Implicit learning in dynamic decision making: A glass-box approach

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Abstract: Although simulations can be useful tools to train dynamic decision making (DDM) skills, studies show that mere practice with simulated environments leads to limited improvements in performance. Simulated environments often show little or no transparency about the underlying structure. Making information about the system and the consequences of decisions available to users has been found to enhance learning. We tested a glass-box approach using highly interactive feedback tools to support implicit learning in a 3-hour DDM training session. Ninety participants were assigned to either the control (no training) or implicit learning condition. While performance on the training scenario improved over time, learning took place mostly in the beginning of the training session, and final performance remained far from optimal. Performance in the training scenario was positively correlated to performance in a test scenario. However, implicit learning did not improve performance on the test scenario compared to the control group.