A Multi-Agent Simulation of Serious Games to Predict Their Impact on E-Learning Processes

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Abstract : Serious games constitute actually a recent and attractive way supposed to replace the classical boring courses. However, the choice of the adapted serious game to a specific learning environment remains a challenging task that makes teachers unwilling to adopt this concept. To fill this gap, we present, in this paper, a multi-agent-based simulator allowing to predict the impact of a serious game integration in a learning environment given several game and players characteristics. As results, the presented tool gives intensities of several emotional aspects characterizing learners reactions to the serious game adoption. The presented simulator is tested to predict the effect of basing a coding course on the serious game ”CodeCombat”. The obtained results are compared with feedbacks of using the same serious game in a real learning process.