

Memory Consolidation: Application of Retrieval Strategies in the Classroom

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Abstract : Recent studies suggest that the consolidation of episodic memory is better achieved through repeated retrieval than with the use of concept mapping or repeated study. Although such laboratory results highly appeal to educationalists, it remains to be shown whether they can be directly used in a classroom setting. Forty-five college students (42 girls; mean age 16.1 y/o) were asked to remember pairs of biology-related words (e.g. mitochondria-energy) in two configurations. The first configuration consisted of a three-minute study of pairs of words followed by a final one-minute test in which the first word of a pair was shown and the subject asked to write down the second associated word. This procedure was repeated three times. The second configuration consisted of a one-minute study of a list of pairs of words, which was immediately followed by a one-minute test. This procedure was repeated 6 times. Subjects filled out a small questionnaire assessing their general mood, level of fatigue, stress and motivation to do the exercise. One week later, subjects were given a final test using the same words. A total of 8 lists of words were studied and tested during the semester. Results showed that subjects recalled more correct words when using the second configuration, both within the study period and one week later, confirming laboratory findings. However, the general performance (mean items recalled) as well as the motivation to do the exercise gradually decreased during the semester. Motivation was positively correlated with performance ($r=0.77$, $p<0.05$). The results suggest that laboratory findings may provide some applications in education but other variables inherent to the classroom setting must also be considered.

Keywords : long-term, episodic memory, consolidation, retrieval, school setting

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