AI

When I introduce the activity to students, I start with a general discussion of the two restaurants and their different levels of success. We look at the vignettes about each restaurant, as well as their financial data, and discuss possible explanations. Then, I introduce the customer reviews via Canvas (our learning management system) and ask students how they would go about finding insights in such a large collection of qualitative data.

At this point, a few ideas start to trickle in. A student may suggest finding an average of all the star ratings, but I remind them that doing this wouldn't give us much actionable information about why these restaurants have such different success rates. Another might suggest splitting into groups to look at clusters of reviews, or putting all the reviews in a spreadsheet, or similar unwieldy strategies.

Eventually, someone will raise their hand and ask (often hesitantly) if they can use AI. At that moment, I will explain how AI can be incredibly useful here, and that we have an opportunity to practice using it.

I then ask my students what they think their prompt should ask. I push them to go beyond just saying, "Analyze these reviews." This brief discussion helps them get more specific in their questioning when engineering prompts. For example:

- "Can you calculate the average rating for each restaurant?"
- "Can you show me the rating distributions in a chart?"
- "Can you look through the reviews and identify positive and negative themes?"

Students then have time to work in small groups to analyze the data with an AI model of their choosing. I generally let them use AI however they see fit to encourage independent critical thinking about AI's capabilities. Some students use AI to create charts, like histograms of different star ratings, while others ask it to summarize the main themes in the reviews.

3. Tying it all together

The next step is to bring everyone back together to discuss the results they found. I first ask students to compare the prompts they used and the outputs they produced. This discussion turns into a mini lesson on prompt engineering, as we examine the most successful prompts and analyze what made them effective.

I've noticed that this activity has changed how students see AI. After completing it, many of them become proactive about using it in other areas of the class before I even direct them, and they suggest ways they might use it in their future careers.

Then, we return to our discussion of the two restaurants, and students explore the key themes that emerged from their AI-assisted analyses. This analysis naturally leads to a conversation about target markets. While some students guessed that target markets might be a factor at the beginning of class, their importance becomes especially clear after examining the customer reviews.

In realizing the core objectives of the lesson, students also get to see the value of using AI to support them and experience using it in their evaluations of the data.

Unlocking curiosity about AI

I've noticed that this activity has changed how students see AI. After completing it, many of them become proactive about using it in other areas of the class before I even direct them, and they suggest ways they might use it in their future careers. Because this activity has been so successful, I'm already planning on using a similar approach to statistical analysis in other course exercises.

Parsing data isn't the only possibility—this process can be replicated just as easily to help students practice using AI to analyze a CEO's discussion of market dynamics in an annual report, compare various marketing media used by competing cruise lines, and many more.

I encourage you to experiment with different use cases that might fit your course. If you're not sure where to begin, start with your course's learning objectives and ask AI to help you brainstorm effective activities that would involve some hands-on AI practice for your students.

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Use AI-Assisted Flash Debates to Engage Students

Guidance and Prompts for a More Fun, Active, and Sticky Learning Experience

by **Hussna Azamy**

Published on hbsp.harvard.edu / September 18, 2025 / [Read Online](#)



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With so much to teach our students and so little time each term to do it, sticking to lectures can often seem like our only viable path. I mistakenly held that belief early in my teaching experience. But after completing a couple of painfully quiet terms and receiving tepid student feedback, I released the grip on my lecture slides and started weaving hands-on, minds-on active learning exercises into class sessions.

The change was immediate. Students were suddenly lit up, engaged, and curious—and, as I later learned, retaining more and performing better because of it. Now, I don't just focus on what I teach—I also focus on how students interact with what I teach.

One of my favorite ways to get students interacting with the material and with each other is to conduct flash debates; these are short series of five- to 10-minute debate rounds during which students must spontaneously prepare and argue a position for course-related topics.

Flash debates hit the pedagogical sweet spot: They require knowledge recall but demand deeper analysis, synthesis, and evaluation. To argue a position, students aren't just memorizing definitions; they're manipulating complex concepts, weighing philosophical evidence, and constructing ethical arguments. They're also gaining critical-thinking and communication skills that will get them ahead in their future careers. I run these debates four times per term; the approach can be easily customized to suit your active learning toolkit and discipline.

The best part? Flash debates don't require hours of prep or a total course overhaul. With generative AI's help, you can quickly create, customize, and scale them to add variety and depth without piling on prep work. In the steps outlined here, I explain how.

Prepare and facilitate a basic flash debate

Before class, start by using the prompt below to ask AI for a list of opinion-splitting statements or questions related to your course content. I usually keep flash debates to 30 minutes, which allows debate on two or three topics. You can adjust the prompt to reflect the nature of your course and desired duration, but I'll use AI consciousness as an example topic.

[Start of prompt]

Create 4 debate-worthy statements about AI consciousness that would genuinely divide a room. Make them specific enough to require deep content knowledge about consciousness, cognition, and AI to argue effectively. Present the statements in a bulleted list.

[End of prompt]

The AI tool's output may include these statements:

[Start of output]

- AI systems that exhibit self-reflective error correction are already demonstrating the minimum conditions for consciousness.
- Consciousness is substrate-independent, meaning a sufficiently complex artificial neural network could achieve it just as a biological brain does.
- Current large language models prove that intelligence can exist without consciousness, showing that the two are fundamentally separable.
- If an AI can report subjective experiences indistinguishable from a human's, we are ethically obligated to treat it as conscious, regardless of how it works internally.

[End of output]

After assessing the statements for clarity, accuracy, appropriateness, and relevance, you're ready to facilitate simple flash debates among students. (Later in the article, I'll explain how you can take these up a notch.)

When I run flash debates, the energy is electric. Students are so engaged that my biggest challenge becomes getting them to stop participating when time is up.

In class, present the first statement and have students physically move to either side of the room—for online sections, use a thumbs-up or thumbs-down gesture—based on whether they agree or disagree. Students immediately take a side, then spend one to two minutes preparing their defense.

You may allow students to use their notes and even an AI tool, but only as a quick aid; they should not rely on it to provide them with an argument script. For example, students can spend one to two minutes prompting AI to brainstorm possible counterarguments, surface a key piece of evidence, or stress-test their reasoning before the debate begins. Make it clear that

they should not simply read AI-generated text aloud; instead, they should adapt and respond in their own words during the discussion.

Start the debate with a 10-minute timer, then have students on each side raise their hands to take turns making arguments. Depending on class size, give students between one and two minutes each to defend their position before moving on. Participation is individual rather than group-based to encourage students to respond from their own perspective. This structure works well even if multiple students are on the same side, as the short speaking slots keep contributions fresh and varied.

Have students debate for five to 10 minutes before moving on to the next debate statement. Or, have students switch sides and argue the opposite of their initial choice. This gives more students an opportunity to participate regarding a given topic.

When the timer runs out, announce a transition from the first topic and reveal the next, repeating the cycle. Depending on time available, you'll usually cover two to four statements per session.

Wrap up the debate session by having the class reflect on the overall experience. This helps students consolidate their learning and recognize the complexity of the issues they explored. It can be tricky to wrap up especially lively or meaty debates, so a timer is your friend to signal the close. Reflection can happen as a whole-class discussion or a quick written exercise.

You can pick one or more of these questions or create your own to help guide discussion:

- Which debate statement felt most challenging to argue and why?
- What evidence or reasoning most surprised you across the debates?
- What assumptions did you realize you were making about these topics?
- If you could research one area more deeply after today's debates, what would it be?

Take it up a notch by adding role play and plot twists

To make the debates more immersive and engaging, I use AI to transform the original debate statements.

These advanced techniques work best once students have mastered foundational concepts and can move beyond surface-level answers, which usually happens by the middle or later part of a semester.

With a few clever prompts and a willingness to try something new, you can move from passive delivery to purposeful, playful, and personalized learning.

Gradually building from simpler formats early in the term to these more complex approaches over time helps students apply theory in context and integrate learning more deeply.

Role-playing scenarios

I first have gen AI transform the basic debate statements into specific role-play scenarios that require students to move beyond recalling and understanding content to applying it in a decision-making environment.

[Start of prompt]

Take the following debate statements and turn each into a short role-play scenario. For each scenario, create one or two distinct stakeholder roles (e.g., neuroscientist, philosopher, policymaker, engineer, ethicist, or even the AI system itself). Provide a brief background for each role that clarifies their perspective, motivations, and constraints. Then, give 1-2 key talking points that each role might use in the debate. The goal is for students to argue from

the perspective of these stakeholders, applying course knowledge in context rather than just recalling facts.

[DEBATE STATEMENTS]

[End of prompt]

For the statement “If an AI can report subjective experiences indistinguishable from a human’s, we are ethically obligated to treat it as conscious, regardless of how it works internally,” the AI may generate this scenario: “A major tech company claims their AI assistant experiences emotions and deserves legal rights. You’re a neuroscientist—convince the ethics committee whether this AI should be considered ‘conscious’ or just sophisticated programming.”

Plot twists

To take the exercise further, you can have AI create “plot-twist” cards that add new dimensions to the debate.

[Start of prompt]

Generate 5 “perspective flip” cards that force students to switch sides mid-debate for each of the following debate statements. Make them surprising but logically defensible. Format as: “New evidence just emerged: [surprising fact]. How does this change your argument?”

[DEBATE STATEMENTS]

[End of prompt]

I introduce plot twists halfway through each flash debate round (five minutes in) and have students address the new information in their arguments.

In practice, plot twists raise the stakes and energize the discussion. Students can no longer rely on rehearsed arguments; they must adapt in real time, testing their grasp of the concepts under new conditions. This often produces sharper critical thinking, unexpected alliances, and more nuanced arguments.

Boost student confidence with an AI debate coach

When I first tell students we'll be using flash debates throughout the term, there are often some who are worried about participating in debate activities. To increase their skills and confidence, encourage them to practice by role-playing with gen AI before class.

Several students highlighted that using AI as a brainstorming tool and a debate coach helped them enter the debate more confidently.

While I usually don't reveal the exact flash-debate topics right before the debate—since I want students to practice thinking on their feet—I do provide a list of relevant topics to practice outside of class. That said, instructors may choose to share debate topics in advance for the first few rounds, then gradually transition to surprise topics as the semester progresses.

Here's a customizable prompt template that your students can use to designate a topic, assign roles, and practice debating with AI:

[Start of prompt]

I want to practice debating for my upcoming class discussion.

The topic is: "Should AI tools be banned in classrooms?"

My position: I'm arguing AGAINST banning AI tools in schools.

Your role: Please argue FOR banning AI tools in classrooms. Take the perspective of a concerned educator who believes AI tools harm authentic learning and academic integrity.

Instructions:

- Challenge my arguments strongly but fairly
- Ask follow-up questions to make me think more deeply
- Point out potential weaknesses in my reasoning
- Help me anticipate counterarguments I might face in class

Let's start: Please give me your opening argument for why AI tools should be banned in classrooms. After I respond with my counterargument, keep the debate going by challenging my points.

[End of prompt]

Students can even use tools like Character.AI, ChatGPT's voice mode, or Sesame AI to engage gen AI in real-time verbal debate.

Student feedback speaks volumes

When I run flash debates, the energy is electric. Students are so engaged that my biggest challenge becomes getting them to stop participating when time is up.

In a mid-semester feedback survey, 50 percent of students said it was the best course they've taken so far. Many reported that the short timeframe kept the activity lively and low-pressure, while the rotating topics ensured a variety of perspectives were explored. Several students highlighted that using AI as a brainstorming tool and a debate coach helped them enter the debate more confidently.

And flash debates are just the beginning. Once you start blending active learning with AI's creative power, a world of possibilities opens up. With a few clever prompts and a willingness to try something new, you can move from passive delivery to purposeful, playful, and personalized learning. And as I've seen firsthand, that shift doesn't just wake up sleepy students, it wakes up the entire classroom.

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