



Continuing Education Course



The Six Ts of Fire Service Learning

BY JESSE QUINALTY

Fire Engineering
TRAINING THE FIRE SERVICE FOR 126 YEARS

PennWell

To earn continuing education credits, you must successfully complete the course examination.
The cost for this CE exam is \$25.00. For group rates, call (973) 251-5055.

The Six Ts of Fire Service Learning

Educational Objectives

On completion of this course, students will

1. Learn a discovered method to change how firefighters can be prepared for the worst
2. Discover how most of a firefighter's job duties are learned
3. Review the Cone of Experience to estimate learning retention and experience
4. Review the Six Ts and the components of each

BY JESSE QUINALTY

WHILE RESPONDING TO THE SAWTOOTH Wildland Fires, a series of wildfires that occurred in California's San Bernardino County in the summer of 2006, my engine crew and I became trapped inside a garage in a burnover. At the time, I was a captain with the Twentynine Palms Fire Department near Joshua Tree, California. While we were setting up to do structure protection on two homes, a 50-foot-high flame front approached, and we had to retreat into one of the garages. After a few harrowing moments where the fire began to ignite the garage, the main fire front passed, and we exited the structure by crawling out a side window.

After the incident, I thought about the incident's human factors and how they affect our performance at various emergency incidents. As I started to learn more about human factors regarding things like crew resource management, the Swiss Cheese Theory, and the Abilene Paradox, I came up with the "Six Ts" of fire service learning, which follow. They show how we can try to change the way we train to prepare for the worst and how it affects us later in our careers.

TRAINING

You learn most of your job duties during the first "T": training. These duties include new information and going from simple to complex situations and from the known to the unknown. This T affects us the most at emergency incidents. I began to understand this more as I became a captain and, later, the training officer. If you are supposed to "Train as if your life depends on it, because it does," then why don't you train this way? Do your department members wear less personal protective equipment during training than they would

during actual emergencies? Do they breathe air from self-contained breathing apparatus (SCBA) during search drills, or do they just simulate this? Do your firefighters wear work gloves instead of structure gloves during ladder drills?

When I became a captain, I told my crew that we were going to do a ladder drill, and to get prepared. When I walked into the apparatus bay to load up on the engine, I discovered that my crew had removed the ladders from the rig and took them out onto the back ramp. I walked around behind the station and asked them what they were doing; they looked at me as if I was crazy and said they were going to do ladder training. I said, "Put the ladder back on the engine." Unfortunately, one of the firefighters responded, "Oh, we are pencil whipping it." I replied, "No, we are going down to the grocery store to throw ladders down there. I don't need to see the roof of the fire station." Although the crew moaned when I told them that we were training, their reason was that it was in the same location where ladder training had always been done.

Everyone knows where the ladder training is done at their department. At this spot, there is no rain gutter to damage, the ground is relatively flat, and there is plenty of room. I can go to most fire departments in the country and figure out where ladder training takes place and find a divot in the concrete from where the ladder spurs were placed during the operation.

This was the beginning of what I call the "training in the streets" program, which I implemented when I became the department training officer. We contacted many local businesses as well as real estate agents regarding residential properties and devised a list of locations in the district where we could train. This list also included the type of training we could conduct and when we could conduct it. We had the department attorney draw up and approve an agreement; considering the minor damage that we incurred occasion-

● THE SIX Ts



Photos by Dan Casner.

ally, it was still more cost effective than a training tower. Some of the real estate agents found us buildings where we could conduct forcible entry, rapid intervention tactics with breaching, and wet hose drills. This also led the department to conduct some extensive drills in a two-story mini-storage facility; a vacant big box building; and, eventually, live burn training in a four-unit motel.

TESTING

The fire service testing processes that you go through only reinforce the training fallacy of “Train as if your life depends on it, because it does.” Regarding basic probationary firefighter skills tests, most fire departments do some type of testing on the SCBA. Many departments with which I have interacted expect a firefighter to be able to don his SCBA in a time frame of roughly 60 seconds. The training starts with the SCBA on the ground in front of the firefighter. He then throws it over his head or puts it on like a coat. Do you have jump seats on the apparatus? Does your ground ladder test start out the same way—with a ladder on the ground?

This becomes even more prevalent in promotional testing for engineers, captains, and battalion chiefs. Have you ever seen an engineer’s exam with unrealistic pump calculations or simulated hose lengths? Many fire departments use a fire simulator for the captain or battalion chief exam. Have you heard people say you need to “do it this way” for a test even though you wouldn’t perform it the same way during a similar situation in the real world? The differences between the test and the real world are now such that when I teach tactics and strategy in classes, I often discuss how they would be handled for a test and in the real world separately.

TEACHING

You learn and retain much more in the fire service when you teach it. Many fire departments require their probationary firefighters to give classes or teach mini-drills on equipment and select topics. Why will these new firefighters learn more by presenting this short training session than they would if they sat in a class? The first reason is motivation, which drives most of the learning that we do.

This learning is broken down into three domains: cognitive learning, psychomotor skills, and the affective learning

domain. Cognitive learning comes from training classes, reading, and formal discussions (or “stories” in fire service speak). This becomes what is known or perceived to be known, and this later influences your actions.

The psychomotor domain refers to taking that knowledge and applying it to movement or manipulative skills. The affective learning domain is based on how you feel or your attitude toward the subject. This often leads to firefighters not wearing their masks on a roof during ventilation or their gloves during training drills; it is a reflection of their attitude.

A probationary firefighter is more motivated to learn when teaching because he does not want to be wrong or “called out.” This causes him to study the material longer and to be better able to regurgitate it. He is also going to learn more by presenting the material rather than reading or listening to a lecture on the subject (Figure 1). Unfortunately, this leads to the probationary firefighter’s being able to tell you what the spark plug gap is on the chain saw—and a bunch of other trivial facts—but, in reality, he can’t adjust the spark plug gap or keep the saw from flooding during a fire. Again, this represents the good and the bad of training in the fire service. And it continues in all aspects of your career.

Those who teach paramedic training are often better paramedics. Individuals who teach at the local fire academy are more likely to be able to recall firefighter information. I teach company officer and training instructor classes, so I should be a better captain and a better instructor. If nothing else, I should know the material because, like that probationary firefighter, I don’t want to be called out.

TRADITION

The next three Ts represent how we react to events and conditions. A tradition is a ritual, belief, or behavior passed down within a society. It could be for the fire service as a whole or just within your organization or region. Many fire service traditions are important to understand; they are your heritage. Why is the Dalmatian the fire service dog? What is a Jake? Why do trumpets reflect rank insignia or collar brass? Why are fire engines painted red? Why did some fire departments stop painting their engines red?

There is nothing wrong with traditions as long as you are



following them for the right reasons. If your fire department is doing a task that does not make much sense and the only explanation is, “We have always done it that way,” then maybe you should examine this tradition. This certainly applies to hazing a new firefighter. Why are we hazing new members? Simply, because we were hazed when we became new firefighters.

Look at the traditions your fire department passes on. If they don't make sense or could be interpreted negatively in society, then it is time to begin some new traditions. Some fire departments have lost too many of their traditions and heritage, creating a lack of pride and ownership.

When I went to the fire academy at the age of 19, I participated in a drill called “the auditorium raise.” We raised a 50-foot extension ladder using four tag lines to hold it straight up vertically. A group of academy recruits would pull taut on each rope to keep the ladder from swaying while one of the academy members would climb up and over the ladder. I asked one of my instructors in what type of situation we would use this skill. He said that it was for when we had to change a lightbulb at headquarters. There was no strategic or tactical requirement for this evolution, and I have never used it in the real world.

Don't get me wrong; this is a great team-building exercise and a confidence booster, but this was before belay or safety lines were used during this exercise, and we were lucky no one was injured or killed. Many years later, when I was an instructor at the local fire academy, I was amazed to see that we were still doing this drill, and doing it without a safety line. After doing some research, I found that the drill was not a requirement to receive a Firefighter 1 certification from the state. Further, the Occupational Safety and Health Administration required a safety line during many of our other training courses including confined space, trench rescue, and low-angle rope rescue training. A few years earlier, we were mandated to use a safety line during emergency ladder bailout drills because someone was killed. Fortunately, this has not happened during the “tradition” of the auditorium raise.

As a young firefighter, I wore a heavy fire helmet. I was excited when my department received a few lightweight plastic helmets, which put much less strain on our heads. Today,

firefighters are fighting to wear leather helmets because they look more traditional. The motorcycle helmet-style firefighting helmets worn in Europe are safer than what we wear in the United States, but this is a tradition that I will try to keep.

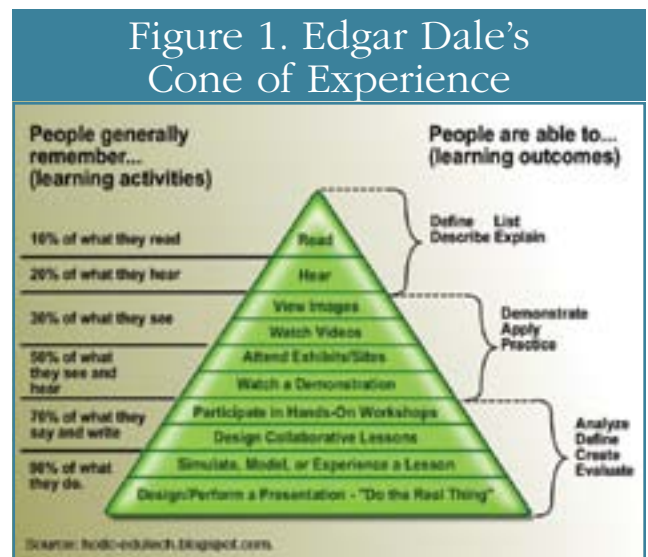
TRIUMPH

You want to do a good job, and when you do, you want to do it again. This is a learning pattern in which you try to repeat things that you did well. In most cases, this is a good thing, but in the fire service, it can create problems in the way you make decisions.

During emergency incidents, firefighters make rapid decisions using a model called Recognition Primed Decision Making, also known in the fire service as your “mental slide carousel.” As younger firefighters are promoted and respond to fewer fires, their “slides” are more limited. This can lead to poor tactics in several ways.

First, let's talk about fewer “slides in the carousel.” Most firefighters have some structure fires as slides in their carousel. They include stove fires, some dryer fires, a couple of contents fires, and some workers. How many slides do you have for strip malls, big boxes, and high-occupancy structures? If you only have one or two, then the triumph is related directly to the previous slide's success. If you don't have any slides, you may find yourself fighting a commercial structure fire with residential tactics. Many fire departments are turning to digital simulations and tabletop exercises (photos 1-3) to gain these slide carousels in the absence of real fires.

We can compound this situation by how we deal with the triumph. Many fire departments will participate in an after-action review or a postincident analysis, which is critical to molding your slide carousel by choosing the right tactics. Your incident review must look at what went right to recognize good behavior while also discussing the operations that did not go as well. If you have an incident critique that states the operation went well because “the fire went out and nobody got hurt,” then you are setting yourself up for failure. This can often result in “false wins.” For example, you might save a victim from a structure fire in an unsafe manner, but your brain will still register it as a win.



The Six Ts of Fire Service Learning

COURSE EXAMINATION INFORMATION

To receive credit and your certificate of completion for participation in this educational activity, you must complete the program post examination and receive a score of 70% or better. You have the following options for completion.

Option One: Online Completion

Use this page to review the questions and mark your answers. Return to www.FireEngineeringUniversity.com and sign in. If you have not previously purchased the program, select it from the "Online Courses" listing and complete the online purchase process. Once purchased, the program will be added to your **User History** page where a **Take Exam** link will be provided. Click on the "Take Exam" link, complete all the program questions, and submit your answers. An immediate grade report will be provided; on receiving a passing grade, your "Certificate of Completion" will be provided immediately for viewing and/or printing. Certificates may be viewed and/or printed anytime in the future by returning to the site and signing in.

Option Two: Traditional Completion

You may fax or mail your answers with payment to *PennWell* (see Traditional Completion Information on following page). All information requested must be provided to process the program for certification and credit. Be sure to complete ALL "Payment," "Personal Certification Information," "Answers," and "Evaluation" forms. Your exam will be graded within 72 hours of receipt. On successful completion of the posttest (70% or higher), a "Certificate of Completion" will be mailed to the address provided.

COURSE EXAMINATION

- 1) The Six Ts were developed to assist firefighters to:
 - a. Change the way training can prepare firefighters for the worst
 - b. Learning a mnemonic device to prioritize fireground operations
 - c. Provide an order of the disciplinary process
 - d. Learn the process of administrative decision making
- 2) Which of the Six Ts comprises how you will learn most of your job duties?
 - a. Testing
 - b. Teaching
 - c. Tradition
 - d. Training
- 3) The *Training* component of the Six Ts affects firefighters the most at emergency incidents
 - a. True
 - b. False
- 4) What is one way to provide real training in the author's "Training in the Streets" program to a fire department?
 - a. Review internet videos with entire crew
 - b. Contact local businesses and real estate agents to find buildings for training
 - c. Schedule training time at a regional training center or technical college training tower
 - d. None of the above
- 5) Fire service testing processes often only reinforce the training fallacy of "Train as if your life depends on it."
 - a. True
 - b. False
- 6) Based upon the realities and requirements set forth in promotional testing processes, how should tactics and strategy be taught?
 - a. Separately for a test and real world application
 - b. Principles of both are synonymous and should be taught the same
 - c. Tactics and strategy should never be taught for test purposes only
 - d. None of the above
- 7) According to Edgar Dale's Cone of Experience, people generally remember how much of what they read?
 - a. 50%
 - b. 40%
 - c. 10%
 - d. 20%
- 8) According to Edgar Dale's Cone of Experience, people generally remember how much of what they hear?
 - a. 10%
 - b. 90%
 - c. 15%
 - d. 20%
- 9) According to Edgar Dale's Cone of Experience, people generally remember how much of what they say and write?
 - a. 70%
 - b. 80%
 - c. 10%
 - d. 30%
- 10) According to Edgar Dale's Cone of Experience, which of the following are methods of getting students to demonstrate, apply and practice a particular skill set or knowledge?
 - a. View images
 - b. Watch videos
 - c. Watch a demonstration
 - d. All of the above
- 11) What drives most of the learning for firefighters?
 - a. Discipline
 - b. Motivation
 - c. Salary
 - d. Promotional opportunities
- 12) Learning is broken down into which one of the following domains?
 - a. Cognitive learning
 - b. Psychomotor skills
 - c. Affective learning
 - d. All of the above
- 13) Which of the following domains comes from training classes, reading and formal discussions?
 - a. Cognitive learning
 - b. Psychomotor skills
 - c. Affective learning
 - d. None of the above
- 14) Which domain refers to taking knowledge and applying it to a movement or manipulative skill?
 - a. Cognitive learning
 - b. Psychomotor skills
 - c. Affective learning
 - d. None of the above

The Six Ts of Fire Service Learning

PROGRAM COMPLETION INFORMATION

If you wish to purchase and complete this activity traditionally (mail or fax) rather than Online, you must provide the information requested below. Please be sure to select your answers carefully and complete the evaluation information. To receive credit, you must receive a score of 70% or better.

Complete online at: www.FireEngineeringUniversity.com

PERSONAL CERTIFICATION INFORMATION:

Last Name (PLEASE PRINT CLEARLY OR TYPE)

First Name

Profession/Credentials License Number

Street Address

Suite or Apartment Number

City/State Zip Code

Daytime Telephone Number with Area Code

Fax Number with Area Code

E-mail Address

TRADITIONAL COMPLETION INFORMATION:

Mail or fax completed answer sheet to
Fire Engineering University, Attn: Carroll Hull,
1421 S. Sheridan Road, Tulsa OK 74112
Fax: (918) 831-9804

PAYMENT & CREDIT INFORMATION

Examination Fee: \$25.00 Credit Hours: 4

Should you have additional questions, please contact Pete Prochilo (973) 251-5053 (Mon-Fri 9:00 am-5:00 pm EST).

- I have enclosed a check or money order.
- I am using a credit card.

My Credit Card information is provided below.

- American Express Visa MC Discover

Please provide the following (please print clearly):

Exact Name on Credit Card

Credit Card # Expiration Date

Signature

ANSWER FORM

Please check the correct box for each question below.

- | | |
|---|---|
| 1. <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D | 11. <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D |
| 2. <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D | 12. <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D |
| 3. <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D | 13. <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D |
| 4. <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D | 14. <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D |
| 5. <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D | 15. <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D |
| 6. <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D | 16. <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D |
| 7. <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D | 17. <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D |
| 8. <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D | 18. <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D |
| 9. <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D | 19. <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D |
| 10. <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D | 20. <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D |

COURSE EVALUATION

Please evaluate this course by responding to the following statements, using a scale of Excellent = 5 to Poor = 1.

- | | | | | | |
|--|-------|-----|---|----|---|
| 1. To what extent were the course objectives accomplished overall? | 5 | 4 | 3 | 2 | 1 |
| 2. Please rate your personal mastery of the course objectives. | 5 | 4 | 3 | 2 | 1 |
| 3. How would you rate the objectives and educational methods? | 5 | 4 | 3 | 2 | 1 |
| 4. How do you rate the author's grasp of the topic? | 5 | 4 | 3 | 2 | 1 |
| 5. Please rate the instructor's effectiveness. | 5 | 4 | 3 | 2 | 1 |
| 6. Was the overall administration of the course effective? | 5 | 4 | 3 | 2 | 1 |
| 7. Do you feel that the references were adequate? | | Yes | | No | |
| 8. Would you participate in a similar program on a different topic? | | Yes | | No | |
| 9. If any of the continuing education questions were unclear or ambiguous, please list them. | _____ | | | | |
| 10. Was there any subject matter you found confusing? Please describe. | _____ | | | | |
| 11. What additional continuing education topics would you like to see? | _____ | | | | |

PLEASE PHOTOCOPY ANSWER SHEET FOR ADDITIONAL PARTICIPANTS.

AUTHOR DISCLAIMER
The author(s) of this course has/have no commercial ties with the sponsors or the providers of the unrestricted educational grant for this course.

SPONSOR/PROVIDER
No manufacturer or third party has had any input into the development of course content. All content has been derived from references listed, and/or the opinions of the instructors. Please direct all questions pertaining to PennWell or the administration of this course to Pete Prochilo, peter@penwell.com.

COURSE EVALUATION and PARTICIPANT FEEDBACK
We encourage participant feedback pertaining to all courses. Please be sure to complete the survey included with the course. Please e-mail all questions to: [Pete Prochilo, peter@penwell.com](mailto:Pete.Prochilo, peter@penwell.com).

INSTRUCTIONS
All questions should have only one answer. Grading of this examination is done manually. Participants will receive confirmation of passing by receipt of a verification form.

EDUCATIONAL DISCLAIMER
The opinions of efficacy or perceived value of any products or companies mentioned in this course and expressed herein are those of the author(s) of the course and do not necessarily reflect those of PennWell.

Completing a single continuing education course does not provide enough information to give the participant the feeling that s/he is an expert in the field related to the course topic. It is a combination of many educational courses and clinical experience that allows the participant to develop skills and expertise.

COURSE CREDITS/COST
All participants scoring at least 70% on the examination will receive a verification form verifying 4 CE credits. Participants are urged to contact their state or local authority for continuing education requirements.

RECORD KEEPING
PennWell maintains records of your successful completion of any exam. Please go to www.FireEngineeringUniversity.com to see your continuing education credits report.

© 2009 by Fire Engineering University, a division of PennWell.