

Experimental Verification of the Relationship between Physiological Indexes and the Presence or Absence of an Operation during E-learning

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Abstract : An experiment to verify the relationships between physiological indexes of an e-learner and the presence or absence of an operation during e-learning is described. Electroencephalogram (EEG), hemoencephalography (HEG), skin conductance (SC), and blood volume pulse (BVP) values were measured while participants performed experimental learning tasks. The results show that there are significant differences between the SC values when reading with clicking on learning materials and the SC values when reading without clicking, and between the HEG ratio when reading (with and without clicking) and the HEG ratio when resting for four of five participants. We conclude that the SC signals can be used to estimate whether or not a learner is performing an active task and that the HEG ratios can be used to estimate whether a learner is learning.

Keywords : e-learning, physiological index, physiological signal, state of learning

Conference Title : ICMCS 2016 : International Conference on Multimedia Computing and Systems

Conference Location : Kuala Lumpur, Malaysia

Conference Dates : February 11-12, 2016