

Title	緊急時の意思決定に対する自己認識を促進する学習プラットフォームに関する研究
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ABSTRACT

Self-awareness is an important skill that each individual needs in daily life. It is even more important in a critical situation. However, it is difficult to be aware of one's own thinking process. A person may have useful knowledge for a certain situation; however, they may fail to apply it to solve a problem they encounter. For example, people may know that competing with others for a single exit immediately causes the evacuation flow to become clogged. However, many of them may still behave improperly and emotionally when they confront the actual situation. One of the possible reasons is that ordinary people may not have many opportunities to realize how their decision-making affects their behaviour. Unlike the emergency services, such as the police, fire fighters, and rescue teams who have been trained to cope with emergency situations, ordinary people tend to behave inappropriately. It is therefore important for people to be able to apply the right knowledge to a situation and to improve their self-awareness of their thinking process. However, self-awareness is very difficult to cultivate, because mental processes are implicit and vague.

With regard to learning about self-awareness, authors believe that *surprise* caused by self-awareness could be a good activator for learning. We are not aware of how we think or behave to cope with a situation and often we believe that we think appropriately, although there may not be any evidence of this. If we can observe our thinking process and realize that the result of our thinking is not reasonable, we will be “surprised” to find that we are not good at thinking and then we will be motivated to cultivate self-awareness of our thinking process.

The role of surprise is a trigger that makes learners have a deeper realization of their own thinking. This dissertation has two objectives: 1) to motivate learners to cultivate self-awareness of their thinking-process in an emergency, and 2) to propose a learning platform using surprise as a trigger for learning.

The proposed learning platform consists of three phases. (1) The Anticipating Phase: its objective is to let learners collect information in a learning environment, interpret it to parameters, analyse information and make a prediction of the behaviours of agents in the microworld. These activities would allow the learners to be aware of their current thinking process. (2) The Evaluation Phase: the objective of this phase is to let the learners evaluate

their prediction results and observe the outcomes generated by a simulation system. The learners can compare the two results to find out which are similar or different. (3) The Self-monitoring Phase: if the comparison results from Phase 2 are different, it implies that the thinking-process of the learners and their decision-making model are different. The learners might feel surprised at this and they would then like to know what caused the different results. In this way, the learners start to monitor their own thinking process. They can modify the model's parameters to test their hypothesis. Thus, awareness of their thinking process has begun. Our research hypothesis is that surprise will be a good learning trigger to deepen self-awareness of a person's thinking process and will cause them to reflect on their own behaviour if they are ever in an actual emergency situation.

Keywords: self-awareness, emotion-based decision-making model, microworld, surprise, learning platform