

# Embodied Emotions, Embodied Modeling -- Physiological Evidence

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## **Abstract**

How are sensory cues engaged in learning, decision making, emotions and action? This paper will describe EEG and eye-tracking results of several experiments. The first looks at processing of visual representations in three/two dimensional environment and the effects on the level of mental load, and learning. Our results show that both eyetracking analysis and EEG analysis show that changes in mental load correlate with the type of environment, which further correlate to the level of learning. The second experiment looks at the link between visuals and emotional states, especially linking states such as anxiety/stress to dynamics in eye dynamics. The third looks at the effects of verbal-visual cues on emotional states and correlated preferences. The talk will also describe a kind of haptic 'communication' system that conveys semantics, and the emotional-embodied effects of a dialogue between a human and a virtual tour-guide.

The last part will integrate the above into a model of embodiment in learning.