

# Evidence-Based Teaching Practices: Retrieval Practice

## The Power of Retrieval Practice

### What is Retrieval Practice?

Retrieval practice is a strategy in which a learner recalls information through calling it to mind i.e. remembering it from memory. Fundamentally, it's a strategy where students try to remember course content, concepts, and facts without having direct access to course material.



Retrieval-practice is also known in the literature as “testing-enhanced learning” or the “testing-effect”. It was referred to as such because the studies that investigated the impact of retrieval on learning used “testing” as a form of retrieval of information from memory. This has led many instructors to shy away from the practice due to the over testing in the educational system. However, retrieval practice should not be confused with assessment as it's not meant as an assessment strategy per se but as a learning tool that helps students acquire information.

**Why Use Retrieval Practice?** Retrieval-practice has been identified in the extant literature as one of the most effective strategies that increases long-term retention of concepts or facts especially when used on multiple, spaced, instances.

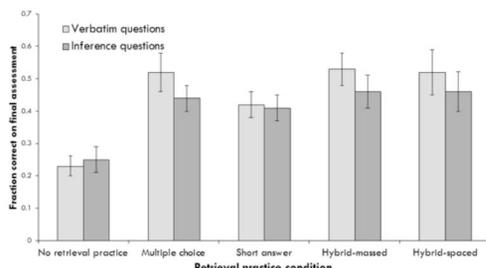
In a study where they investigated the effects of single versus multiple testing events on long-term retention, Roediger and Karpicke (2006) found that when the final test was delayed by a week, the group of students who studied



performed about 5% higher than the group who studied the passages one time and then performed the recall practice three times (STTT group) performed about 5% higher than the group who studied the passages three times and completed one recall test (SSST group) and about 21% higher than the group who studied the passages four times for five minutes each (SSSS group).

Research has also shown that the effect of retrieval practice positively impacts retention regardless of the type of questions

used to create the retrieval condition (Smith and Karpicke, 2014).



## How do I use Retrieval-Practice?

### Think Pair Share

The instructor prepares a question. Ask students to work individually for a few minutes to construct an answer on their own. Then have students work in pairs to share their answers. Potentially have students prepare a new combined response that represents the views of both members of the pair. Then move on to a class discussion.

### Audience response system (clickers)

Clickers, or classroom or audience response systems, are instructional technologies that enable teachers to rapidly collect and analyze student responses to questions during class.

### 3 - 2 - 1 Exit Tickets

The 3-2-1 exit slip strategy is a method of summarizing one's learning. The basic format is as follows:

- Students write three things they learned in today's lesson.
- Students write two things they liked or two interesting facts about the lesson.
- Students write one question they still have about the lesson.

Some instructors have also used Twitter for this.

### Concept maps or Team Concept maps

Students work individually or in small groups to draw a diagram that represents their understanding of a concept, process or the main ideas of the lecture. It may be helpful to brainstorm ideas first as a larger group, and then have

students organize the brainstormed ideas into a meaningful graphic (the instructor may or may not provide the graphic shape). Consider how you will handle the shared writing space, perhaps as handouts, flipcharts on the wall, or computer/mobile apps like Simple Minds or Popplet.

### Flashcards/Quizlet

Students generate their own flashcards either individually or in groups. Students can then exchange flashcards with other students/groups and get feedback.

### Turn into a question

Students change headings in a textbook into questions and after reading/studying the textbook, they try to answer the question in their own words. They can write a short answer. Questions generated by students could also be collated and turned into a quiz.

### Direct Paraphrase

Students paraphrase unfamiliar, technical concepts or theories into simpler language for a specified audience. For example, paraphrase to explain the idea to a sibling, or a customer.

### Cloze passage

A cloze passage is a reading comprehension exercise in which words have been omitted in a systematic fashion. Students fill in the blanks, and their responses are counted correct if they are exact matches for the missing words.

## References

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