

Can psychophysiology help to evaluate distance teaching?

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The current pandemic times have brought many alterations, innovations, and as yet unexplored approaches to learning and teaching to the school environment. One of the major changes is certainly the use of videoconferencing tools for (interactive) distance learning.

In our study, we wanted to test whether observing the physiology of students (and teachers) can help to evaluate the effectiveness of distance learning. In our study, we compared the psychophysiology of fifth-grade elementary school students ($n = 23$) who were taught subject Science and technology by means of three different approaches: i) in a classical way (sedentary in the classroom), ii) a creative movement approach (embodied learning), and iii) distance learning (via videoconferencing). During the lessons, wearable measuring systems were used to monitor physical activity (movement rate, energy expenditure) and psychological arousal of each student (psychophysiological parameters of their autonomic nervous system - skin temperature, skin conductance and body heat flux). The raw data were pre-processed and will be compared and correlated using statistical tools (descriptive statistics, correlations, analysis of variance).

The study is still ongoing, but the first results show the worrying fact that students were even less physically active in teleworking than in classical sedentary teaching. At the same time, their level of psychological arousal (activation) in distance learning was the lowest among all approaches. Teaching with the help of creative movement proved to be the most physically active, while the psychological activation of students was similar to that of classical teaching.

The results of our study complement the warnings of kinesiology researchers about the lack of physical activity in Slovenian schools during the pandemic, but at the same time suggest that it would be useful to consider additional training of future teachers on active embodied approaches that would be useful in both sedentary and distance teaching.



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