Getting on the same page : team learning and team cognition in emergency management command-and-control teams

Van der Haar, S.

APPENDIX A

Administration of emergency management exercises

In the exercise, each OSCT member faced a computer screen that represented the emergency scene and all the available people and resources. He or she was also virtually represented in the uniform. Using a joystick, the virtual world could be explored the same way as in reality. Decisions made (e.g. call in more ambulances) or actions taken (e.g. fire extinction) by the team were immediately introduced in the virtual scene by a technical facilitator. Response trainers played the part of , for instance, a fire commander or an ambulance driver, and provided teams with additional information about the development of the emergency situation and effects of their actions at the scene. Team members communicated by walkie-talkie or face-to-face. For face-to-face communication, a member needed to first find the person on the virtual scene.

Before the exercise started, the training staff briefed the team members about how the exercise would be conducted in virtual reality. OSCT members were then given different places, so that, like in reality, they received the initial on-call notice individually. The exercise started when each member was called in via a walkie-talkie and received general and discipline-specific information about the incident at hand. After that, they immediately collected information from response trainers, explored the virtual scene, and gave orders to their own units. Teams were free to decide when to have their face-to-face meetings and how long a meeting would last. Most teams held their first meeting after about 20 minutes; most of these first team meetings lasted eight to 10 minutes. After each meeting, the team members went back to their computer screens to coordinate their responsible units in the virtual reality. They also received new information about the latest development of the incident and were confronted with one or more new issues that required multidisciplinary coordination. The exercise took about one to one and a half hours to complete. An exercise ended when the training staff informed team members that time was up.

The team situation model (scale: priority / no priority)

After each team meeting, each team member was asked to tick the processes (Geveke, Huizing, Stijger, Sybrandi, & Temme, 2008) in the list below, which he or she think would had priority in the next action phase. Through previous training, teams in each safety region are trained to learn this list by heart. However, the checklists slightly differed between regions. Below the items marked with an asterix are not present in every checklist.

Fire department:
1. Firefighting and emission of chemicals *
2. Observations and measurements
3. Rescue and technical support *
4. Decontamination of people and animals
5. Decontamination of vehicles and infrastructure
6. Provision and logistics manpower *
7. Warn the civilian population *
8. Accessibility and clearance of the scene *

Police:
1. Evacuation
2. Containing and masking
3. Traffic control
4. Uphold legal order
5. Identification of (deceased) victims
6. Escort rescue services
7. Criminal investigation

Medical assistance unit:
1. Medical assistance (somatic)
2. Psychological assistance
3. Preventive public health care

Team effectiveness (Van der Haar, Segers, & Jehn, 2013; scale 1 “strongly disagree” to 7 “strongly agree”)

Quality of the actions:
1. The coordination of the own unit is tuned with the coordination of the other units
2. The actions on scene are justified
3. The actions on scene are adequate
4. The actions on scene are coordinated
5. On scene safety of professionals is taken into account
6. On scene safety of civilians / companies is taken into account

Goal achievement:
1. The source is diminished efficiently and effectively
2. The crisis is controlled
3. There is a fast stabilization
4. Stabilization happened safely

Error rate:

1. There are no unnecessary victims
2. There is no unnecessary damage
3. Based on what is happening and has happened, press can be positive

Stress (scale 1 “strongly disagree” to 7 “strongly agree”)

1. I experienced as much stress as I would have if the incident was real.
2. The stress level of the exercise was comparable with the real practice.
3. The amount of stress the exercise evoked in me was realistic.

Responsibility (scale 1 “strongly disagree” to 7 “strongly agree”)

1. The team had as much responsibility as if this incident happened in real.
2. I experienced as much responsibility as I would have if the incident was real.
3. The responsibility level of the exercise was comparable with the real practice.
4. The responsibility I had in this exercise was realistic.

Risk (scale 1 “strongly disagree” to 7 “strongly agree”)

1. The team had to deal with as much risks as it would have if the incident was real.
2. The risk level of this exercise is comparable with the real practice.
3. The risks we were confronted with as a team were realistic.

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