

Retrieval Overview

Use the following overview of retrieval as a handy reference or share it with your team.

What is it? Retrieval is the practice of having students recall what they already know. As opposed to pouring information into a student, retrieval is focused on getting information out of a student.

Why use it? Retrieval increases retention and application and transfer skills (Carpenter, 2012; Carpenter & Kelly, 2012; Dirkx, Kester, & Kirschner, 2014). Additionally, retrieval builds conceptual learning along with problem-solving and comprehension skills (Yang, Luo, Vadillo, Yu, & Shanks, 2021). Lastly, retrieval has been shown to lower test anxiety (Agarwal, D'Antonio, Roediger, McDermott, & McDaniel, 2014; Roediger, Agarwal, McDaniel, & McDermott, 2011).

How to use it: After students have had a first exposure to material, such as through direct instruction, use retrieval to cue them to recall the information. This can be done via bell ringers, exit slips, chapter tests, cumulative tests, in-class questions, and any other activity where you require students to draw upon their memory.

Boundary conditions: Use anytime you can, with greater benefits after material has been learned than before it has been learned (Yang et al., 2021).

Other similar terms: retrieval practice, practice testing

References

- Agarwal, P. K., D'Antonio, L., Roediger, H. L., III, McDermott, K. B., & McDaniel, M. A. (2014). Classroom-based programs of retrieval practice reduce middle school and high school students' test anxiety. *Journal of Applied Research in Memory and Cognition*, 3(3), 131–139.
- Carpenter, S. K. (2012). Testing enhances the transfer of learning. *Current Directions in Psychological Science*, 21(5), 279–283.
- Carpenter, S. K., & Kelly, J. W. (2012). Tests enhance retention and transfer of spatial learning. *Psychonomic Bulletin and Review*, 19(3), 443–448.
- Dirkx, K. J. H., Kester, L., & Kirschner, P. A. (2014). The testing effect for learning principles and procedures from texts. *Journal of Educational Research*, 107(5), 357–364.
- Roediger, H. L., III, Agarwal, P. K., McDaniel, M. A., & McDermott, K. B. (2011). Test-enhanced learning in the classroom: Long-term improvements from quizzing. *Journal of Experimental Psychology*, 17(4), 382–395.
- Yang, C., Luo, L., Vadillo, M. Á., Yu, R., & Shanks, D. R. (2021). Testing (quizzing) boosts classroom learning: A systematic and meta-analytic review. *Psychological Bulletin*, 147(4), 399–435.