

Encouraging Students to use Effective Learning Strategies

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Students do not always use effective learning strategies on their own, sometimes even despite knowing the benefits. In a recent working paper published by Oreopoulos and Petronijevic (2019), the authors recount the results of a five-year study conducted with nearly 25,000 undergraduate students at the University of Toronto. In this study, students in an economics course were assigned to either a control group or one of six different study conditions (Goal Setting, Mindset, Online Coaching, Online Coaching with One Way Text Messaging, Online Coaching with Two Way Text Messaging, and Face-to-Face Coaching). Participation in the study contributed to a small percentage of students' final grades in the course.

Researchers wanted to see whether involvement in the study groups improved students' mental health, study time, and academic outcomes. The authors note that students spend little time studying outside of class (approximately 5 to 8 hours fewer each week than they plan to), and while coaching interventions may bring them to this realization, they respond by adjusting their grade expectations downwards, rather than studying more. None of the interventions they evaluated significantly improved student outcomes.

These findings have implications for both students and faculty. In their book, *Understanding How We Learn*, Weinstein and Sumeracki (2019) outline some advice on how to use effective learning strategies, both in and outside of the classroom.

Strategy	Tips for Faculty	Tips for Students
Spacing	Revisit information throughout the semester (spacing) or within one lesson (interleaving).	Ask for help in creating a study schedule. Start planning early; small chunks of time spent studying can make a difference.
Elaboration	Model how to ask and answer good 'how' and 'why' questions about your material.	Preview your text and write down some 'how' and 'why' questions. As you read more deeply, jot down the answers.
Concrete examples	When tackling more abstract concepts, use more than one concrete example to explain the idea.	Make links between ideas you are studying and concrete examples from your context. Share these with your study group.
Visuals	Ask students to compare diagrams and pictures to related text in their study materials. Where possible, complement your notes with visuals.	Cover up the text under diagrams and pictures and explain what they are depicting. You may also do the opposite, by reading text and drawing your own diagrams to help explain.
Retrieval	Anything that encourages students to bring information to mind is retrieval practice. Plan for short and frequent quizzes of learned material.	Go through practice tests in your study materials, write your own questions, or create flashcards. Drawing concept maps is also a good way to explain links between ideas.

Adapted from Understanding How We Learn, A Visual Guide, by Weinstein and Sumeracki (2019)

More on these strategies can be found on the [Learning Scientists website](#).

Students will often spend time on ineffective strategies such as re-reading text or highlighting their notes; this might give them the illusion of learning (see Joe Kim's keynote presentation from the *Teaching & Learning Summer 2018 Conference*: "[How to motivate students for durable learning in 3 \(easy\) steps](#)" by Dr. Joe Kim), but little actual learning is happening in these scenarios. If we know that students are already spending less time per week studying than they plan to, then equipping them with effective learning strategies will ensure that their time is spent wisely.

If you're interested in learning more about the topics surrounding The Science of Learning, participate in the **Science of Learning series** (learn more about this series in the [Upcoming from the Teaching & Learning Centre](#) article in this issue).

References

- Oreopoulos, P., & Petronijevic, U. (2019). The remarkable unresponsiveness of college students to nudging and what we can learn from it. WorkingPaper: 19-102. Retrieved from <http://ftp.iza.org/dp12460.pdf>.
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