

Metacognition

Metacognition is the awareness of how or why one knows or learns something. Developing metacognition helps students both to acquire deep understanding of course concepts, and to apply that understanding to other contexts. When they identify what they already know about a topic, how they're predisposed to approach it, and what they do not know or understand about it yet, they're able to move more swiftly into filling these gaps. And with a critical awareness of how they think and learn, students tend to be more flexible in their thinking and learning, transferring and adapting concepts more adeptly.

Some ways to promote metacognition:

Promote metacognition in your classes by weaving it into every assignment.

- Explain **growth mindset**, and highlight the positive relationship between learning and “brain training.”
- Praise learning, not effort: a strong show of effort—whether resulting in success or failure—is less important than identifying what is and is not working, and what to try next.
- When introducing a concept, ask students to assess how they currently think about that topic. (“What background knowledge, biases, or interests might guide my learning about this?”)
- Debrief after a lesson, asking learners to identify points of confusion. (“What confused me about today’s material? Why?”)
- Toward the end of a unit, ask students to analyze their conceptual shifts. (“At the beginning of this unit, I thought this topic was...now I think it is...”)
- Ask students to write you a cover letter on their essays, outlining their process, intention, and challenges.

Implement the following practices to encourage metacognition generally.

- Use **in-class writing** and discussion to get students in the practice of monitoring their own learning. (“What cognitive steps did I take the last time I learned to use a new ratio?” or “How did I go about studying for the last exam?”) They may also want to consistently monitor where, in a lesson or a reading, they find themselves confused.
- Incorporate questions about their thinking process into your essay or assignment feedback.

References

- Bransford, John D., et al, eds. *How People Learn: Brain, Mind, Experience, and School*. Washington, DC: National Academy Press, 2000.
- Lovett, Marsha. “Make Exams Worth More than the Grade.” *Using Reflection and Metacognition to Improve Student Learning*, edited by Deborah Meizlish, Danielle LaVaque-Manty, and Naomi Silver. Sterling, VA: Stylus, 2013.
- Tanner, Kimberly. “Promoting Student Metacognition.” *CBE—Life Sciences Education*, no. 11, 2012, pp. 113-120.

See also

Growth Mindset
In-class Writing
Performances of Understanding