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Measurement of cognitive load and heart rate variability during a Video-Based Learning for the
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Video-based learning represents an effective way to reduce cognitive load (CL) when teaching a complex task. However, how best to assess the effects of different CL measures is unknown. In this preliminary study, we assessed the impact of subjective or objective CL measures on learning experiences and outcomes with a video-based learning for history taking and physical examinations. Twenty undergraduate medical students were prospectively enrolled and randomly assigned to a 360° virtual reality (VR) video group and 2-dimensional (2D) video group with different visual angles and self-determinations. Standard deviation of normal to normal R wave intervals in the 360° VR video group were significantly higher than those in the 2D video group. Difference in learning experience and Mini-CEX scores between both groups were not statistically significant whereas global satisfaction of the 360° VR video group was significantly better than that of the 2D group. Temporal demand could independently predict overall clinical competence whereas the 360° VR video independently predicted global satisfaction in multivariate analyses. Our preliminary results suggested that subjective and objective CL measures have considerable potential when assessing the role of CL/autonomic nervous system fluctuations in video-based learning for the acquisition of history taking and physical examination skills.

Recent Publications

1. Lee LA, Fang TJ, Li HY, Huang CG, Chen TC, Liao CT, Kang CJ, Chang KP, Yen TC. Low expression of p predicts disease relapse in early glottic cancer treated with transoral laser microsurgery. *Laryngoscope*. 2016 Jun;129(6):E220-E226.

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3. Lee LA, Wang CJ, Lo YL, Huang CG, Kuo IC, Lin WN, Hsin LJ, Fang TJ, Li HY. Drug-Induced Sleep Computed

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