Educational Plan for the National Safety Culture Change Initiative (NSCCI)

Introduction

The fire service has a rich tradition of bravery and valor in protecting our communities from uncontrolled all hazard events that require immediate actions. This tradition maybe a contributing factor in risk behaviors that are questioned by those within and outside the fire service. In response, the International Association of Fire Chiefs (IAFC), in partnership with the United States Fire Administration (USFA), initiated a comprehensive *Study of Behavioral Motivation on Reduction of Risk Taking Behaviors in the Fire Service.* Developed with input from influential fire service organizations, the study offers detailed research on what is culture; what drives firefighter behaviors; culture change towards a culture of safety, and areas of focus for fire service cultural change. The following curriculum has been developed referencing this seminal research. In addition, the focus on firefighter safety culture aligns with the National Fallen Firefighters Foundation's Life Safety Initiative #1:"Define and advocate the need for a cultural change within the fire service relating to safety; incorporating leadership, management, supervision, accountability, and personal responsibility."

Motivation

According to data compiled by the U.S. Fire Administration, 1160 firefighters died as a result of injuries sustained in the line of duty during the period from 2001 through 2011. Although the annual number of total firefighter deaths has declined in recent years, firefighter deaths that occur inside of structures are occurring at higher rates than those reported in the 1970s and 1980s, despite a decrease in the overall number of fires (Kerber 2012). By working toward a fire service safety culture and in an effort to fulfill the fire service's highest priority (life safety of responders), the lives saved will be that of our own.

Presentation

Objectives and Content:

Terminal Learning Objectives (TLO)
Enabling Learning Objectives (ELO)
Media
Case studies

Program Management:

This educational program is designed to be used by module or a complete presentation. The complete course is designed for 4 hours of instruction. If the course is done by module, the time for the module is as follows:

- **Module 1: Understanding Culture and Climate in the Fire Service** **1 hours**
- **Module 2: Individual Behaviors and Responsibilities** **1 hours**
- **Module 3: Organizational Behaviors and Responsibilities** **1 hours**
- **Module 4-Application utilizing the Safety Culture Measurement Tool** **1 hours**
- **Evaluation** **30 minutes**

Module 1: Understanding Culture and Climate in the Fire Service

TLO1.1. The fire service professional will gain a personal understanding of the impact of culture on firefighter risk behaviors and the need to implement measures to achieve an authentic fire service safety culture.

ELO1.1.1. Provide a working definition of culture as found in the NSCCI study.

Definition of Culture: Organizational culture is a system of shared behaviors, values, assumptions and beliefs learned by a group as it solves problems (Schein 2004, NSCCI p.7 & p.10 slide #8, TQ10).

ELO1.1.2. Describe four causes of firefighter death and injury as revealed in the NSCCI study.

1. Insufficient resources (staffing)
2. Inadequate preparation (training)
3. Insufficient incident command structure (incident management)
4. Suboptimal personnel readiness

(Kunadharaju et al…NSCCI p.8, slide #9, TQ13)

ELO 1.1.3. Define the difference between safety climate and safety culture.

Climate is more temporal and local to a particular unit, whereas culture is broader and spans the entire organization, and in some cases, the profession (NSCCI p.12, slide #10, TQ14).

ELO 1.1.4. Identify the three target audiences for achieving a fire service safety culture.

Chief Officer, Company Officer and Firefighter (NSCCI, p.13, slide #11, TQ18/19)

ELO1.1.5. Provide at least three recommendations on how to work toward a culture of safety.

- Climate vs. Culture: slight shifts in the practices within the fire service are likely to be more successful than large, sudden change. Focus on developing a safety climate first and cultural change can be accomplished overtime (Daniels, NSCCI p.12, slide #12,TQ16)
- Make substantial changes in training, procedures, equipment and recruiting (NSCCI p.12 slide #13, TQ16)
- Organizations have to balance their attempts to introduce new ways of working with the necessity of preserving traditional basics. Changing uniformed cultures requires patience and wisdom. (NSCCI p.13, slide#12, TQ16)
- Establishing and sustaining firefighter competencies, as it is foundational to firefighter safety. (NSCCI p.18 slide#13, TQ16)
- The culture can be changed at national, state and local levels without diminishing the

quality of services provided by enhancing firefighter competencies needed at emergency scenes. (NSCCI p.23, slide #13)

ELO1.1.6. Provide at least three examples of inappropriate firefighter risk behaviors related to emergency vehicles.

- The urgency of quickly arriving at the scene of an emergency justifies driving in a manner that endangers the lives of other motorists and pedestrians that may be encountered while responding.
- Attempting to don protective clothing and equipment while responding as opposed to being properly seated and belted in an approved riding position.
- Allowing inadequately trained drivers to operate emergency vehicles.
- Allows poorly designed and poorly maintained vehicles apparatus to be operated. (NSCCI p.10, slide #14/15, TQ15)

ELO 1.1.7. The NSCCI report identifies nine areas of focus in changing fire fighters behaviors. List and define each area.

1. Situational awareness
2. Individual responsibility
3. Leadership
4. Health and Wellness
5. Training
6. Vehicle operations
7. Seat belt usage
8. Recruiting
9. Environmental factors
   (NSCCI p.13, slide #16, TQ17)

Provide definitions of the following areas of focus for fire service cultural change.

Situational Awareness: Situational awareness is defined as "the **perception** of the elements in the environment within a volume of time and space, the **comprehension** of their meaning, and the **projection** of their status in the near future" (NSCCI p.14, slide #16/17, TQ27)

Individual Responsibility: The two key aspects that apply to every member of the fire service at every level are accountability and personal responsibility. All individuals must also accept personal responsibility for their own health and safety, as well as for that of their co-workers and particularly for that of anyone they supervise. (NSCCI study p.15, slide #16/18, TQ28)

Leadership: Change is unlikely to occur unless the leaders of an organization embrace the effort and demonstrate a commitment to the endeavor. This applies directly to the formal leadership, which includes labor as well as management, and often includes informal, but influential leaders within the organization. (NSCCI p.16, slide #16/19, TQ29)

Health and Wellness: All firefighters should be periodically evaluated to ensure that they are medically and physically fit to perform their expected duties, both mentally and physically. The two primary factors that inhibit the adoption of mandatory medical and fitness standards are cost and the belief that a substantial percentage of fire service members would be unable to meet the requirements. (NSCCI p.16, slide #16/20, TQ30)

Training: Training is viewed as an essential component to accomplish any type of positive change in firefighter behavior, it is also frequently noted that inappropriate training is encouraging or reinforcing high-risk behaviors. This suggests that the problem may not be limited to inadequate training; it may also involve training that establishes inappropriate attitudes, actions, beliefs and behaviors. (NSCCI p.17, slide#16/21, TQ31)

Vehicle Operations: Organizations should concentrate on implementing and demonstrating an effective and measurable model of driver/operator training that advances in skill sets throughout a career and that ensures quality and driver/operator accountability. The focus areas of risk behavior modification are: driver capability, quality assurance, and accountability. (NSCCI p.20, slide#16/22, TQ32)

Seat Belt Use: Requirements to use seat belts are incorporated in many state vehicle codes, and the same policy is clearly stated in NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program*. In addition, tremendous efforts have been put forth to educate firefighters on the need to use seat belts and promote seat belt use as a personal safety decision. (NSCCI p.21, slide #16/23, TQ33)

Recruiting: The fire and emergency service is often viewed as an attractive outlet for individuals who are seeking opportunities to face extreme challenges and imminent danger. A cultural shift toward a safer work environment will require addressing recruitment strategies. (NSCCI p.22, slide#16/24, TQ34)

Environmental Factors: It has been observed that the current fire and emergency service generation has been raised in an environment that glorifies risk and expresses little or no concern for the potential negative consequences of bad decisions. (NSCCI p.22, slide #16/25, TQ35)

ELO1.1.8. The fire service professional will define the acronym ASARA as it relates to transforming the fire service safety culture.

ASARA = As Safe as Realistically Achievable. The fire service safety culture will be transformed for personal and public benefit when emergency responders achieve the components of the ASARA patch. (Slide #26/27, TQ1)

Module 2: Individual Behaviors and Responsibilities

TLO2.1. The fire service professional will gain a personal understanding of the impact of culture on firefighter risk behaviors and the need to implement individual behaviors and responsibilities measures to achieve an authentic fire service safety culture. (slide #33)

ELO2.1.1. List and define three on-scene components for fire service professional to implement in achieving ASARA.

1. Risk Based Response
   A systematic process based upon four criteria; Threat/Hazard, Vulnerabilities, Consequences, Likelihood of Occurrence. The first step in the process is the responders' ability to identify the threats/hazards present. Responders must understand how these threats/hazards can cause harm. The second step is to implement protective measures to lower vulnerabilities to the types of harm presented. The protective measures are implemented to reduce the likelihood of harm while preventing negative consequences from occurring. (Slide #37/38, TQ2/7)

2. Decision-Making
   Decision-making should be based upon the facts; science and circumstances of the situation in obtaining ASARA. Classical decision-making is preferred when time is not a critical factor. The implementation of recognition prime decision-making is needed in emergency situations, where responders have experience in making decisions under stress when time is a critical factor.
   (Slide #39/40, TQ 3/4/7)

3. Situational Awareness
   The ability of the responder to match the reality of what is occurring at an emergency scene to their perception of what is happening or likely to happen soon. (Slide #41/42, TQ 7/8/9)

ELO2.2.2. List and define three pre-operational components for the fire service professional to enact in achieving ASARA.

1. Experience Based Training
   Training designed to give the responder an event that allows them to parallel the knowledge, skills, and abilities plus competencies and experience needed at a specific type of emergency scene. This is commonly achieved through assertive simulation training where cues are provided that imitates real emergency scenes. (Slide #43, TQ11/20)

2. Fit-for-Duty
   References the responders' physical and mental ability to perform at emergency situations. Physical assessments designed to mirror fire ground psychomotor skills is a common method, which should include a medical surveillance component. The implementation of scenario-based training is a proven method as well. (Slide #44/45, TQ 11/12/21)

3. Continuous Learning
   The recognition that our profession is experiencing constant evolution as science and technology offer improvements to fire service capabilities. The ability to understand the application and implementation of new science and technology into our operations requires constant training and education. (Slide #46, TQ 11/22)

Module 3: Organizational Behaviors and Responsibilities

TLO3.1. The fire service professional will define and evaluate the organizational behaviors and responsibilities needed to achieve an ASARA culture.

ELO3.1.1. Using the ASARA structure, list and define the foundation needed to build a safety culture for the fire service.

Fire service leadership, with support from the authority having jurisdiction (AHJ) and those representing the workforce, such as labor groups. (Slide #53, TQ23)

ELO3.1.2. Using the ASASA structure, list and define the outside organizational pillars to achieving a safety culture.

1. Engagement and Expectations
   Fire Service leadership engaging the work force on the impact of achieving ASARA and the expectation that each fire service member strives to achieve the components of the ASARA patch.
   (Slide #54, TQ5)

2. Accountability and Enforcement
   Establishing enforcement methods for policies and procedures while providing accountability for everyone in the organization to be focused on achieving personal and organizational ASARA culture. (Slide #55, TQ5)

ELO3.1.3. Referencing the ASARA structure, list and define the three middle pillars to achieving an ASARA organizational structure.

1. Health and Safety Program
   Every fire service organization needs to have a comprehensive health and safety program if ASARA culture is to be achieved. Having every component identified in NFPA 1500 operational should not be the priority. Having committed and involved personnel involved in the health and safety program which complies with NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program*--from all levels of the organization—is essential to achieving an ASARA organization. (Slide #56, TQ24)

2. Walk-the-Walk
   The colloquialism means to make operational safety a top priority by allocating the necessary resources, (time, personnel, equipment), to accomplishing an ASARA organizational structure.
   (Slide #57, TQ 6/25)

3. Training and Evaluation
   ASARA will only be achieved through a comprehensive training program that implements the components of the ASARA patch and then evaluating its effectiveness by reviewing after action reports and conducting effective post incident analysis. (Slide #58, 6/26, TQ26)

Module 4-Application utilizing the Safety Culture Measurement Tool
Activities, close call reviews, interactive media to support the objectives.

TLO 4.1—Utilize the Safety Culture Measurement Tool to analyze a specific incident or evaluate your organizations safety culture. Use the components of the ASARA model as a guide when you review the specifics of an incident or evaluate an organization. Think about the Personnel and Organizational components of ASARA and how they affected outcomes. Components of ASARA:

PERSONNEL	**ORGANIZATIONAL**
Risk Based Response	Leadership
Decision Making	Engagement and Explanation
Situational Awareness	Enforcement and Accountability
Experienced Based Training	Health and Safety Program
Fit for Duty	Training and Evaluation
Continuous Improvement	Walk-the-Walk

ELO 4.1.1—Referencing the lessons learned in a specific incident or after action report, rate your responses utilizing the safety culture measurement tool. The safety culture measurement tool summarizes your responses, which can be used to generate debate on the components of a safety culture framed around the ASARA model (Personnel and Organizational). The overall goal is to help prevent your organization from experiencing a similar event.

ELO 4.2.2-- Referencing your organization, rate your responses utilizing the safety culture measurement tool. The safety culture measurement tool summarizes your responses, which can be used to generate debate on the components of your organizations safety culture framed around the ASARA model (Personnel and the Organizational). The overall goal is improvement of your organizations safety culture.

Evaluation
Test questions with answers related to the objectives.

1. What does the acronym ASARA stand for? (ELO 1.1.8, slide #26/27, MTQ-D)
Answer: As Safe As Realistically Achievable

2. What are the four components that make – up the risk based response process? (ELO 2.1.1, slide #37/38/MTQ-I)
Answer: Define the **Threat/Hazard**, assess **Vulnerability** and implement protective measures, evaluate possible **Consequence**s and estimate **Likelihood of Occurrence** and for actions taken.

3. The risk based response process involves making decisions based upon three criteria. What are they?
Answer: Facts, Science and Circumstances. (ELO 2.1.1, slide #38, MTQ-R)

4. Decision-making is the single most important factor in keeping firefighters safe at emergency scenes. What are the two types of decision-making models as described in the ASARA materials? (ELO 2.1.1, slide #40, MTQ-M)
Answer: Classical Decision Making and Recognition Prime Decision Making (RPDM)

5. The two primary organizational pillars of an ASARA organizational culture are; (ELO 3.1.2, slide #54/55, MTQ-V) Answer: Engagement and Expectations/ Accountability and Enforcement

6. The three supporting organizational pillars for an ASARA culture are; (ELO 3.1.3, slide #56/57/58, MTQ-L)
Answer: Health and Safety Program, Walk the Walk, Training and Evaluation

7. Referencing the ASARA patch, what are the three critical components for firefighter safety at emergency scenes? (ELO 2.1.1, slide #36, MTQ-W) Answer: Decision Making, Risk Based Response, Situational Awareness.

8. Name at least three barriers to gaining and maintaining situational awareness at an emergency scene. (ELO 2.1.1, slide #42, MTQ-O) Answers: Emotions/State of mind, Preoccupation with other tasks, Fixation on one task or tunnel vision, Inadequate communication, Periods of stress, Nobody looking for hazards.

9. Situational Awareness is defined as? (ELO 2.1.1, slide #41, MTQ-F)
Answer: When a responder's **perception** of what is happening, and likely to happen, meets the **reality** of what is actually happening or about to happen.

10. Which of the following is the definition of "culture" used in the ASARA materials? (ELO 1.1.1, NSCCI p.7, slide #8, MTQ-J)
Answers: A set of norms, beliefs, and values ingrained into an organization; Organizational culture is a system of shared behaviors, values, assumptions and beliefs learned by a group as it solves problems.

11. What are three components of the ASARA patch that need to be implemented prior to emergency scene operations? (ELO 2.1.2, slide #36, MTQ-K)
Answer: Experience Based Training, Fit-for-Duty, and Continuous Learning.

12. What are two methods commonly used in measuring firefighters fit-for-duty? (ELO 2.2.2, slide #44, MTQ--S)
Answer: Physical assessments and scenario based training.

13. Which of the following is considered an inappropriate firefighter risk behaviors related to emergency vehicles. (ELO 1.1.6, NSCCI p.6, slide #14/15, MTQ-H)
Answer: Quickly arriving at the scene of an emergency by driving in a manner that endangers the lives of other motorist and pedestrians.

14. Focus is recommended at three distinct levels in improving fire service safety culture. What are they? (ELO 1.1.4, NSCCI p.13, slide #11, MTQ-Q)
Answer: Firefighter, Company Officer and Chief Officer

15. Training that is designed to give the responder an event that imitates real emergency scenes is defined as: (ELO 2.2.2, slide #43, MTQ-T)
Answer: Experienced Based Training

16. The responders' physical and mental ability to perform at emergency scenes is defined as: (ELO 2.2.2, slide 44/45, MTQ-U))
Answer; Fit-for-Duty

17. The recognition that science and technology offer improvements to emergency response capabilities and constant attention to training and education is required in achieving an ASARA culture is a defined as: (ELO2.2.2, slide #46, MTQ-P)
Answer: Continuous Learning

18. The foundation to achieving an ASARA safety culture is: (ELO 3.1.1, slide #53, MTQ-B)
Answer: Leadership from all levels of the organization

19. The dedication of resources (time, personnel, equipment) to achieving an ASARA culture is defined as: (ELO 3.1.3, slide #57, MTQ-C)
Answer: Walk-the-Walk

20. The need to incorporate after action reports and conducting effective post incident analysis are components of? (ELO 3.1.3, slide #58, MTQ-X)
Answer: Training and Evaluation

21. Provide three key components of Situational Awareness as defined in the NSCCI report. (NSCCI p.14, slide #16/17, MTQ-N)
Answer: **Perception** of the elements of your environment, **comprehension** of their meaning, and the **projection** of their status in the near future.

22. What are two key aspects that apply to every member of the fire service at every level when addressing the organizational safety culture? (NSCCI study p.15, slide #16/18, MTQ-A)
Answer: Accountability and personal responsibility

23. List the two primary factors that inhibit the adoption of mandatory medical and fitness standards as defined in the NSCCI report. (NSCCI p.16, slide #16/20, MTQ-G)
Answer: Cost and belief that a substantial percentage of fire service members would be unable to meet the requirements.

24. Training is viewed as an essential component to accomplish any type of positive change in firefighter behavior. The NSCCI reports states that inappropriate training may have an adverse effect on an organization safety culture by? (NSCCI p.17, slide#16/21, MTQ-E)
Answer: Establishing inappropriate attitudes, actions, beliefs and behaviors.

25. Of the following, which one is **NOT** identified as a high order cause of firefighter injuries and death? (ELO 1.1.2, NSCCI p.8, slide #9)
a) Professionalism
b) Insufficient resources
c) Inadequate preparation
d) Insufficient incident command structure
e) Suboptimal personnel readiness

26. **TRUE** or FALSE: Climate is more temporal and local to a particular unit, whereas culture is broader and spans the entire organization. (ELO 1.1.3, NSCCI p.12, slide #10)

27. Of the following, which is **NOT** a recommended strategy in moving toward an improved fire service safety culture? (ELO 1.1.5, NSCCI p.12/13, slide #12/13)
a) Reliance on broad directives from the fire chief and the writing of new standard operating procedures.
b) Slight shifts in the practices within the fire service are likely to be more successful than large, sudden change.
c) Make substantial changes in training, procedures, equipment and recruiting.
d) Balance attempts to introduce new ways of working with the necessity of preserving traditional basics.
e) Establishing and sustaining firefighter competency as foundational to firefighter safety.

28. Of the following, which one is **NOT** included as an area of focus in achieving a firefighter safety culture? (ELO 1.1.7, NSCCI p.13, slide #16)
a) Advertisement campaign
b) Leadership
c) Individual responsibility
d) Training
e) Situational Awareness

29. True or **False**: The development of written policies have the greatest influence over firefighter risk behaviors when working toward a culture of safety. (ELO 1.1.4, slide #11)
Answer: The Company Officer has more influence over firefighter risk behaviors of those they directly supervise.

30. **True** or False: The components of a comprehensive Health and Safety Program are covered in NFPA 1500 and need the involvement of personnel from all levels of the organization. (ELO 3.1.3, slide #56)
Answer: The correct standard is NFPA 1500

31**. True** or False: Leadership as defined in the NSCCI report is inclusive of labor, management, and informal leaders within an organization. (NSCCI p.16, slide #16/19)

32. Which of the following are focus areas of risk behavior modification related to vehicle operations as referenced in the NSCCI report. (NSCCI p.20, slide#16/22)

a). Stressing the urgency to arrive first on the scene
b). Driver Capability
c). Quality Assurance
d). Accountability
e). Passive Driving

33. **True** or False: Seat Belt usage is incorporated into many state vehicle codes and clearly stated in NFPA 1500. (NSCCI p.21, slide #16/23)

34. **True** or False: The NSCCI report states that a cultural shift towards a safer work environment requires addressing recruiting strategies. (NSCCI p.22, slide#16/24)

35. **True** or False: The NSCCI report states that the current fire and emergency service generation has been raised in an environment that glorifies risk and expresses little or no concern for the potential negative consequences of bad decisions. This is considered an Environmental Factor that affects an organizations safety culture.
(NSCCI p.22, slide #16/25)