Applying Cognitive Psychology Methods Activity 3: Long-Term Memory (B)

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1. **Describe the experiment.**

   (a) **What were you studying?**

   We were studying the effects of studying the night before an exam (cramming), vs. studying over multiple days leading up to an exam (distributive practicing).

   (b) **What were the experimental groups?**

   We had two groups: the cramming group, and the distributive practice group.

   (c) **What did we do?**

   The two groups studied German words, but their studying methods were different. They both studied for one hour total, but the cramming group studied for one hour the night before, and the distributive practice group studied for 15 minutes each day for four days. Then, after the studying period was finished, we took an exam to test our *retrieval*—bringing information into consciousness by transferring it from long term memory to working memory (memory that you manipulate in real time). Then, after 2 days, we took another exam, but were not allowed to study in-between the two.

   (d) **How did we control for confounds?**

   We used the demographics for both groups, and we recorded the time we spent studying.

2. **Describe the process of learning the list of words and then retrieving them for the first quiz.**

   While we were studying for the exam, we *encoded*—the process of acquiring information and transferring it to long term memory—the German words, and associated the word with the literal English translation, and the actual translation. Then, we *rehearsed*—repeating a stimulus over and over—these words to *consolidate*—the process that transforms new memories from a fragile state, in which they can be disrupted, to a more permanent state, in

which they are resistant to disruption—the terms into our long term memories. Then, when we were about to take the exam, we used retrieval get that stored information and cite it on the paper.

3. **What study techniques did you implement and how do they work?**

Because I was a part of the distributive practice group, I utilized *breaks*—studying in short sessions rather than trying to learn everything all at once—and because I used note cards, I utilized *generation and test*—given a stimulus, produce an associated word or phrase that goes along with the stimulus.

4. **Why might distributed practice be hypothesized to be better than single-session studying?**

Distributive practice allows a student to encode, consolidate, and then take a break. Then, they can revisit the vocab words and *reconsolidate*—modify or expel a memory—upon the knowledge they learned in their previous session. Perhaps, after they finished studying for the first 15 minutes, they were subconsciously making connections to things in their memory. This would strengthen these novel memories, and would allow for easier retrieval during the exam.

5. **Evaluate our experiment.**

Our experiment was far from perfect, but we were able to get a "back of the envelope" estimate for the efficacy of cramming verses distributive studying. However, we could have controlled for the confounding variable of multitasking. There could have been additional clarification to only study the words, and do nothing else in the meantime. Or, more extreme, we could have conducted the study in a laboratory so we can be sure the students are only studying for their requisite times, and are not multitasking.