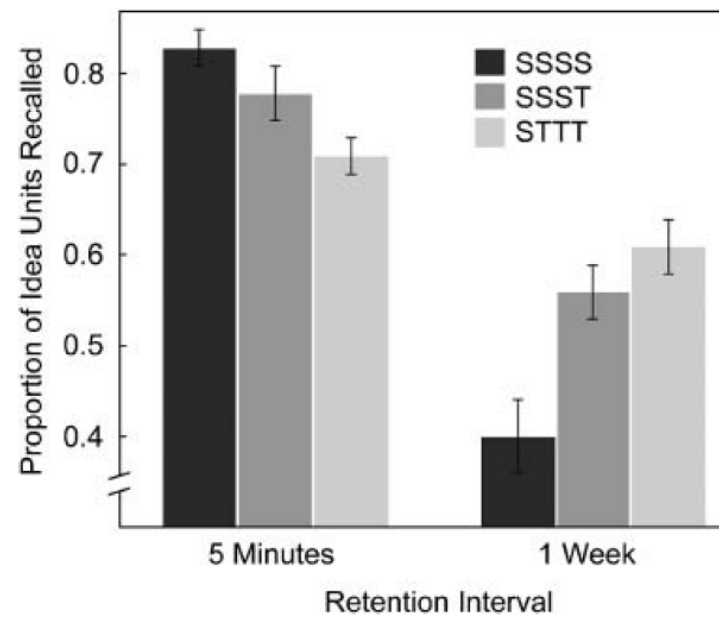
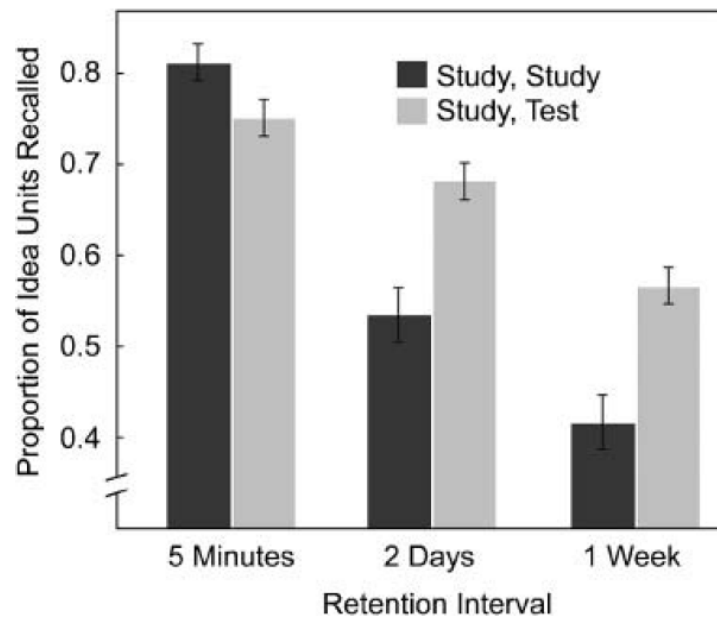


The Importance of Testing

Repeated Testing and Long-term Retention

Roediger, III, H.L., & Karpicke, J.D. (2006). Test-enhanced learning: Taking memory tests improves long-term retention. *Psychological Science*, 17(3), 249-255.

- Educational material (TOEFL passages)



The Power of Testing

The Testing Effect

- Improved retention through testing
 - Better than spending an equivalent amount of time studying
 - Better even if test performance is bad and tests are given without feedback
 - Better even for recall tests (where studying provides more exposure to the material than testing)

Theory

- The generation effect: generating (or producing) material creates better retention
- Retrieval Hypothesis
 - Retrieval may increase the elaboration of a memory trace and multiply retrieval routes
 - Greater retrieval effort results in better long-term retention
 - Depth of retrieval effect

Types of Tests in the Classroom

- Short answer > multiple choice
 - Free recall > cued recall > recognition

The Power of Testing

Formative Assessment

- Testing to provide feedback to teachers to guide future classroom preparations
- Techniques:
 - Give students elaborate feedback
 - Give opportunities to improve
 - Provide clear performance goals
 - Instruct students how to use the feedback on their tests to improve performance

Negative Consequences of Testing

- Multiple-choice and true/false tests
 - Multiple choice questions contain erroneous information that students might remember as correct
 - Erroneous recall can negatively impact future recall
- Immediate feedback should be given to prevent students from remembering false information

Challenges

- Requires more effort (both for teachers and students)

Suggestions

- Key principles should be emphasized in class and should be tested repeatedly
- If you must use multiple-choice, try to create questions requiring complex reasoning as opposed to rote facts

Ideas?
