Fire Engineering®

Education vs. Training in Fire Space Control

By KRISS GARCIA

Training is defined as the acquisition of skills and competencies resulting from the teaching of vocational or practical skills and knowledge relating to specific useful skills education. It also refers to receiving a body of theoretical knowledge and applied research as it relates to a particular field.

Often in the fire service we try to fix operational challenges solely with training. A need is recognized, and with the goal of increased performance, we train to meet this need. What we don't do nearly enough is seek new information that would meet or challenge a need and then apply this research to educate our firefighters.

Training without questioning or challenging the norms of the fire service does little more than reinforce practical applications that may be part of the problem we have recognized. We must have a deliberate mix of education and training to teach not only the How but also the When, Why, and Why Not. This will allow us to move into a different plane of problem solving as a firefighting practitioner.

When we train, for example, that when an engine or a truck arrives and sequentially completes steps 1-5, we are not giving our smart and competent firefighters enough credit; it's not always as simple as completing these predestinated steps. I know of few firefighters who, after training to pull a hoseline or open a roof, could not perform that function flawlessly years later. Where we in the fire service fall short time and time again is on the Why, Why Not, or When to do something.

Given a mature and healthy organizational climate, we must continually challenge this single-dimension aspect of performance enhancement with training alone. We must go beyond doing something because we are trained to accomplish the How or, worse yet, because tradition or habit tells us that we should do something and, like a dog, we perform a Pavlovian fire attack.

I would much rather work with smart and educated firefighters who challenge the norms and find new, safe, and innovative means of saving life and property than with very well-trained firefighters who do what they do because they or their predecessors have always done it that way.

With this in mind, our firefighters need more education in ventilation and less training. When a building is acquired for training, truck companies move to the roof and start cutting holes. Often, this violates the proven premise of fire space control or the ability to apply more water to a space than the fire has Btus, allowing us control of that area. Absolute control of the space you are opening is necessary for a safe and effective fire attack. If firefighters cannot control the entire space they are opening with enough direct application of Btu-quenching water, they should not be opening the space, encouraging additional free burning. (I will not discuss lightweight roof

structures, because most firefighters have realized the obvious dangers of placing crews on these structures while they are burning.)

However, when you look at other conventionally constructed attics, it is unlikely that there are enough firefighters directly below that nonfire stopped space. Or, more likely, they do not have access to the entire space to control the fire that will soon progress throughout the recently opened attic.

We would never open a door to enter a room that was on fire without the ability to control the generated Btus, so why do we habitually send truck companies to roofs to open up spaces where we do not have complete access or control?

When we look at the difficulty many firefighters have accepting positive-pressure attack (PPA) and positive-pressure ventilation (PPV) into their normal fire mitigation routine, education is the missing element. In most basic firefighter textbooks, PPA is given no space and PPV only a few paragraphs. Most training with PPA/PPV comes in how to start the blower, not to educate as to where PPA falls in line with the coordinated fire attack. We have a responsibility to educate our firefighters when to or when not to start the blower, along with how to control the environment through adequately exhausting the products of combustion. We never mention the fact that the exhaust is just as important as the ventilation point or that the fire is moving to the areas of less pressure and we need to assist this with a well-coordinated pressurized attack.

With education, most firefighters soon realize that if PPA/PPV were invented today, it would be called negative assurance ventilation—that is, the fire is going to move to the greatest negative area, and most of the pressure inside a burning building is created by the fire itself and the introduction of water. Properly deployed, the blowers we use in the initial fire attack phase create enough of a pressure differential in where our firefighters attack from, allowing them a safer operating environment as the lethal environment is exhausted ahead of them. Essentially, in a coordinated attack, have ample exhaust, or an area of ample negative pressure, where the fire is already going and ensure that it keeps moving away from us and fire victims.

With departmentwide education being based on new information and thorough training, this type of fire attack allows firefighters to operate in an ever-clearing safe environment while they move to the seat of the fire. The first of several precautions regarding a pressurized attack is the implementation of a systematic program that reaches all levels of the department. The prerequisite to this is the education of our firefighters. Then and only then do we train them to use their knowledge based on conditions of each particular fire and not to treat every fire the same as the last one.

Challenges to the fire service and our departments are nothing new. As we strive to meet this ever-changing environment, we must realize that the answer lies somewhere between education and training, as well as between tradition and innovation. It is time to educate as much as we train. Think of this aspect as a coordinated attack; training and education must occur simultaneously for us to improve.

Regardless of the approach we use to safely control fires, we must maintain as the basis of all discussions our ability to control the fire space prior to opening it. The most dramatic means of accomplishing this is through control of the interior environment with PPA and direct water application. As Einstein said, “Any fool can know. The point is to understand.”

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