

How can I help my students become more self-regulated learners?

Many students take a haphazard approach to learning: they dive into course readings, activities, assignments, and assessments without a real plan in mind. And they're often unsure of how to use the feedback they receive on their learning: they simply move on to the next homework or assignment without stopping to consider what they can learn from their previous attempts. Students who work in this way seem to rarely, if ever, reflect on their learning and how they might improve it. These students might frustrate us, but the research suggests that the ability to regulate one's learning through planning, monitoring, self-teaching, and self-assessment is one that develops over a lifetime with scaffolded practice. The exciting news is that we can help our students become more self-regulating with small changes in our teaching that help them make connections between our courses and their lives beyond the classroom. When we make these small changes, an added benefit is that *they* do more of the work of managing their learning that *we* used to do for them. How do we get this big payoff for them and for us?

Principles of self-regulated learning

- Self-regulation develops with practice over time.
- Reflection is the key to self-regulation.
- Students need real data about their learning to regulate their learning.

Putting these principles into action

- **Require students to practice planning, monitoring, strategizing, and self-assessment frequently by making these behaviors part of your assignments and activities.** It's surprisingly easy to add metacognitive steps that require students to focus on their work, their progress, our feedback, and their next steps in ways that lead to greater learning. When these small but powerful steps are ongoing throughout a course, we can help students develop the ability to self-regulate. It's good to keep in mind that self-regulation happens in three phases: before students tackle assignments and activities, during their execution of those learning opportunities, and after they have received feedback on their attempts. They will need scaffolds to ensure they strategize and plan at all three points of their learning.
- **Require students to analyze their work and thinking through reflection.** We (and our students!) often misunderstand reflection. When educational psychologists use the term reflection, they don't mean generating random thoughts or feelings. Rather, they mean analytic reflection, which requires students to evaluate their thoughts using disciplinary frameworks and concepts. Analytic reflection is rigorous intellectual work. To become self-regulating, our students need to reflect—frequently—on the utility of our disciplines, their growing ability to use disciplinary thinking, and the feedback we give them as disciplinary experts.
- **Provide frequent feedback and require students to use that feedback to analyze their preparation, their work, and their next steps.** If we want students

to monitor and guide their own learning, they will need data about their progress. Research suggests that students who are struggling tend to overestimate their abilities while students who are successful tend to underestimate their abilities. All students struggle with self-assessment, so it is necessary that we give them frequent, low-stakes assessments so that they get real feedback on their learning. That feedback provides information to help them evaluate the steps they are taking to learn, study, and do the work we require of them. Students can learn how to learn when they are given many opportunities to analyze their thinking; we must provide those opportunities to them.

Examples

Assignment and course frames that require students to articulate why and how they are learning

The research shows that self-regulation increases when students are intrinsically motivated and when they see that learning can develop ~~over time~~ and ~~can~~ be monitored over time. These are examples of ways to help students develop these self-motivating beliefs and behaviors.

- At the beginning of the course, require students to write in response to the prompt “How this course saved my life!” or “How this course saved my town!” so that they begin to articulate the relation between the discipline they will be learning and their own needs and experiences. Students who value what they are learning are much more likely to monitor that learning.
- Frame activities so that students view challenges not as insurmountable, but rather as informational. For example, require students to keep a “puzzle log” where they frequently reflect on what puzzles them as they read, study, discuss, or listen to lectures. At intervals in the course, they can respond to their own questions or share these logs with peers or with you and get feedback on how to respond to or manage these concerns.
- Frame learning as a process that students track in your course. At the outset of the course, clarify for students that they will be studying their own learning and that they will be required to pick three pieces of evidence from the beginning, middle, and end of the course or of each learning sequence to look for change in learning and reflect on what is effective and what is less effective in their learning.

Activity scaffolds that require students to self-monitor and strategize

We can require students to monitor and strategize before, during, and after any learning activity. This example shows how you can require these steps (with little effort on your part) to ensure that students regulate their own learning during a lecture.

Before the lecture, require students do three minutes of writing, to answer these self-questions.

- How well do I understand this topic and what do I need to listen for?
- How will I record my notes and how should I set up my notebook?
- What is a pressing question I have about this topic that I will ask during Q&A?

Students also create a reaction column in their notes where they can log questions and connections using a word or an image.

During and after the lecture, students are given brief pauses to write short reflections on their emerging understanding and their emerging questions

- What's the most valuable or useful thing I learned?
- What's the most surprising idea?
- What is still confusing me and why?
- How would I use this information in my life/career/the lab/my writing, etc.?
- How could I explain the central idea to my roommate?
- What contradicts what I have previously understood?
- How does this connect to something I've learned in another course?
- What do I think the professor's three main points were?

Assignment analysis that requires students to self-assess and plan forward

We can require students to analyze and assess their learning using the feedback we provide them on their assignments. Over time, they will learn to do this automatically, but we need to scaffold this self-assessment for them in ways that ensure they make good use of our feedback and analyze their preparation before and next steps after the assignment.

After students receive your comments on a written assignment, they write a five minute reflection memo, considering these questions:

- How well did I think I did on this paper? How does that compare with my teacher's assessment?
- Based on my teacher's comments on this essay, what are three things I plan to do differently on the next written assignment?
 1. A conceptual thing (e.g. make sure I'm connecting my evidence to my argument)
 2. An organizational thing (e.g. reread each paragraph of my essay separately and state its main idea)
 3. A surface level thing (e.g. find out what a comma splice is and avoid them)
- What resources can I use to improve in these three areas?
- How will I check to see if I have improved before turning in the next assignment?

Resources

Ambrose, S. A., Lovett, M., Bridges, M. W., DiPietro, M., & Norman, M. K. (2010). How do students become self-directed learners? In *How learning works: Seven research-based principles for smart teaching* (pp. 188-216). San Francisco, CA: Jossey-Bass

Nilson, L. B. (2013). *Creating self-regulated learners: Strategies to strengthen students' self-awareness and learning skills*. Sterling, VA: Stylus Publishing, LLC.

Zimmerman, B. J. (2002). Becoming a self-regulated learning: An overview. *Theory Into Practice, 41*(2), 64–70.