# Using AI to Support Learning[1]

**UDL 3.0 Consideration 8.2:** Optimize Challenge and Support — Set high expectations using flexible tools and supports.

Every student enters your classroom with different backgrounds, preparation levels, and learning needs. Generative AI offers a powerful way to provide individualized support that adapts to each learner — at scale. When thoughtfully integrated into course design, AI becomes a tool that enhances rather than undermines the learning process.

## Why This Matters

UDL 3.0 recognizes that learning happens best when challenge and support are balanced. Students need productive struggle to grow, but they also need scaffolding to succeed. Research shows that AI can support self-regulated learning, leading to more autonomous learners who can plan, monitor, and reflect on their own progress. When students use AI to create personalized study materials, get immediate feedback, or practice applying concepts, they develop both content knowledge and metacognitive skills.

## The Opportunity

AI can expand what's possible in your teaching — offering students personalized practice, immediate feedback, and new ways to engage with course material. Studies indicate that faculty who use AI tools more often develop more positive attitudes toward their educational applications. AI can be used across a spectrum of applications: from idea generation and brainstorming to editing and refinement to full integration as a collaborative partner. The key is designing intentional assignments that leverage AI's strengths while keeping students actively engaged in thinking.

## Starting Where You Are

You may already be experimenting with AI in your teaching, or you may prefer a more cautious approach — both are valid starting points. Research suggests that hands-on experience with AI tools, combined with collegial support, builds confidence over time. Start with low-stakes applications that align with your comfort level and expand from there. The strategies below offer options ranging from simple to more integrated.

[1] Content developed with AI, based on the CAST UDL Guidelines™, scholarly sources, and web resources. Icons courtesy of *Flaticon.com* contributors.

## Strategies for AI-Enhanced Learning

**1. Communicate expectations clearly**

Be explicit about when, how, and why AI may be used in your course. Research shows that most institutions have not yet developed comprehensive AI policies, leaving students uncertain about acceptable use. Your syllabus and assignment instructions should specify permitted AI applications.

**Try this:** Include a statement like: "In this course, AI tools may be used for brainstorming and feedback on drafts, but not for generating final submissions. All AI use must be documented."

**2. Model transparent AI use in your teaching**

When you use AI to create course materials — rubrics, slides, discussion prompts, sample responses, or assignment instructions — share that with students. Modeling transparent AI use demonstrates that AI is a legitimate professional tool when used responsibly. It also builds credibility when you ask students to document their own AI use, showing that the expectation applies to everyone in the learning community.

**Try this:** Add a brief note to materials you create with AI assistance: "This rubric was drafted with AI and refined based on course goals." Share your process occasionally — show students a before-and-after example of how you prompted AI, evaluated its output, and made revisions.

**3. Design assignments that use AI for brainstorming**

AI excels at helping students generate initial ideas, explore different perspectives, and overcome the blank page. When you build AI-assisted brainstorming into assignments, students still must evaluate, select, and develop the ideas that resonate with the assignment goals — keeping critical thinking central to the process.

**Try this:** Have students generate three potential thesis statements using AI, then write a reflection explaining which one they chose and why. Ask them to identify what the AI missed or oversimplified.

**4. Use AI for critical feedback on drafts**

Students can use AI to receive immediate, low-stakes feedback on their work before submitting for formal evaluation. This allows multiple revision cycles that develop writing and thinking skills. The key is teaching students to evaluate AI feedback critically rather than accepting all suggestions automatically.

**Try this:** Ask students to submit AI feedback alongside their draft, annotated with their decisions about which suggestions to accept, modify, or reject, along with reasoning for each choice.

**5. Leverage AI for personalized study materials**

AI can help students create customized study tools: practice quizzes based on course content, flashcards for key terms, concept summaries at their level, or practice problems with worked solutions. This supports self-regulated learning by giving students agency over how they prepare for assessments.

**Try this:** Have students generate a practice quiz using AI, take it without AI assistance, and then reflect on which concepts need more study. Students can share effective prompts with classmates.

**6. Build critical evaluation skills through AI critique**

When students critique AI-generated content, they demonstrate a deep understanding of the subject matter. AI sometimes makes errors, anchors on one aspect of a concept, or misses nuance — evaluating these gaps requires students to articulate what they know. This approach develops both content expertise and AI literacy.

**Try this:** Ask AI to generate a case study or scenario illustrating a course concept. Have students analyze whether the AI accurately captured the concept, identify its limitations, and suggest improvements.

**7. Have students teach concepts to the AI**

Research demonstrates that teaching others promotes deeper, more persistent understanding. When students explain concepts to AI acting as a novice learner, they must organize their knowledge, anticipate questions, and fill gaps in their reasoning — all cognitive activities that strengthen learning.

**Try this:** Have students "teach" a course concept to an AI that asks clarifying questions. Students submit the conversation transcript along with a reflection on what they learned about their own understanding through the teaching process.

**8. Require transparent AI documentation**

Documenting AI use builds ethical habits and metacognitive awareness. Students should learn to track their AI interactions as a professional skill, as transparent AI use is increasingly expected in the workplace. Clear documentation also allows you to assess how students are thinking alongside the AI rather than outsourcing their thinking.

**Try this:** Require an AI use statement with assignments that includes: which AI tool was used, what prompts were given, how the output was used or modified, and what the student contributed independently. When possible, ask students to share a link to their AI conversation — most tools like Claude and ChatGPT offer this feature — so you can review the full exchange.

## Key Takeaway

AI integration works best when it's process-oriented rather than product-focused. Design assignments that require students to engage with AI outputs, refine them, and demonstrate their own thinking. When students must actively evaluate, modify, and build on AI suggestions, they develop both disciplinary knowledge and transferable skills for working with AI responsibly.

## Resources

Anthropic. (2025). Claude Opus 4.5 [Large language model]. https://claude.ai/

Bowen, J. A., & Watson, C. E. (2025). *Teaching with AI: A practical guide to a new era of human learning* (2nd ed.). Johns Hopkins University Press. https://doi.org/10.56021/9781421453392

CAST. (2024). *Universal Design for Learning Guidelines version 3.0*. https://udlguidelines.cast.org

Francis, N. J., Jones, S., & Smith, D. P. (2025). Generative AI in higher education: Balancing innovation and integrity. *British Journal of Biomedical Science, 81*, Article 14048. https://doi.org/10.3389/bjbs.2025.14048

Jones, S., & Newton, P. M. (2024). Education and training assessment and artificial intelligence: A pragmatic guide for educators. *British Journal of Biomedical Science, 81*, Article 14049. https://doi.org/10.3389/bjbs.2024.14049

Kaplan-Rakowski, R., Grotewold, K., Hartwick, P., & Papin, K. (2023). Generative AI and teachers' perspectives on its implementation in education. *Journal of Interactive Learning Research, 34*(2), 313–338. https://doi.org/10.70725/815246mfssgp

Meyer, A., Rose, D. H., & Gordon, D. (2025). *Universal Design for Learning: Principles, framework, and practice* (3rd ed.). CAST Professional Publishing. https://www.kobo.com/us/en/ebook/universal-design-for-learning-3

Mollick, E. R., & Mollick, L. (2024). Instructors as innovators: A future-focused approach to new AI learning opportunities, with prompts. *SSRN*. https://doi.org/10.2139/ssrn.4802463

U.S. Department of Education. (2024). *Artificial intelligence and the future of teaching and learning: Insights and recommendations*. https://www.ed.gov/documents/ai-report