Psychophysiological methods in research on science education

Abstract:

Lecture will discuss new opportunities to run research on didactics of science, specifically from the neurodidactical point of view. The lecture contains a short review on tools and research methods useful for research on science education such as: EEG, eye-tracking, saccadometry, pupilometry, EMG, face-tracking, HRV, EDA, and respiration. It shows the results of the research on the application of new tools and technologies in didactics of physics and mathematics. In our experiment we have applied eye-tracking technology and examined the strategies and difficulties faced by high school students, university students and experts in the process of problem solving activities. We also analyzed psychophysiological data to examine the subjective view of the level of problems' difficulty and motivation to solve them.

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research interests: *new technologies in didactics of physics, eyetracking, psychophysiology, ICT and mobile technologies in didactics of physics,*
