

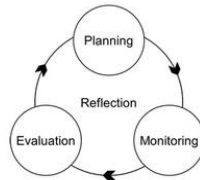
Metacognition Made Easy: Incorporating Planning, Monitoring, and Evaluating

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What is metacognition?

Metacognition, or “thinking about thinking,” is the ability to reflect and monitor learning in order to learn and teach more effectively. Metacognition can be used in classrooms across disciplines to promote student learning. Instructors can use reflective teaching approaches to scaffold metacognitive learning strategies for students. Three skills that instructors can help students develop are:

- **Planning:** Identifying strategies to help set learning goals and objectives.
- **Monitoring:** In-the-moment awareness of the learning progress.
- **Evaluating:** Appraising how the learning went.



Metacognition matters

Research on metacognition demonstrates that students' ability to effectively plan, monitor, and evaluate their learning leads to learning improvement (Nietfeld & Shraw, 2002; Theide, Anderson, & Therriault, 2003). Students who regularly practice these skills are better able to consider and select appropriate strategies to enhance their learning. They are also better able to discern whether their strategies are useful in meeting their learning goals, change their course of action, and problem-solve if their current techniques are ineffective. Research has shown that metacognition can be taught (Halpern, 1996). Students who regularly use their metacognitive skills show better exam performance and work and learn more efficiently (Teaching Excellence in Adult Literacy, 2012).

Teaching strategies that facilitate planning

- Structure your syllabus around the learning goals for your course. Share your expectations regarding learning goals, course deadlines, and how learning will be evaluated.
- Communicate your lesson plan at the beginning of class and clearly convey how each assignment or activity promotes student progress toward the course's learning goals.
- Reflect on the strategies that may be effective within your specific teaching context: Think, pair, share? Journaling? Teaching a new concept to a partner?
- Use class time effectively by setting aside time to cover planned material, as well as scheduling time for activities designed to promote student mastery goals.

Teaching strategies that facilitate monitoring

- Use low-stakes quizzes or check-ins during class to assess in the moment if any content needs to be re-presented. Activities like the Muddiest Point ask students which concept in the lecture was the most confusing.
- Notice patterns of mistakes and misunderstandings across assignments as you grade and give feedback and share these observations with students.
- Provide ample opportunities for students to understand their progress towards the course learning goals.
- Observe class engagement. If it is lower than you hoped for, consider whether you are scaffolding the learning effectively and what material students are unsure about.

Teaching strategies that facilitate evaluating

- Model your own metacognitive approach by inviting student questions to evaluate how clearly you have taught the material. You can consult with the [Center for Teaching](#) to develop formative assessments to collect feedback throughout the course.
- Use [metacognitive prompts](#) with students to elicit reflection on their planning, monitoring, and evaluating. These prompts can be used with individual students or in a group setting to promote metacognitive reflection.
- Encourage the use of [Cognitive Wrappers](#) as a structured tool for students to reflect on their strategies and performance after each major assignment. If you offer rewrites or exam retakes, you can require students to complete a wrapper before they are eligible for the retake.
- Remind students that they should not wait to monitor and evaluate until after a formal assignment. Let them know that they can - and should - regularly monitor sources of confusion and evaluate their progress, allowing them more time to seek clarifications and use other resources before future assessments.

Leverage technology to support metacognition

Instructional technology can be a streamlined way to significantly enhance the delivery of metacognitive strategies to students, providing an efficient way for them to focus on the development of their skills. Technology tools also offer a myriad of ways for instructors to evaluate student responses and provide effective feedback. We encourage you to explore the [Office of Teaching, Learning, and Technology tools page](#) for more details.

References

Halpern, D. F. (1996). *Thought and knowledge. An introduction to critical thinking.* Mahway, New Jersey: Lawrence Erlbaum Associates.

Nietfeld, J. L., & Shraw, G. (2002). The effect of knowledge and strategy explanation on monitoring accuracy. *Journal of Educational Research*, 95, 131-142.

Teaching Excellence in Adult Literacy (2012). *Metacognitive Processes.* Retrieved from: https://lincs.ed.gov/sites/default/files/4_TEAL_Metacognitive.pdf.

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