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## Neuroscience of sleep and memory applied at school settings

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Sleep is a key factor in memory consolidation. During sleep, information is reactivated, transferred, and redistributed to neocortical areas, thus favoring memory consolidation and integration. While they occur spontaneously, these reactivations can also be induced using external cues linked to the acquired information. Another important process that takes place during sleep is synaptic downscaling. During wakefulness the constant encoding of new information leads to an increase in the net synaptic strength in the brain that saturates learning, downscaling during sleep allows new encoding after waking up. Here, I will present our findings of the effect on consolidation of using an odor previously linked to the acquired information at school to reactivate memory during night sleep, and preliminary data of applying naps at school for strengthening acquisition. Furthermore, I will discuss the possibilities and limitations of their implementation in a school setting.

### Recent Publications

1. Vidal, V.; Tassone L. M.; Moyano, M. D.; Capurro, L.; Malacari, R.; Brusco, L. I.; Ballarini, F. M. & Forcato, C. "Short naps in school settings improve memory acquisition of a biology lesson" (in preparation).
2. Vidal, V.; Tassone L. M.; Moyano, M. D.; Vera, R.; Brusco, L. I.; Ballarini, F. M. & Forcato, C. "Effects of information relevance on memory consolidation in a high school setting" (in preparation).
3. Bonilla, M.; Vidal, V.; Leon, C. S.; Urreta Benitez, F.; Brusco, L. I.; Flores Kanter, E.; Vázquez Chenlo, A.; Bauza, C. & Forcato, C. (2022). "Differential effects of the covid-19 pandemic situation between young and older adults over recall and recognition" (in revision).

### Biography

Vanessa Vidal is a Licentiate in Biology from Universidad Nacional de La Plata (Buenos Aires, Argentina). She is doing her PhD in the Laboratorio de Sueño y Memoria at the Instituto Tecnológico de Buenos Aires (Buenos Aires, Argentina). In her PhD, she is studying the implementation in school of tools derived from the research in sleep and memory neuroscience. Her research intends to bring novel evidence that helps to promote the implementation of tools such as naps at school and targeted memory reactivation during night sleep to improve memory processes at school.

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