

Transportation Rail Incident Preparedness and Response Volume 2: Climate Change – Adult Learning

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ICS and Andragogy – Teaching Adults

The Incident Command System and Climate Change on the Railroad: Training for Railroad Field Level Supervisors and Staff, Rules Instructor’s Guide is designed for adult learners who generally work outdoors doing physical activity. They are not desk and computer-oriented in their normal workday, and do not generally spend time in indoor meetings. Therefore, the “Instructor is challenged to grab their attention” (Edwards and Goodrich, 2014, p. 40). Thus the ICS training has to be tailored to include activities that will hold their interest and include kinetic elements and group participation.

The challenge of maintaining the interest of adult learners is well known among educators. In 1980 Knowles recognized the special considerations that make teaching adults (andragogy) different from teaching children (pedagogy). In his landmark work on educating adults he wrote,

... as a person matures, 1) his self-concept moves from one of being a dependent personality toward one of being a self-directed human being; 2) he accumulates a growing reservoir of experience that becomes an increasing resource of learning; 3) his readiness to learn becomes orientated increasingly to the developmental tasks of his social roles; and 4) his time perspective changes from one of postponed application of knowledge to **immediacy of application**, and accordingly his orientation toward learning shifts from one of subject-centered to one of **problem-centered** (Knowles 1980, 39).

Using Knowles’ paradigms, the Incident Command System and Climate Change on the Railroad: Training for Railroad Field Level Supervisors and Staff, Rules Instructor’s Guide incorporates didactic training of about one hour, paired with participatory engagement and kinetic activities to reinforce learning.

Further, Zmeyov (1998) noted that “The learning of an adult is largely determined by his/her **life context**, i.e., time, place, daily life and occupational, social and family factors. The adult learning process is characterized by the **leading role of the learner himself or herself**.

The **learner and the teacher cooperate** in all stages of learning, i.e., in the planning, realization, evaluation and correction of the learning process” (Zmeyov 1998, 106; in Edwards and Goodrich, 2014, p. 41). “A classroom presentation of the [ICS] highlights illustrated with meaningful local examples is one way to impart useful knowledge” (Edwards and Goodrich, 2014, p.40).

In its train-the-trainer courses, FEMA also encourages a problem-centered approach to training. Trainers are encouraged to “provide opportunities to critically reflect upon and immediately apply new learning in order to transfer that learning into habitual practice” (DHS 2011a, 4-5). “Recognizing

that students in the transportation sector training are adults, and that the teaching environment is driven by the learner, trainers have to devise techniques and strategies that engage them and clearly demonstrate the relevance of the subject being taught in their life contexts” (Edwards and Goodrich, 2014, p. 41). FEMA further states, “those responsible for implementing the training program will benefit their students by sequencing the training and exercises offered in such a way as to allow the students the ability to directly and immediately apply their new learning in the operational context. This ... will assist the adult learners in readily transferring their new learning into habitual practice in their operational context” (DHS 2011a, 5).

Incident Command System and Climate Change on the Railroad: Training for Railroad Field Level Supervisors and Staff, Rules Instructor’s Guide is designed to impart some basic knowledge about ICS through a lecture format that also uses practical application examples for check-in, check-out, demobilization, and data collection. It includes segments on developing a personal support kit and professional support kit for work, and engaging in family preparedness activities to ensure the family’s ability to manage in a disaster without the employee. The second part of the class engages the learners in reading the ICS guidance and taking roles within ICS. The third segment uses the kinetic “sandbox” approach, with students using small vehicles to simulate the response to and management of an event. Thus the see/hear/do paradigm of andragogy is exemplified in the course structure.

One requirement of the new course was that it include refresher elements that could be offered at tailgate meetings or in other brief training environments. The National Fire Academy (2015) developed Coffee Break Training topics for fire personnel, recognizing that few departments could send personnel to longer training sessions. These brief sessions can be completed in one coffee break of 15 minutes, yet provide useful information on one focused topic within fire service or public outreach. This approach was used as a model for organizing the brief modules on central ICS topics: safety and collaboration with other agencies. It also informed the creation of four scenario-based trainings that can use the “sandbox” approach to practice different transportation activities that are possible within ICS: joining an existing ICS, serving as a technical expert, participating in unified command, or assuming command of an event from another entity.

Knowles (1980) notes that “Training ... must be interactive to be effective. The students will be adults, whose motivation for learning is different from children. They are seeking problem-centered presentations that have immediate application to their jobs and life experiences” (p. 41). The Incident Command System and Climate Change on the Railroad: Training for Railroad Field Level Supervisors and Staff, Rules Instructor’s Guide is designed to meet the needs for refreshing ICS knowledge in a short time in a way that will engender interest in the participants and enhance learning.

Reference

National Academies of Sciences, Engineering, and Medicine. 2016. Incident Command System (ICS) Training for FieldLevel Supervisors and Staff: NCHRP Web-Only Document 215. <https://doi.org/10.17226/23411>. Adapted with permission from the National Academy of Sciences, Courtesy of the National Academies Press, Washington, D.C.

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