Help Students Deepen Their Learning Through Informal Writing Tasks

Consider this scenario:

You heard how delicious the breakfast is at a local restaurant, so you ask a colleague for the name of the restaurant and the directions. The next morning, you prepare to go get breakfast, and you realize you have forgotten the name of the restaurant and the directions. You ask your colleague again for the name of the restaurant and then let Siri guide you there. Later, your family decides to visit the restaurant – but you once again cannot remember the name of the restaurant and you have only a vague idea of how to get there. Sound familiar?

A second scenario is that sometimes our students get 100% on homework assignments and then do poorly on exams.

For both scenarios, the problem is embedded in three stages of learning:
- Encoding – we get information in and absorb the knowledge, like a sponge
- Storage – we put the information in working memory
- Retrieval – we reach back and bring a memory to our consciousness

If we fail to help students practice retrieving information, they may be unable to recall it (scenario and explanations adapted from Agarwal & Bain, 2019, pp. 9-10).

Writing is one way to help students practice retrieval.
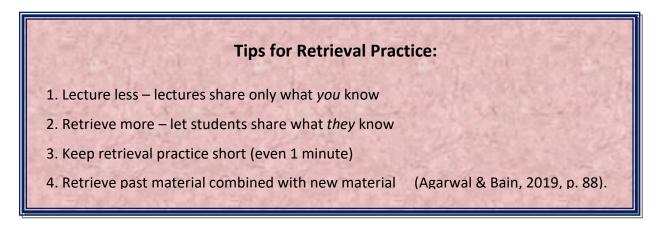
Short, informal writing tasks can deepen student understanding and memory. Students may try to learn our course material by re-reading the text and their notes over and over. However, this is one of the least effective ways to learn. So, the problem for students is not "jamming facts and information down into their long-term memories," but the challenge is in retrieving the information when they need it. "Every time we extract a piece of information or an experience from our memory, we are strengthening neural pathways that lead from our long-term memory into our working memory, where we can use our memories to think and take actions. The more times we draw it from memory, the more deeply we carve out that pathway" and the easier it is to retrieve the information we need (Lang, 2016, p. 28). To help students learn and retrieve material we teach, students need opportunities for "frequent and deliberate practice" to "solidify their knowledge base" (p. 21).

Use writing tasks to help students connect what they are learning. Since students might "absorb the knowledge from each lecture in a course without connecting the information to other lectures" or "produce individual pieces of information in specific contexts," informal writing can help students anchor the information to the bigger vision of the class. In fact, "the more times the pathway [to connecting the ideas students learn in class] is used, the stronger the connection" (Lang, 2016, p. 95).

Informal writing tasks can allow all students to practice retrieval. Asking questions in class to assess whether students are learning the content provides an opportunity for a single student to retrieve the information. But when the rest of the students listen to the question and answer, "their learning doesn't increase. We may expect that all of our students are retrieving when we ask questions during lessons, but it's likely that they aren't receiving a benefit *unless they're the one being called on"* (Agarwal & Bain, 2019, p. 86).

Informal writing tasks can help students identify areas where they do not understand. Retrieval can be uncomfortable, and getting good scores on homework or taking good notes in class may give the *illusion of fluency* (Agarwal & Bain, 2019, pp. 9-10). So, students who have mastered the art of getting 100% on homework are often the ones who will most resist retrieval practice.

Retrieval practice is a "learning strategy," NOT an "assessment strategy." The writing students do to practice retrieval should be "low-stakes" – perhaps not even collected. For example, we can stop in the middle of a lecture and ask students to do a 3-minute "brain dump" – write as much as they can remember about the assigned readings for the day and about our lecture. Then simply continue the lecture—do not discuss or collect the papers (Agarwal & Bain, 2019, pp. 46-50).

Tips for Retrieval Practice:

1. Lecture less – lectures share only what *you* know

2. Retrieve more – let students share what *they* know

3. Keep retrieval practice short (even 1 minute)

4. Retrieve past material combined with new material   (Agarwal & Bain, 2019, p. 88).

Simple Retrieval Activities (Refer to past Newsletters for more suggestions for using retrieval activities)

o "Require students to compare current content or skills with previously learned material" (Lang, 2016, p. 75). Retrieval can help students discover not only what they know, but also what they do not know. Students who simply review the text and lecture notes often have the *illusion of confidence.* This practice does not store the material in long-term memory.

o Use informal writing at the beginning or end of class to "to retrieve older knowledge, to practice skills developed earlier in the course, or to apply old knowledge or skills to new contexts" (Lang, 2016, p. 83). For example, have students list 2 important "take-aways" from a lecture and/or readings. Exchange with another student and have them list 2 more ideas.

References
Agarwal, P. K., & Bain, P. M. (2019). *Powerful teaching: Unleash the science of learning.* Jossey-Bass.
Lang, J. M. (2016). *Small teaching: Everyday lessons from the science of learning.* Jossey-Bass.

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