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ABSTRACTS

# Safety Training using Online Scenario Simulation

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**Purpose:** “Scenario Simulation” is a training technique aimed to enhance the ability to respond to critical situations developed by the Center for Crisis Management Research and Training in Sweden. The purpose of this study is to apply this technique to the manufacturing industry and evaluate its effectiveness. Due to the COVID-19 pandemic, training was done online using Microsoft Teams.

**Scenario Development:** We prepared six scenarios for different training workshops. Each scenario included four events that occurred one after another. Events included earthquake, fire, organic solvent leakage, etc., coupled with topics for group discussion such as information that should be collected.

**Method:** One hundred and sixty engineers and office workers participated in one of eight training workshops presented in two months in the summer of 2020. After participants were shown the first event and the topics for group discussions, they joined one of four groups of five persons (breakouts/ Channel of Teams) and discussed the topic. Fifteen minutes later, they returned to the plenary meeting and reported their decisions. Members of other groups added to or commented on the decisions. After the workshop, participants were required to list three things they learned through the workshop and to answer six questions about the training using scenario simulation. For example, did you enjoy the training?, what did you think about training that did not teach correct responses but allowed trainees to think for themselves according to the flow of events?, etc.

**Results:** Responses were submitted by 126 participants. Results showed that most participants evaluated the training positively: the training was enjoyable, valuable, and provided a better understanding of appropriate behavior under an emergency, etc. However, about 50% of participants had difficulty in exchanging opinions online. Therefore, we should improve techniques and accumulate skills in online group work.

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