Students' Use of Retrieval Practice

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Background:

- Past research has shown that students benefit from retrieval practice when studying[1], but few use the strategy often or to its fullest potential.[2]
- The form of retrieval practice has potential to impact the likelihood of students to utilize retrieval practice methods when studying.

Methods:

- In two studies, the popularity of two types of retrieval practice (practice quizzing and free-recall summarization) was compared to that of passive review (rereading or rewatching lecture videos).
- Sample: Undergraduate university students (Study 1: $N = 93$) and math classes at four different high schools (Study 2: $N = 567$).
- Learning phase: Participants were taught unfamiliar math topics through tutorials on the computer.
- Study phase: Participants had the choice to study using any of three tools (quiz, free-recall, and review) and could use any combination of the tools (or choose to not study at all) before an exam.

Research question:

Do students use retrieval practice?

Results:

Among students who studied, quizzing was very popular.

Study 1 (undergraduates):

Tool	Percent
Quizzing	93%
Free-recall	17%
Review	30%

Study 2 (high school):

Tool	Percent
Quizzing	83%
Free-recall	22%
Review	34%

Discussion:

- Use of retrieval practice may depend on the specific method being presented. While quizzing and free-recall are both methods of retrieval practice, quizzing was the most popular method while free-recall was the least popular method.
- It is still unclear as to whether students fully understand the benefits of retrieval practice; more research should be conducted on students' perceptions of it as well as their intentions to use it habitually.
- This study only examines two forms of retrieval practice. It is worth investigating other forms (e.g., flashcards, mind maps, etc.) as well as other factors such as the exam subject or individual time management skills that could affect students' use of retrieval practice.

References:

[1]Cogliano, M., Bernacki, M. L., & Kardash, C. M. (2021). A metacognitive retrieval practice intervention to improve undergraduates' monitoring and control processes and use of performance feedback for classroom learning. *Journal of Educational Psychology, 113*(7), 1421–1440.

[2]Carpenter, S. K., Pan, S. C., & Butler, A. C. (2022). The science of effective learning with spacing and retrieval practice. *Nature Reviews Psychology*, *1*(9), 496–511.