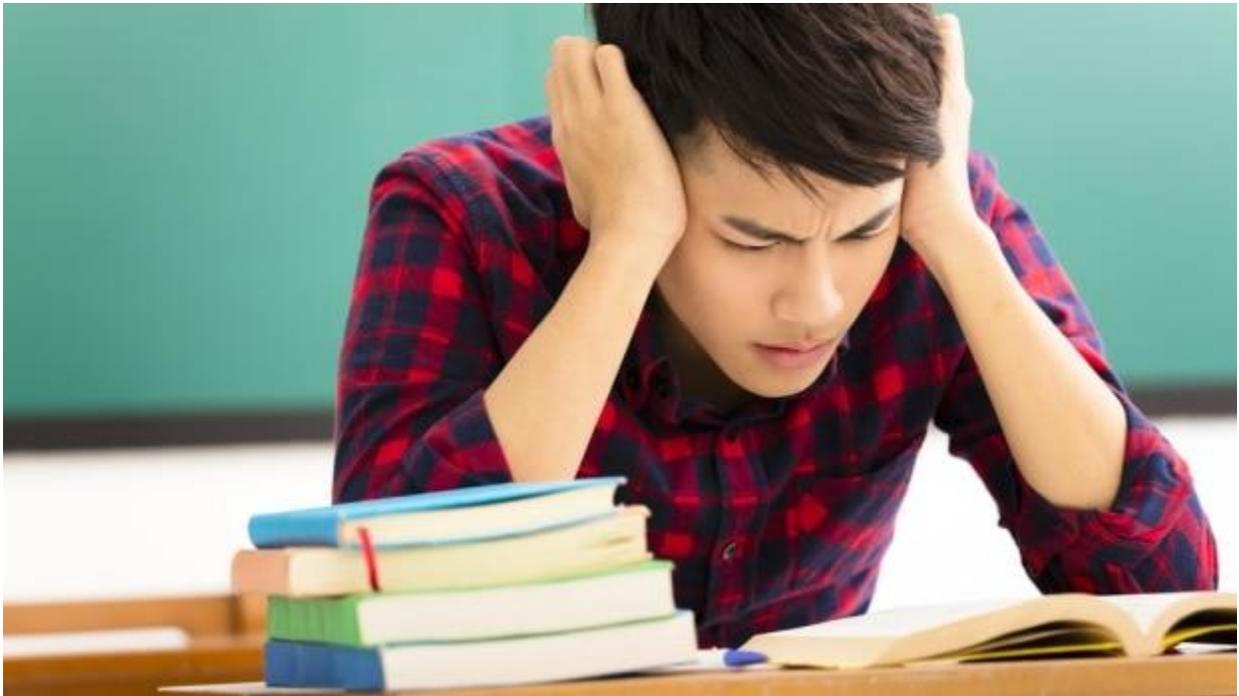


# Read it out loud to better memorize it!



Here's a study tip just in time for exam season: if you want to remember something, read it out loud.

It's called the "production effect" — a term coined by the Canadian researcher who discovered it, Colin MacLeod, a psychology professor at the University of Waterloo.

Typing something out or writing it down also results in variations of the production effect on memory. Even mouthing something without producing sound seems to trigger the effect. But what appears to work best is speaking it aloud.

"I think that leads to better initial encoding of the information in memory," MacLeod says. "But it's particularly useful at the time of test when you try to retrieve stuff from memory."

MacLeod first identified the production effect in 2010, and has tested it in a series of follow-up studies. The most recent variation was [published](#) in the journal *Memory*.

**'Silent was the worst.'** — Colin MacLeod, University of Waterloo psychology professor, on testing different ways of memorizing words

His team tested four ways of remembering by asking students to read a list of words silently, read them aloud, listen to someone else read them and listen to a recording of their own voice repeating the words. Then the students were asked to look at a long list of words and remember which ones they'd already seen. Their recall varied across the four techniques.

"Silent was the worst," MacLeod says. "It's a little better to hear someone else's voice. It's better still to hear your own voice, but it's best to produce [the word] yourself and both hear your own voice and move your own mouth."

MacLeod does not recommend reading an entire textbook out loud.

"But selecting the important stuff, that's good," he says.

MacLeod's research was focused on storing information in long-term memory. Other research has shown that saying something out loud can also improve short-term recall, to reassure yourself that you did something that you fear you might have forgotten, such as saying, "I locked the door" or "I turned off the stove."

At this point the researchers aren't certain exactly why vocalization improves memory. MacLeod says his next research question is to understand the physiological mechanism behind the production effect.