

Remembering to Learn: Five Factors for Improving Recall

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As a professor of cognitive psychology, I teach about memory, especially about when and why our memories often fail us. Students are excited to apply this material to their everyday lives.

During a recent class, a student asked whether other faculty were familiar with this research and remarked that it would be helpful if everyone structured their lessons with this knowledge in mind.

I offer the following tips taken from basic memory research. All of these findings can be easily applied to how you teach your classes and advise students.

- 1. Attend to information.** How often are your students checking text messages while listening to your lecture, arguing that they are really good at multitasking? Remind your students that most failures of memory are not problems with *retrieval* but with *encoding*. Most of the time we do not have difficulty pulling information *out*; the problem is that we never got it *in* to begin with. To make this point, I use the classic Nickerson and Adams (1979) penny task and ask students to draw the head of a penny from memory. They quickly realize that they have “forgotten” which direction Lincoln is facing or are unsure which phrases are on the heads or tails side. Explain to your students that they didn’t *forget* what a penny looks like. The truth is that they never bothered to encode the information. To remember something, they need to engage in *controlled processing*. They have to block out other distractions and focus on the task at hand.
- 2. Engage in deep processing and self-reference.** Deep processing involves thinking about the meaning of the information and connecting it to personal experiences. To make this point, I use a modified version of Craik and Tulving’s (1975) study and present students with a list of adjectives, such as “creative,” “methodical,” or “serious.” For some of the words they are asked a question about how it is spelled; for example, “Does the word contain the letter T?” For other words, they are asked, “Does the word describe you?” Later, students are asked to recall as many of the words as possible. Students are significantly more likely to recall words from the “describe list” because they had to think about the meanings and apply the words to themselves. Simply reading over a paragraph of text or listening to a lecture does not guarantee encoding it into memory. What one thinks about while listening or reading is what matters.

3. **Generate cues.** Students often request that I provide more examples of the concepts we are discussing. Although instructor-provided examples and explanations are important, I teach my students that it is more important that they come up with their own examples and cues. Research by Mäntylä (1986) reveals that participants recalled 36 percent more concepts when using self-generated cues than when using cues developed by someone else.
4. **Create context.** Instructors know that students often come to class unprepared. Students argue that they prefer to hear the lecture before reading the chapter. To explain why skimming the chapter before class is important, I read my students an oddly worded passage from a study by Bransford and Johnson (1972). First, I show half of the class a picture that creates context for what they are about to hear. For this half of the group, the strangely worded passage is clear, and they find they are able to recall large portions of it after hearing it just once. The group not shown the picture fails to make sense of what they have heard and have difficulty recalling details. Without looking at material before class to create context, it is difficult for new material to make much sense.
5. **Test frequently.** This is the easiest strategy and can have the most impact on students. Contrary to expectation, Roediger and Karpicke (2006) found that seeing a passage only once and then forcing yourself to recall it from memory leads to better retention than repeatedly reading the passage. Incorporate brief tests or quizzes into your course, and encourage your students to self-test as they study. Reading a passage and then stopping to ask yourself what you just read is going to be more effective than reading it twice.

Students may have heard much of this advice before. However, taking the time to put students through these demonstrations will allow them to experience how these small adjustments can influence their recall. They will then see the value of changing the way they study.

References

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