Color-Based Emotion Regulation Model: An Affective E-Learning Environment

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Abstract : Emotions are considered as a vital factor affecting the process of information handling, level of attention, memory capacity and decision making. Latest e-Learning systems are therefore taking into consideration the effective state of learners to make the learning process more effective and enjoyable. One such use of user's affective information is in the systems that tend to regulate users' emotions to a state optimally desirable for learning. So for, this objective has been tried to be achieved with the help of teaching strategies, background music, guided imagery, video clips and odors. Nevertheless, we know that colors can affect human emotions. Relationship between color and emotions has a strong influence on how we perceive our environment. Similarly, the colors of the interface can also affect the user positively as well as negatively. This affective behavior of color and its use as emotion regulation agent is not yet exploited. Therefore, this research proposes a Color-based Emotion Regulation Model (CERM), a new framework that can automatically adapt its colors according to user's emotional state and her personality type and can help in producing a desirable emotional effect, aiming at providing an unobtrusive emotional support to the users of e-learning environment. The evaluation of CERM is carried out by comparing it with classical non-adaptive, static colored learning management system. Results indicate that colors of the interface, when carefully selected has significant positive impact on learner's emotions.

Keywords : effective learning, e-learning, emotion regulation, emotional design
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