

Improving Psychomotor Skill Performance through Improved Training

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CERTIFICATION STATEMENT

I hereby certify that the following statements are true:

1. This paper constitutes my own product, that where the language of others is set forth, quotation marks so indicate, and that appropriate credit is given where I have used the language, ideas, expressions, or writings of another.

2. I have affirmed the use of proper spelling and grammar in this document by using the spell and grammar check functions of a word processing software program and correcting the errors as suggested by the program.

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ABSTRACT

The problem that this research addressed was that the Clearcreek Fire District had some firefighters that did not demonstrate proficiency with basic firefighting skills in training exercises. The purpose of this study was to provide research based information to help Clearcreek Fire District improve psycho-motor skill performance of firefighter basic skills on emergency scenes and in all training exercises.

The following research questions were answered by this descriptive research.

1. How can basic psycho-motor firefighting skills training reinforce the retention of basic firefighting skills?
2. What effects does the initial training in the departments' academy have on the retention of psycho-motor skills?
3. How do ones work experience and time on the job affect the retention of psycho-motor skills?
4. How do the content and quality of training impact skill performance and retention?
5. What findings from published research provide recommendations regarding the duration and frequency of training on basic firefighting skills?

The procedures for the research were as follows: Data collection identified the problem. A comprehensive literature review supported the research questions. An internal survey was administered to collect data of past and current efficiency of CCFD's training program. An external survey was administered to obtain data from similar fire service organizations. The internal survey was emailed to 48 CCFD employees. The external survey was emailed to 30 fire departments of similar size, number of employees, call volume, and scope of practice; 17 surveys were returned.

Overall results indicated that most fire departments complete both in classroom and hands on training at least once per week. The internal survey showed many firefighters feel comfortable with their skills but do not feel comfortable with their peers' skills.

It is recommended that CCFD firefighters increase the frequency of training on basic fire skills monthly and have a minimum of one hour duration when training on those skills. The importance of consistent motor trainings will allow one to reproduce a learned skill when needed urgently on the job.

It is recommended that CCFD's command officers identify important basic fire skills based on the department's mission statement, geographical response needs, and resources provided. Once those skills are identified, those skills should be frequently trained on, at least monthly, for one hour periods.

This researcher recommends that CCFD creates a competency based training program, where the identified skills would be evaluated periodically to monitor retention of the established basic firefighting skills. Job Performance Records (JPRs) should be created to document the employees' progress.

Is recommended that more research on skill development and retention be conducted to maintain the most effective and efficient means of maintaining basis firefighting skills.

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INTRODUCTION

Statement of the Problem

It is the department's expectation that all firefighters are trained and ready to efficiently mitigate any emergency that is posed to them. Firefighters at the Clearcreek Fire District (CCFD) receive numerous amounts of training hours per month; however, some firefighters still displayed awkwardness when performing basic firefighting skills on the training ground.

In 2015, this author was promoted to the position of training officer and as such, became more actively involved with shift trainings than past training officers. Observations during the trainings revealed that many firefighters were uncoordinated when performing basic skills on the training ground while other firefighters appeared mostly proficient. Some of the basic skills observed were deploying ground ladders, hose movement, personal protective gear use, and self-contained breathing apparatus use. The past years' training schedules and training standards required that firefighters train on basic skills be officially conducted only one to two times a year and the training requirements were changed from year to year. However, some firefighters trained on basic skills on their own more often than was required. The need to incorporate basic firefighting skills drill each month was investigated.

Discussions with the three department shift commanders and some company officers revealed that each shift had firefighters that perform less well than expected when operating on emergency scenes. However, their performance had become a somewhat acceptable norm across the organization. When discussing those poorer performing firefighters operating on the training ground, the officers really did not have a gauge of the performance level by those firefighters. Many officers mentioned some basic skills training had not been conducted in a long period of time.

The problem that this research addressed is that the Clearcreek Fire District had some firefighters that did not demonstrate proficiency with basic firefighting skills in training exercises. NFPA (National Fire Protection Agency 1001) is a standard that dictates initial firefighting training on what are known as basic skills. Some of the basic skills are deploying ground ladders, advancing hose lines, and donning personal protective equipment. The Clearcreek Fire District General Operating Guidelines G.O.G.L. 6.1.3 indicates the Clearcreek Fire District Training program will be based on NFPA 1001.

Purpose of the Study

The purpose of this study was to provide research based information to help the Clearcreek Fire District improve psycho-motor performance of firefighter basic skills on emergency scenes and in all training exercises.

Research Questions

The following questions were answered by descriptive research. The research questions this study investigated are.

1. How can basic psycho-motor firefighting skills training reinforce the retention of basic firefighting skills?
2. What effects does the initial training in the departments' academy have on the retention of psycho-motor skills?
3. How ones work experience and time on the job affect the retention of psycho-motor skills?
4. How does the content and quality of training impact skill performance and retention?

5. What findings from published research provide recommendations regarding the duration and frequency of training on basic firefighting skills?

BACKGROUND AND SIGNIFICANCE

Clearcreek Township is located in Warren County, Ohio. It is 45 square miles in size, and has a population of 20,974. The Clearcreek Fire District was established in August 1988, prior to then, it was private fire company. The department serves both the City of Springboro and Clearcreek Township. The City of Springboro is nine square miles in size and has a population of 17,860.

Since the year 2000, the Clearcreek Fire District has undergone many changes. The department has progressed from a predominately volunteer organization to currently being predominately a career organization. The Clearcreek Fire District currently employs 51 career employees and 2 part-time employees. The organizational chart includes one chief, two assistant chiefs, one training captain, three shift captains, twelve lieutenants, and thirty four firefighter / paramedics. The department operates out of three individual stations and has a total run volume of 2,894 as of 2014 annual report.

At the Clearcreek Fire District, all career employees must be certified as a State of Ohio Firefighter Level II, Paramedic, and Fire Inspector. Each of the respective certifications has specific continuing education requirements. The fire department imposes a minimum of 20 hours of training per individual firefighter per month to meet the Insurance Service Organization (ISO) recommendations. Each year, the Clearcreek Fire District requires employees to complete the following annual skill evaluations: fire apparatus operator, aerial tower operator, paramedic operating protocol, and basic firefighting skills. In 2011, an initial recruit academy was created to offer new employees a good foundation of practical skills. With 240 plus hours required of

training annually, firefighters should be able to perform their duties efficiently. However, some firefighters operate clumsily when performing basic psycho-motor skills on the training ground and on fire scenes.

The Clearcreek Fire District training program is carried out by a captain who is currently overseeing the program. The organization does not have consistent standard training objectives, as they are designed by the current captain in charge of training. The majority of recent year's trainings have been computer based. Firefighters sit down and scroll through the assigned trainings and receive their training hours. The current training program does meet all the necessary benchmarks to maintain individual Firefighter II, Paramedic, and Fire and Life Safety Inspector certifications through the state of Ohio. All firefighters receive adequate amount of training hours and subjects to recertify their required certifications. However, it is evident on emergency scenes and on the training ground that some firefighters have difficulty with performing ground ladder deployment, hand line deployment, and donning personal protective equipment (basic skills) efficiently. The skills are evaluated annually by the crew's company officer while the company officer may or may not be evaluated.

Data were collected to determine the amount of times basic skills trainings were conducted over a twelve month training year during the last five years. The skills assessed were ladder drills, hose movement drills, and personal protective equipment drills. As can be seen in table 1, training for those skills only occurred one to three times a year. One of those times was the annual skills evaluation and not necessarily training.

Amount that basic skills training given in a twelve month period over five years.

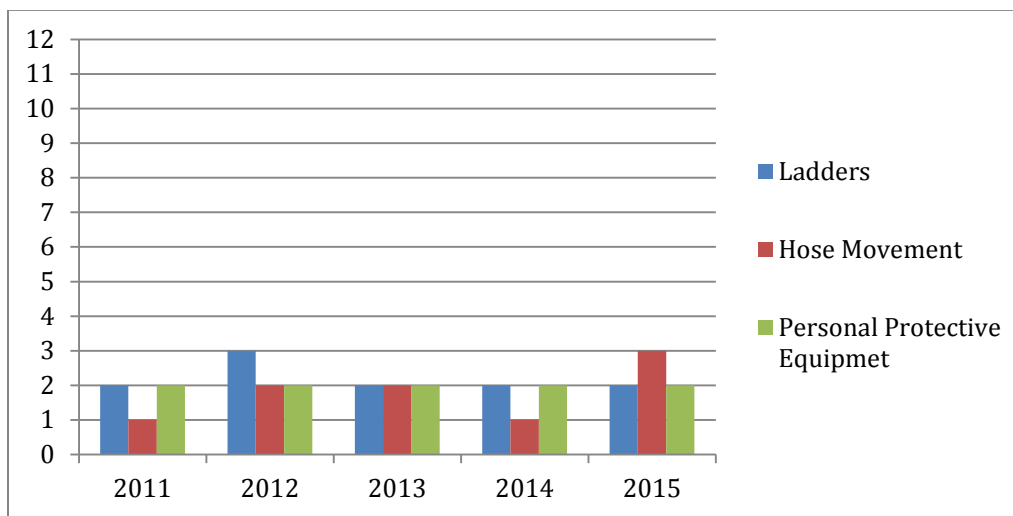


Figure 1

The problem of skill deficiencies appeared to be identified by others as well. Some company officers and shift commanders enhance firefighter's competence by completing random practical trainings for their individual crew or shift. As such, training exercises were limited and did not occur often and they did not count officially as training hours due to not being properly structured classes as required by the State of Ohio.

Training officers have the responsibility to assure that all firefighters are properly trained to meet the continuing education requirements set forth by the Clearcreek Fire District and the State of Ohio. Additionally, they are responsible to assure that the CCFD firefighters are competent to perform their job. The problem of firefighters not maintaining competency in performing psychomotor skills had been identified by each shifts captain and some company officers. No solution was apparent to correct the problem. While firefighters completed numerous hours of training, many continued to demonstrate difficulty performing basic psycho-

motor skills. In years past, the shift officers (usually the station lieutenant) would evaluate their individual crew's performance. Each year, all firefighters would pass their skill competencies without the need for remediation. But in 2015 poor performance was observed as the same firefighters completed basic skilled task on the training ground. Such deficiencies were concerning since it appeared that the organizations past and present training program had not assured that all firefighters were competent in performing basic psycho-motor firefighting skills. Firefighters lacking competency with their skills can affect the outcome of emergency incidents in a negative fashion. Poor skills disturb the efficiency of emergent operations. There are many internet videos and articles (firefightersclosecalls.com) that reveal dangers from mistakes and/or mishaps by firefighters. A recent example was on January 26, 2016 when the Covington News reported on a firefighter who fell 15 feet while operating off a ground ladder, which is a basic skill. Firefighters are very much in the public eye today and cell phone video can document poor performance by firefighters on a scene.

Injuries and equipment damage can be costly and can negatively affect the operations and mission of the Clearcreek Fire District. Figure 2 illustrates the equipment damage and injuries over a five year period. A total cost per year was not determined. However, some of the individual equipment items damaged were expensive. A 24 foot ground ladder, costing \$850.00, had to be replaced due to damage caused during a training evolution when a firefighter improperly positioned the ladder.

Amount equipment damage and or injuries over five years.

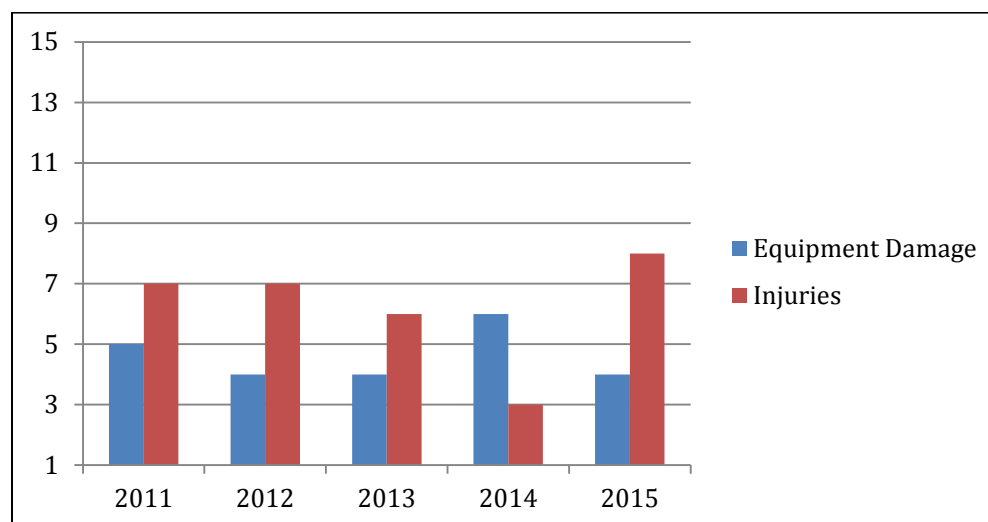


Figure 2

The potential impact this study could have on the Clearcreek Fire District is the creation of an annual training plan which ensures that firefighters maintain basic psycho-motor firefighting skills. The expectation from the community has risen for the organization since the department has progressed to a mostly career fire department. Enhancing the training program and ensuring the organizations' firefighters are well trained to mitigate emergencies efficiently will show the community the department's due-diligence for their trust in CCFD to safely mitigate fire and/or EMS emergencies.

LITERATURE REVIEW

Adams, Jezzard, Karni, Meyer, Rey-Hipolito, Turner, and Ungerleider (1998) studied MRI results related to skilled motor performance and changes in the primary motor cortex. Data were collected using monkeys and human subjects for their research. The test subjects performed specific motor tasks routinely over three weeks and only for short periods of time. Their research concluded three separate findings based on brain imagery related to motor skills

training. The first is that even limited amounts of training can stem hours' worth of continued results in the brain activity afterwards. They related this finding to what is known as experience. Second, in the early stages of learning a new skill it is apparent that one retains the most detail from that experience. Therefore, an individual will resort to their initial training when re-performing the specific motor skill in the future. Third, motor skill training is developed in two phases "fast" and "slow". Fast, is the initial process of learning a new motor skill that selects the most ideal way of completing that motor task. However, the slow phase is the consistent follow up training which strengthens the links between the motor neurons in the brain for continued competency. The slow phase allows incremental gains for sustained competency which occurs over several weeks.

Arthur, Bennett, McNelly, and Stanush (1998) examined factors that affect skill loss and retention of skills. This was accomplished by completing a meta-analysis of several other studies. This meta-analysis used quantifiable data through others research that were referenced throughout their study. The meta-analysis concluded that after a 365 day period of nonuse of a particular motor skill that on average one will retain 92% of their initial motor skills. However, it was discussed in detail that many methodological variables affected the research of retention and deterioration of a motor skill. One variable was the ability to recall upon ones training for a motor skill that was directly affected by the training being aligned to that individuals work environment. If the motor skill was used in ones work environment, the decay of skills was less than of that person not having any practical use of that particular skill for an extended period of time.

Another variable is speed versus accuracy. This can be difficult to measure in quantifiable data and can be problematic when not having the initial data results of one's training when using later data results. Additionally, the ability to perform a skill after a long period of time may be based on the initial training period. If a subject had gained a suitable understanding and ability to complete a skill, they would be able to recall that skill more efficiently after an extended period of time as opposed to someone who gained limited understanding and ability with a skill. This meta-analysis concluded that it is suspected that time of nonuse of a motor skill leads to deterioration of that skill.

A research study by Landry, Lee, Liem, Mitchell, Moneta, Partsafas, and Sevdalis (2011) was completed to determine surgical skill retention among surgeons during different training intervals. The researchers chose 24 intern surgeons (18 male and 6 female) to study over a four month period. The surgical interns completed the same initial training on two separate surgical skills; one involved a short task and the other a longer more drawn out surgical task. After the initial training period, the groups were randomized into two separate groups. One group received re-training one time per week over four weeks and the other group received re-training one time per month over four months. All re-training was the same for a total of 480 minutes completed by both groups. The study participants were tested throughout the training process, a test was given before the initial training, after the initial training, after the four additional trainings, and four months after all the training had been completed. The researchers found two significant components when conducting continued training regarding skill decay. Motor skills are task dependent and affected by the gap between the training periods. Simple tasks are best maintained by short intervals between trainings and complex tasks are better maintained by longer intervals and more rest between.

Dressel, Drillings, and Goldberg (1981) claimed that increased training and short intervals of re-training, which is called “mastery training”, allowed soldiers to outperform those who receive standard training in the US Army. Research was conducted on 42 army soldiers on a particular skill. The soldiers were randomized; some soldiers completed the Army’s standard way of training, which is one training period with one corrective action before proceeding with the training. The training was conducted in four week intervals. Whereas the “mastery training” allowed three corrective actions to take place before proceeding with the training and the training was completed in one week intervals over four weeks. The training consisted of a 27 step process of bore sighting a tank. The research showed that all soldiers began the study with a 15% success rate; however, the group that was included in the mastery training significantly outperformed the group with the standard Army training during the final testing process. The “mastery training” group had a much lower error rate when being tested after a five week period. The mean score of the mastery training group was 102 and the mean score of the normally trained group was 49.

Jones (1991) studied individual differences regarding skill retention. In his study he questioned whether frequency of learning a new skill can be “over practiced”? He examined the question, “if an individual learns a skill quickly, will continued frequency of training on the new skill affect retention” or “does continued slow-rate frequency of training develop better retention of that new skill?” Two separate groups of people were studied while using different skills and intervals. One group had multiple new skills to learn at different frequency intervals and the other group had only one skill to learn at more consistent frequency intervals. Jones concluded that if training intervals are long enough most subjects will stop learning before those training intervals were completed. Which further indicates it may be unknown at what interval of initial

training produces retention; it may be based on the individual and the way they learn. However; Jones presented evidence that claimed that individuals who learn a new skill early in the training regimen have no basis to prove that retention is sustained. On the other hand, he presents evidence that when individuals learn a new skill slowly at controlled intervals, they have better retention of that new skill.

Joiner and Smith (2008) researched adaptive learning regarding motor skills. Their study utilized 48 similar ability adults divided into three separate groups. The test subjects were to use a robotic hand and make quick movements to targets. The first group completed 160 trials and had a re-test day 24 hours later. The second group completed the 160 trials; however, after five minutes they completed a retest for retention. The last groups completed 160 trials but were stopped intermittently at 11, 30, and 103 trials before moving on. Their evidence based research determined that short term learning has an effect on long term retention. By slowing the initial learning process down as done in group three, allows for more sustainable long term retention. They further explain that being able to quickly adapt to a new motor skill does not necessarily equate to retaining that skill. Retention of a motor skill is maintained more so by the way one has learned that skill.

Huber (n.d) argues that initial learning is the most important when retaining a sporting skill and retraining can be very difficult if the initial learning was inaccurate. In his editorial, Huber discusses three types of learning phases when training athletes. The learning phases he describes are cognitive, associative, and autonomous. The cognitive stage is when the student is collecting the information of how to complete a task or procedure, this stage requires a large amount of instruction and technique demonstration. The second phase, associative, has the student put their knowledge to practice while the instructor critiques their performance. The last

stage, autonomous, may take years to achieve after much practice. This is when the learner performs in an automatic fashion. By putting these phases of learning together, allows the athlete to learn correctly and retain his/her knowledge while continually progressing in the skills.

Lawani, Hare, and Cameron (n.d.) studied wind turbine technician ability to use an evacuation device during an emergency when the device had not been used or trained on for a period of time. The nature of this study was to determine if once individuals learn a skill and worked in the particular environment but had limited to no exposure in doing the particular skill, could that skill be done proficiently during an emergency. The assessment involved 30 participants completing a 6-8 hour intensive training over two sessions using an emergency device for rescue and evacuation. The test subject was tested again after 28 days, three months, and six months. The study concluded that there was a large decay in skills after 28 days and a moderate increase in decay of skills after the 28 days to three months. However, after six months only 25% of the test subjects retained the skill. The researchers also determined that some of the subject's skills decayed faster than other within the first three months. The researchers concluded that it may be due to the learner's abilities.

Boutis, Kalet, Kessler, Pecaric, Pusic, and Szyld (2012) investigated the effects of training and experience in emergency medicine physicians. In their report, they illustrate three curves that affects ones skill abilities. First, is the learning curve, which demonstrates an upward swing in ones competence by frequent deliberate skill training sessions, one is practicing the actual skill and developing proficiency. In this portion of their research, many students were studied and it was determined that as students continued through their learning process, learning decreased after the medical students were involved with 100 cases. Second, is the forgetting curve. This is a discussion illustrating how the medical students developed mastery of skills

during their learning curve phase. But over time, as they seldom used low frequency but highly difficult skills, those skills began to decay. Last, is the experience curve, this curve brings both the learning and forgetting curve together. The researchers discredit experience as being a factor for skill mastery. Through research, they argue that intentional simulated type training is more useful than experience alone. In summary during the learning curve, continuous practice creates proficiency and overtime as one works in the environment some skills may degrade; however, others may be maintained if they are used frequently.

A Learning Science Report (2013) completed a meta-analysis of research from many authors. This report detailed several aspects of learning (remembering) and forgetting. When discussing memory, two types were explained which are episodic memory and semantic memory. Episodic memory is collecting memories of specific events like one would do by gaining work experiences while semantic memory, is called generic knowledge memory which is all of the general information stored in memory that can be withdrawn independently of how it was learned. In determining how work experience affects skill retention, the report illustrates ways that one forgets or loses information through long and short term memory processes and further explains other aspects of forgetting which are failures to encode and failure to retrieve. Failure to encode means the information was never learned while failure to retrieve is the inability to recall or obtain previously learned information. Short term memory is referred to as the working memory, allowing one to gain information and reproduce it on a short term basis. However, if that information is not used frequently and requires long term memory, it can cause difficulty when reaching for the information to complete a task. For retention, episodic memory is believed to be the most effective and sustainable for recollection.

The National Institute of Safety and Health (NIOSH) compiled a publication in 1999 discussing what makes training effective. The publication illustrates data regarding the amount of money spent on training within the private sector of business, much of the training is required by the Occupational Safety and Health Act (OSHA) of 1970; however, the training has been very effective at limiting injuries and accidents in the workplace. NIOSH explains that effective training comes from both training and education. Training is developing skills, modifying behavior, and increasing competence. Training focuses exclusively on what needs to be known. Education is a longer-term process that merges the goals of training and explains why certain information must be known. Education emphasizes the scientific portion of the material presented. NIOSH completed research on what makes training effective. One method of training effectiveness is a process called triangulation which is the collecting multiple data sources and information of a particular subject and giving that information to small groups and having the small group interpret the data. This emphasizes the educational portion of training. Another researched impression is the cause and effect analysis form training. The instructor or training developer should have a good idea of outcomes and impacts of training when developing a skilled training. By knowing the detailed particulars of desired outcomes, the instructor is more likely to have a successful skill developed by the students.

Much of this literature review reports the importance of the duration and frequency of training to develop continued performance of applied skills. At CCFD the training program has changed on a yearly basis providing no consistency of training duration or frequency. An initial fire academy provides eight hours a day of training for a six week period. By the end of the recruit academy, the recruits are proficient at placing ground ladders, donning PPE, and moving hose lines. However, those skills degrade over time. Many of the firefighters with six year plus

may be able to complete the skills previously mentioned, but may not be able to complete them as efficiently as one who has just completed the recruit academy. Much of this literature review suggests that a training program should be consistent and offer ongoing trainings annually.

After gaining a great deal of understanding of the importance of duration and frequency of training through the literature, this researcher recognized surveys needed to be sent to external fire departments as well as an internal survey to CCFD employees. The literature review represented the need to tailor both surveys to gather information from current and past training practices based on duration and frequency of those trainings.

PROCEDURES

This study was conducted to provide research based evidence that assisted with a renewed training program to sustain basic firefighting skills. This author initially completed an internal review to truly identify the problem. The review consisted of statistical run data, previous training plans, previous training assessments, annual injury reports, and annual equipment accident data. This information led to the development of the problem statement and five research questions. A comprehensive literature review was conducted to acquire a better understanding of the research questions that were posed by this researcher.

Evaluative research was used to collect data. Two surveys were created; one for internal employees the other for external fire departments. The internal survey (appendix 2) was created to collect data regarding the past and current efficiency of the CCFD training program as well as to gather ideas for future development of the training program. The external survey (appendix 1) was created to identify “basic fire skills” and obtain data from the fire service industry. The questions were designed to collect data on the efficiency of other departments training programs. The surveys were placed into a computer based forum using questionpro.com. The surveys were

created so the surveyee could easily complete the survey by clicking on the link provided in an email to each individual employee or fire department. The survey sent to internal employees was emailed to 48 firefighters and fire officers within CCFD. The external survey was emailed to 30 fire departments of similar size, number of employees, call volume, and scope of practice. The Ohio Fire Chief's Associations database provided the email addresses needed for the external survey.

The surveys were requested to be completed no later than October 10, 2016. The (questionpro.com) survey automatically generated data that was used to answer this authors research questions. The data that were collected are explained in the results section of this research paper. The data were used to make recommendation of needed changes to the CCFD training program.

The literature review answered the research question about what published research provided information on duration and frequency of trainings. Duration and frequency of training practices information was collected from other fire departments through the external survey results and is further discussed in the results section.

Definition of Terms

Basic Fire Skills. For this research project shall include deploying a hose line, deploying a ground ladder, and donning full firefighting PPE including an SCBA.

NFPA (National Fire Protection Agency) The agency that sets standards for the fire community across the country.

NIOSH (National Institute of Safety and Health) federal Institute responsible for conducting research and making recommendations for the prevention of work-related illnesses and injuries.

OSHA (Occupational Safety and Health Act) is responsible for protecting worker health and safety in the United States.

ISO (Insurance Service Organization) is a provider of statistical, actuarial, underwriting, and claims information and analytics; compliance and fraud identification tools; policy language; information about specific locations; and technical services.

Limitations of the Study

Obtaining data from external and internal surveys may have been somewhat skewed due to respondents having diverse opinions regarding skill proficiency in the fire service industry.

The fire service as an industry may be diverse due to geographical location, funding and economics, size, call volume, environmental hazards, etc. Because of this each fire department will have a view of what is defined as proficiency.

More external surveys should have been emailed. This researcher received 17 completed surveys of 30 requested surveys. Increasing the sample to 50 may have produced a larger return of surveys thus providing more data; however, the percentage of return may have remained the same. Some internal questions could have been added to provide better data; for example, an internal survey question should have requested data regarding if an employee has ever failed an annual skills assessment.

The internal survey may have been influenced by a new training program created in 2016. Since this author became the training officer, this author felt compelled to change the training program as poor performance was noted. The 2016 CCFD training program implemented monthly basic fire skills practices including donning of SCBA/PPE, ground ladders and hose movement. Having consistent duration and frequency of training on basic skills has impacted the organization positively. As noted in the literature review, the duration and

frequency of training affect the outcome. Positive impact of this practice was confirmed by visual results throughout the 2016 training year when compared to the 2015 training year which inspired the problem statement of this research paper. Although the change in the training program may have impacted the internal survey, it also substantiated the literature review outlining the importance of duration and frequency of training.

RESULTS

The comprehensive “QuestionPro” survey data results are in appendixes 3 and 4. The internal and external surveys revealed many different characteristics when evaluating fire department training, in particular skills, what this research project outlined as basic fire skills. The external survey provided data from fire departments that are similar to CCFD. The internal survey obtained data based on the most current CCFD training program. Of the 30 external surveys emailed, 17 surveys were completed. Of the 44 internal surveys emailed, 30 were completed. The following research questions will be individually answered.

1. How can basic psycho-motor firefighting skills training reinforce the retention of those basic firefighting skills?

The external survey showed that 46.67% of the respondents complete hands on training often, while 33.33% complete an annual proficiency testing. Seventy-three percent indicated that they train on using hands-on skills weekly, while 46.67% train in the classroom weekly, and 100% show the training programs are successful at maintaining basic fire skills.

The literature review and data collected from the external survey supported the literature on the importance of not only training on psychomotor skills but cognitive skills as well. The last question in the external survey results (Appendix 3) shows a fair amount of departments train using both cognitive and psychomotor skills weekly, 47% reveal both hands on and

classroom trainings are conducted weekly. The literature review expresses the importance of cognitive skills coupled with psychomotor skills as providing the best training outcomes.

2. What effects does the initial training in the departments' academy have on the retention of psycho-motor skills?

The external survey data showed that 93.33% of the departments have an initial training program and 80% of those departments feel that the initial training program is successful. Sixty percent of the department's reported that they have competency testing and 46.15% of those departments test proficiency annually. Fifty-seven percent of the departments reported that they only have 0-3 employees that fail the proficiency test.

The internal survey shows that 96.67% of the respondents have completed a skill assessment in the last year, while 83.33% of those feel that their skills were truly assessed. An internal survey question should have requested data regarding if an employee has ever failed an annual skills assessment.

CCFD's annual skills testing data along with external department data validates the need to continue an initial training academy. There is a high rate of departments that have an initial training program and indicated a large success with annual skills competencies with follow up training. The literature review also emphasizes the importance of one learning a skill correctly the first time as, trainees will typically resort to their initial training of a skill in succeeding performances.

3. How does ones work experience and time on the job affect the retention of psycho-motor skills?

The internal survey reported that 66.67% of firefighters used basic skills on a fire call between 0-3 times in 2015, while 46.67% showed that they only deployed a ground ladder on a

call from 0-3 times in 2015, while 86.21% showed that a training program assists in maintaining basic fire skills, and 66.67% mentioned that job experience does not maintain fire skills.

The data illustrated that firefighters rarely use basic skills on the job. Two questions contained within the internal survey requested information based on firefighter practical use of basic skills on scenes. Both questions showed 67% and 47% of firefighters only used their basic skills on an actual scene 0-3 times in 2015. As reported in the literature review, this pointed out the importance of maintaining basic fire skills through a consistent training program since unused skills are perishable.

Many of the technically difficult calls within the fire service industry are known as high risk low frequency (i.e. structure fires). Many of the basic skills discussed in this research paper would be used on a structure fire call. CCFD responded to 76 structure fire calls in 2015; however, only 9 of those calls utilized the skills discussed in this study. The data shows that CCFD firefighters are seldom completing basic skills on calls. Therefore, they support the need to have a training program that incorporates basic skills on a regular basis.

4. How does the content and quality of training impact skill performance and retention?

The internal survey reports indicated that 83.33% reported they can demonstrate skill proficiency better if the content of the training is suitable to their liking, while 86.67% reported the quality of training effects proficiency when re-learning a basic fire skill.

The data indicates that having both high quality and effective training material promotes proficiency when learning and performing a skill. Within the literature review, this is discussed as well. Initial quality of one's training is typically reverted to when that person completes a skill. Additionally, the literature review emphasizes the importance of quality material and proper training standards for maximum student learning potential.

5. What findings from published research provide recommendations regarding the duration and frequency of training on basic firefighting skills?

Through the literature review of published data, the importance of both frequency and duration was illustrated. Much of the literature review discussed how skills decay over time if they are not re-trained or practiced. Much of the literature review information was developed from other professions outside of the fire service industry; however, the information can be applied to the fire service. Through the collective literature review, it is conveyed that perishing skills may need to be refined and a specific duration and frequency of training practices need to be determined.

Data collected from the survey shows that 78.57% of departments use published research regarding training duration, frequency of training and practice and/or proficiency testing. Twenty-one percent of departments use other methods such as, developing a training program based on internal needs or weaknesses, direction from a medical director, following departments established parameters, and NFPA 1001 training standards which identify skills needed but does not identify training duration and frequency. Sixty percent of the departments reported that they have competency testing and 46.15% of those departments test proficiency annually. Fifty-seven percent of departments report that they only have 0-3 employees that fail the proficiency test. Fifty-three percent of other departments report that they train on basic skills all of the time, 26.67% report most of the time, and 20% report some of the time. One hundred percent of other fire departments report that the current training practices are maintaining basic fire skills. This data concluded the importance and the need for consistent and frequent training on basic fire skills.

DISCUSSION

The employees of Clearcreek Fire District have to maintain high standards in regard to certifications and training. As discussed in the Background and Significance, each employee must be certified as a State of Ohio Firefighter Level II, Paramedic, and Fire Inspector and maintain all recertification training for each discipline. Fire officers must maintain their Blue Card Certification as well. At CCFD the training program had changed on a yearly basis resulting in little or no consistency of training duration or frequency. The initial fire academy provides eight hours a day of training for a six week period. By the end of the recruit academy, the recruits are proficient at placing ground ladders, donning, PPE, and moving hose lines. However, those skills appear to degrade over time. Many of the firefighters with six year plus may be able to complete the skills previously mentioned, but may not be able to complete them as efficiently as one who has just completed the recruit academy. Much of the literature review suggests that a training program should be consistent and offer ongoing trainings annually. This research paper was intended review the CCFD training program to determine the most ideal way to train employees to maintain the necessary basic firefighting skills while undergoing trainings in many different certification disciplines.

Initially this author was led to believe that the CCFD training program was deficient in completing psychomotor trainings throughout the year. However, through research it became apparent that flawless trainings stem from frequency, quality, and duration of training.

Two surveys were created, one for internal employees and one for external departments. The surveys were designed to capture employees understanding of their performance level as well as their peers and other department's use of published training procedures. This research

paper relied heavily on the literature review to narrow the focus on duration and frequency of training for optimal performance.

Much of the literature review reports the importance of the duration and frequency of training to develop continued performance of applied skills. Prior to 2016 the CCFD training program has changed on a yearly basis providing no consistency of training duration or frequency.

The literature review related work experiences to continuous maintenance of skill proficiency as well. However, according to the U.S. Fire Administrations U.S. Fire Statistics fires are continuously decreasing. This equates to firefighters not using learned skills as often thus reducing the maintenance of those skills through on the job experiences. Structure fires are known to be a high risk scenario that requires highly skilled firefighters to mitigate the hazard. However, structure fires are lowering in frequency decreasing the real life practical experiences needed for firefighters to perform their job; this emphasizes the need to maintain the frequency of training as mentioned by Arthur, Bennett, McNelly, and Stanush (1998).

Through research it can be perceived that a fire departments initial training program is valuable to a departments overall training program. The results of this study indicate that 93% of the fire departments studied have an initial training program and 80% of those respondents report the initial training program was successful. The internal survey results show that 67% of employees do not maintain their basic fire skills while working on the job and 86% of firefighters responded that the training program is valuable when maintaining their basic skills. Job skills decay as mentioned by Arthur, Bennett, McNelly, and Stanush (1998) and it is utmost important to maintain basic firefighting skills through a training program that offers frequent basic fire training.

While this study was being conducted, a training procedure was changed at CCFD which was influenced by the literature review from this research paper. The training program increased the duration and frequency of the following: pulling hose, placing ground ladders, donning PPE, knowledge of building construction, and knowledge of fire behavior. Since January 1, 2016 CCFD employees were completing monthly drills on the aforementioned skills once a month for one hour durations. Unfortunately, no data were collected to examine the performance outcomes of the training programs changes. However, on October 11, 2016 crews were dispatched to a structure fire. Upon arrival the crews flawlessly pulled the appropriate hand line and attacked the fire in an effective manner. CCFD completed annual skills testing of hose line advancement, PPE donning, and ground ladders. Each shift reported employees performed well and no employee needed remediation. This observed increase in skill performance solidifies this research paper and literature review finding of frequent trainings of an hour duration increases performance and understanding; thus, enhancing the performance of firefighters when operating on emergency scenes and in the training environment. The change in the training program may have somewhat skewed the internal survey results; by the same token, it has supported the importance of duration and frequency of training.

RECOMMENDATIONS

Through research, the importance of initial training being valuable was supported. However, basic fire skills are perishable if not used or trained on frequently. Therefore, CCFD should ensure that the follow up training after the initial training academy is frequent and of an established duration of training that is suitable to show proficiency of the skill. This is to avoid the decay of skills as mentioned by Arthur, Bennett, McNelly, and Stanush (1998).

It is recommended that CCFD firefighters increase the frequency of training on basic fire skills monthly and have a minimum of one hour duration when training on those skills. The importance of consistent motor trainings will allow one to reproduce a learned skill when needed urgently on the job. Those short frequent trainings create experiences for a person to recall when needed as discussed by Adams, Jezzard, Karni, Meyer, Rey-Hipolito, Turner, and Ungerleider (1998).

It can be noted that the change in the CCFD training program to increase the frequency of training on basic firefighting skill monthly resulted in observable improvements of performance on fire scenes and on the training ground. As mentioned by Dressel, Drillings, and Goldberg (1981), increased short intervals of training with limited gaps in training produces mastery of skill.

It is recommended that CCFD's command officers identify important basic fire skills based on the department's mission statement, geographical response needs, and resources provided. Once those skills are identified, those skills should be frequently trained on, at least monthly, for one hour periods.

This researcher recommends that CCFD creates a competency based training program, where the identified skills would be evaluated periodically to monitor retention of the established basic firefighting skills. Job Performance Records (JPRs) should be created to document the employees' progress. As discussed by Joiner and Smith (2008), long term learning provides more proficient outcomes in regards to retaining a motor skill.

Is recommended that more research on skill development and retention be conducted to maintain the most effective and efficient means of maintaining basis firefighting skills.

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APPENDIX 1 – EXTERNAL TRAINING SURVEY

Hello:

My name is Nathan Urban, I am a Captain at Clearcreek Fire District. I am requesting you to participate in a survey to assist me with my applied research project for the Ohio Fire Chief's Ohio Fire Executive program (OFE). In this research, 30 departments will be asked to complete a survey that asks questions about your departments training program. It will take approximately ten minutes to complete the questionnaire. NOTE: Basic firefighting skills shall include deploying a hose line, deploying a ground ladder, and donning full firefighting PPE including an SCBA. Your participation in this study is completely voluntary. There are no foreseeable risks associated with this project. However, if you feel uncomfortable answering any questions, you can withdraw from the survey at any point. It is very important for me to learn your opinions. A copy of the survey results will be available at the conclusion of this study if you choose to view them. If you have questions at any time about the survey or the procedures, you may contact me at 937-748-2766 or by email at nathan.urban@clearcreektownship.com.

The intended audience is the departments training officer should you have one. If not, please forward this survey most capable of answering questions regarding your training program. Thank you very much for your time and support. I would appreciate this survey to be completed by October 10, 2016. Please start with the survey now by clicking on the link below.

<http://www.questionpro.com/t/AEUqSZVKTr>

Nathan Urban, Captain
Clearcreek Fire District
925 S. Main St.
Springboro, Ohio 45066
Work# 937-748-2766
Cell# 937-203-6949

First Name

Last Name

Phone

Email Address

How many career employees does your agency have?

1. 1 - 25
2. 26 - 50
3. 51 - 75
4. 75 or more

How many part-time employees does your agency have?

1. 1-25
2. 26-50
3. 51-75
4. 75 or more
5. None

What was the total fire related calls you agency responded to in 2015?

1. 1-1000
2. 1001-2000
3. 2001-3000
4. 3001-4000
5. 4000 or more

Please check the service or services your agency provides.

- 1. Fire response
- 2. EMS response
- 3. ALS
- 4. BLS

Do you currently have a fire training program?

- 1. Yes
- 2. No

Is the training program on basic skills based on any published research regarding training duration, frequency of training and practice and/or proficiency testing?

- 1. Yes
- 2. No
- 3.
- 4.

If no, what is the basis of the training plan your department follows? Please comment below.

How often do your employees train using hands on skills?

- 1. Weekly
- 2. Bi-weekly
- 3. Every three weeks
- 4. Once a month
- 5. Other _____

How often do your employees train by sitting in a classroom?

1. Weekly
2. Bi-weekly
3. Every three weeks
4. Once a month
5. Other _____

Do you have an initial training program for new employees?

1. Yes
2. No

If yes, do you feel your initial training program assists in teaching your new employees basic firefighting skills?

1. Yes
2. No
3. N/A

How many hours of training are completed each month by each employee?

- 1.
2. Fill in the blank _____

Does your training program have core competency or proficiency requirements?

1. Yes
2. No

If yes, how often does your department assess proficiency?

1. Annually
2. Semi-annually
3. Bi-annually
4. Never

Estimate the number of employees that fail your proficiency test.

1. 0-3
2. 4-6
3. 7 or more
4. No proficiency testing

How frequent does your organization provide basic training to maintain basic fire skills?

1. All of the time
2. Most of the time
3. Some of the time
4. None of the time

How proficient are your organizations firefighters with basic firefighting skills? Select the most appropriate answer that applies.

1. 90%
2. 80%
3. 70%
4. 60%

How successful is your current training practices with maintaining basic firefighting skills?

1. Totally successful
2. Mostly successful
3. Somewhat successful
4. Not successful

What change(s) would your organization like to make in its training program/content to improve basic firefighting skills?

1. More hands on training
2. More classroom

3. More proficiency testing
4. Other please specify _____

Please estimate how often your organization completes the following.

	Often	Somewhat above average	Average	Somewhat below average	Not often
Hands on training	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Classroom instruction	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

APPENDIX 2 – INTERNAL TRAINING SURVEY

<http://www.questionpro.com/t/AEUqSZVKVH>

Hello:

You are invited to participate in my survey for my applied research project for the Ohio Fire Chief's Ohio Fire Executive program (OFE). In this survey, approximately 50 people will be asked to complete a survey that asks questions about the Clearcreek Fire Districts training program. It will take approximately 10 minutes to complete the questionnaire. NOTE: Basic firefighting skills shall include deploying a hose line, deploying a ground ladder, and donning full firefighting PPE including an SCBA.

Your participation in this study is completely voluntary. There are no foreseeable risks associated with this project. However, if you feel uncomfortable answering any questions, you can withdraw from the survey at any point. It is very important for me to learn your opinions. If you have questions at any time about the survey or the procedures, you may contact Nathan Urban, Captain Clearcreek Fire District at 937-748-2766 or by email at nathan.urban@clearcreektownship.com. Thank you very much for your time and support. Please start with the survey now by clicking on the Continue button below.

What is your opinion about the amount of training hours you're required to complete each month?

1. Not enough
2. Just right
3. Too much

Do you feel that the current training program maintains your basic firefighting skills?

1. Yes
2. No

Rate your proficiency with basic firefighting skills?

Overall performance	<input type="checkbox"/>

Rate your proficiency with basic firefighting skills i.e. Ground ladders, hose deployment, and PPE donning.

1. Below average
2. Slightly below average
3. Average
4. Slightly above average
5. Above average

How many years of firefighting experience do you have? Include both part time and career.

1. 0-5
2. 5-10
3. 10-15

4. 15 or more

How many fires did you respond to in the last year in which you used basic firefighting skills?

1. 0-3
2. 4-6
3. 7-9
4. 9 or more

Estimate the amount of times you deployed a ground ladder in training or a fire scene in 2015?

1. 0-3
2. 4-6
3. 7-9
4. 9 or more

Estimate the amount of times you deployed a hose line in training or a fire scene in 2015?

1. 0-3
2. 4-6
3. 7-9
4. 9 or more

Have you completed a competency assessment or a skills evaluation in the last year?

1. Yes
2. No

If yes, do you feel you're that your skills were truly evaluated through the process?

1. Yes
2. No

Do you feel that you maintain your basic firefighting skills better through hands on practice or through a classroom with a Power Point?

1. Hands on
2. Classroom with a Power Point

Do you feel that on the job experience maintains your skills?

1. Yes
2. No

Are you able to demonstrate skill proficiency better if the content of the training is suitable to your liking?

1. Yes
2. No
3. Content of training does not matter

Does the quality of training affect your proficiency when re-learning a basic firefighting skill?

1. Yes
2. No

Do you feel that some of your peers need more hands on training?

1. Yes
2. No

What would you like the training program to do better at to enhance basic skill performances of all. Leave blank if you feel the training program is adequate.

How often do you think we should train on basic firefighting skills?







1. Once a week
2. Once a month
3. Once every six months
4. Once a year
5. Never

Would you like to be better at performing basic skills on scene?

1. Yes
2. No





Please make comments based on your opinion of the need for basic skills training proficiency within our organization.

APPENDIX 3 – SURVEY RESULTS

VIEWED  31	STARTED  2 3	COMPLETED  17	COMPLETION RATE  73.91%	DROPOUTS  6	TIME TO COMPLETE  5 mins
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How many career employees does your agency have?

1 - 25 : 60.00% 26 - 50 : 33.33% 51 - 75 : 6.67%

Answer	Count	Percent	20%	40%	60%	80%	100%
1 - 25	<u>9</u>	60%					
26 - 50	<u>5</u>	33.33%					
51 - 75	<u>1</u>	6.67%					
75 or more	<u>0</u>	0%					
Total	15	100%					

How many part-time employees does your agency have?

1-25 : 26.67% 26-50 : 26.67% 51-75 : 13.33% 75 or more : 6.67% None : 26.67%

Answer	Count	Percent	20%	40%	60%	80%	100%
1-25	<u>4</u>	26.67%					
26-50	<u>4</u>	26.67%					
51-75	<u>2</u>	13.33%					
75 or more	<u>1</u>	6.67%					
None	<u>4</u>	26.67%					
Total	15	100%					

Answer	Count	Percent	20%	40%	60%	80%	100%
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What was the total fire related calls you agency responded to in 2015?

1-1000 : 53.33% 1001-2000 : 26.67% 2001-3000 : 13.33% 3001-4000 : 6.67%

Answer	Count	Percent	20%	40%	60%	80%	100%
1-1000	<u>8</u>	53.33%					
1001-2000	<u>4</u>	26.67%					
2001-3000	<u>2</u>	13.33%					
3001-4000	<u>1</u>	6.67%					
4000 or more	<u>0</u>	0%					
Total	15	100%					

Please check the service or services your agency provides.

Fire response : 28.85% EMS response : 25.00% ALS : 26.92% BLS : 19.23%

Answer	Count	Percent	20%	40%	60%	80%	100%
Fire response	<u>15</u>	28.85%					
EMS response	<u>13</u>	25%					
ALS	<u>14</u>	26.92%					
BLS	<u>10</u>	19.23%					
Total	52	100%					

Do you currently have a fire training program?

Yes : 93.33% No : 6.67%

Answer	Count	Percent	20%	40%	60%	80%	100%
Yes	<u>14</u>	93.33%					
No	<u>1</u>	6.67%					
Total	15	100%					

Is the training program on basic skills based on any published research regarding training duration, frequency of training and practice and/or proficiency testing?

Yes : 78.57% No : 21.43%

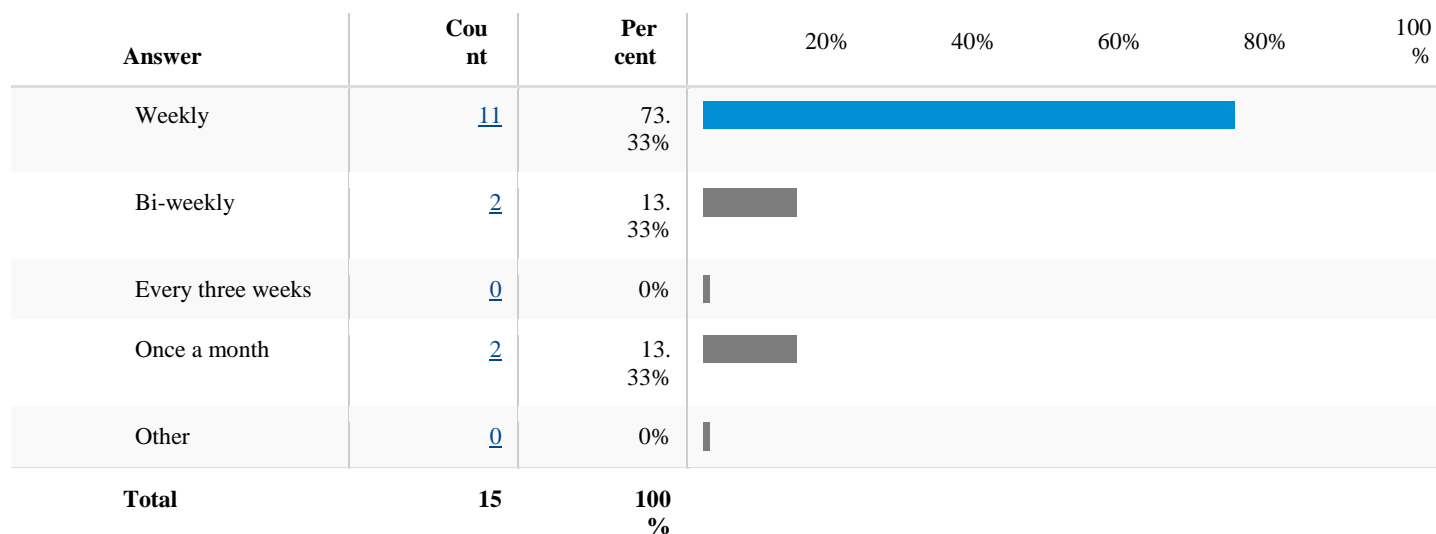
Answer	Count	Percent	20%	40%	60%	80%	100%
Yes	<u>11</u>	78.57%					
No	<u>3</u>	21.43%					
	<u>0</u>	0%					
	<u>0</u>	0%					
Total	14	100%					

If no, what is the basis of the training plan your department follows? Please comment below.

0 9/28/2016	<u>3</u> 0798866	We develop, implement and adapt our annual training based on internal needs and/or identified weaknesses. We perform annual Fire and EMS skills assessments.
0 9/27/2016	<u>3</u> 0794906	Direction and participation from our medical director
0 9/26/2016	<u>3</u> 30792339	Follow requirements we established
0 9/26/2016	<u>3</u> 30791999	NFPA standards, basic firefighting skills in NFPA 1001 and company skills in NFPA 1410

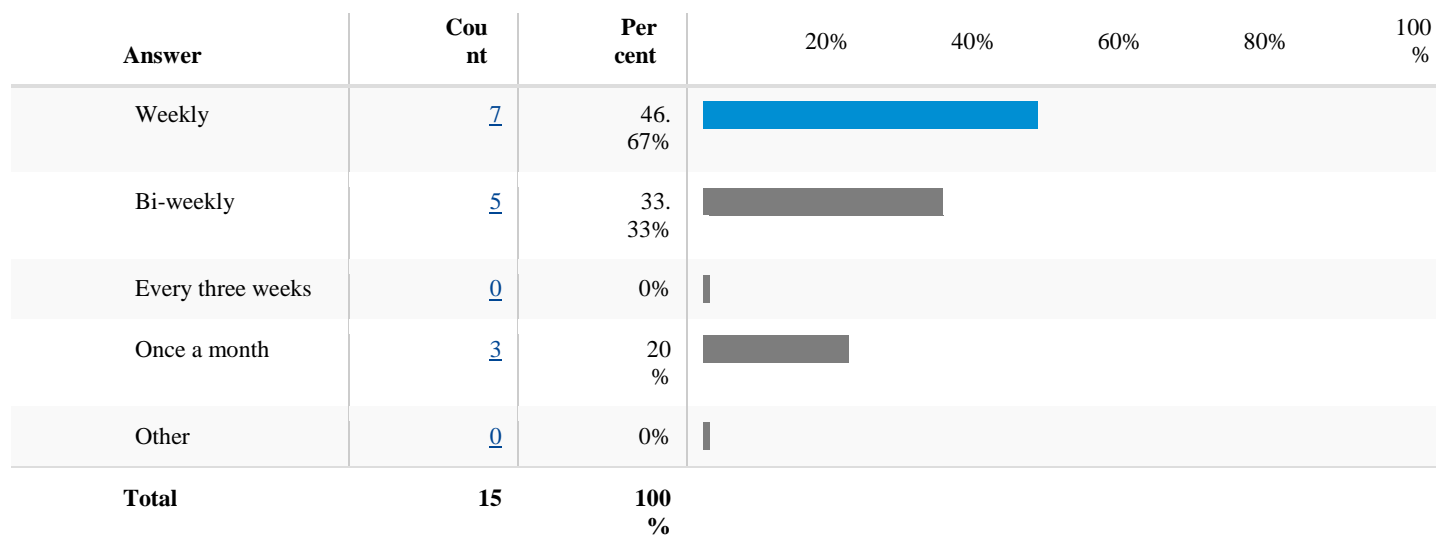
How often do your employees train using hands on skills?

Weekly : 73.33%Bi-weekly : 13.33%Once a month : 13.33%



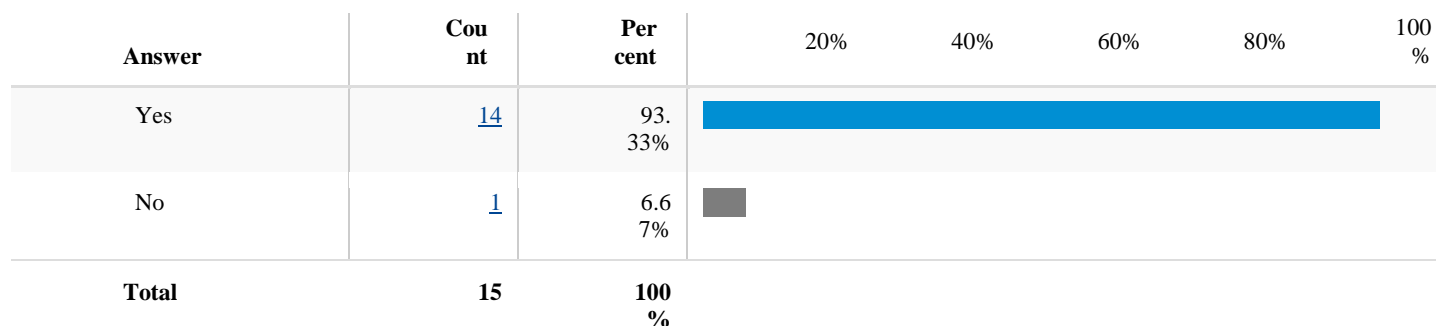
How often do your employees train by sitting in a classroom?

Weekly : 46.67%Bi-weekly : 33.33%Once a month : 20.00%



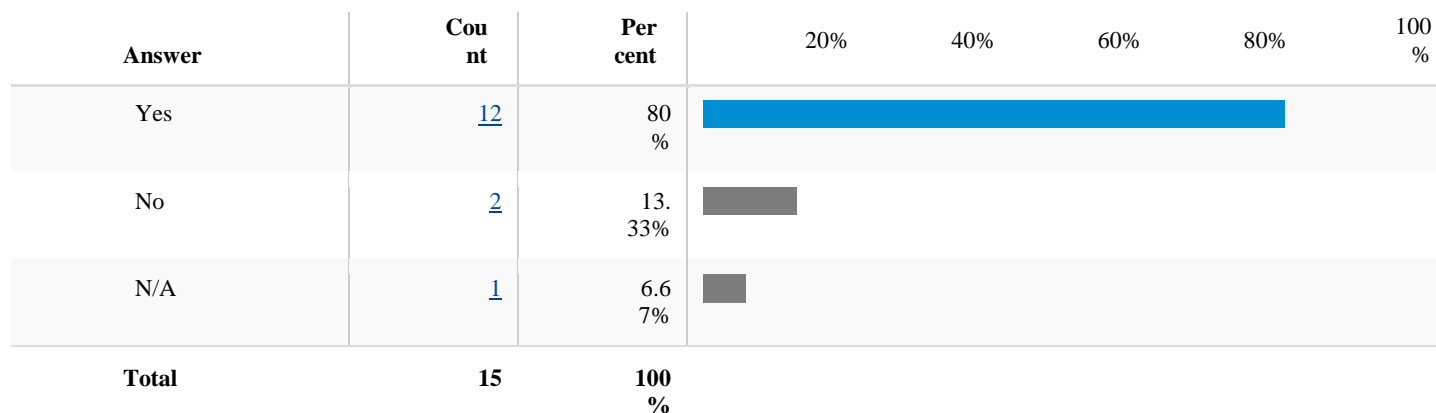
Do you have an initial training program for new employees?

Yes : 93.33%No : 6.67%



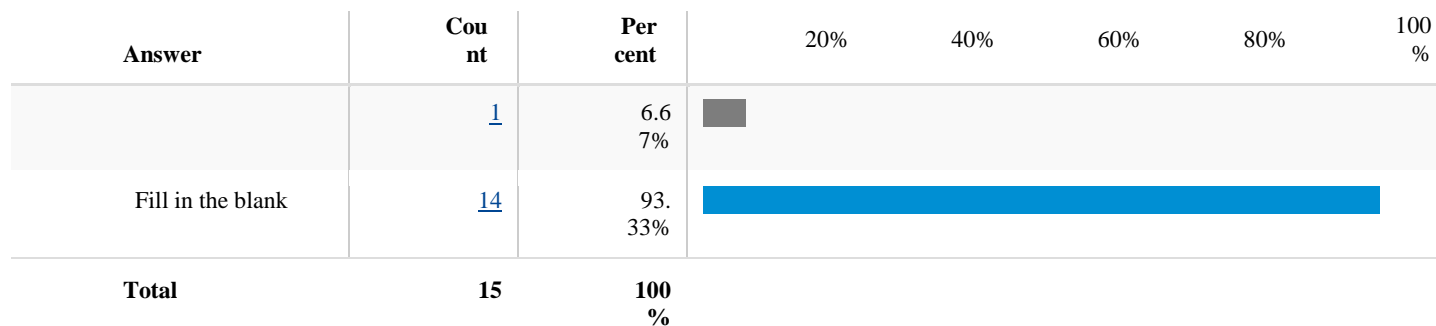
If yes, do you feel your initial training program assists in teaching your new employees basic firefighting skills?

Yes : 80.00%No : 13.33%N/A : 6.67%



How many hours of training are completed each month by each employee?

Fill in the blank : 93.33%



How many hours of training are completed each month by each employee? - Text Data for Fill in the blank

1	0836443	3	2-8 hrs min.
0/10/2016			
1	0822203	3	10
0/05/2016			
0	0798866	3	8
9/28/2016			
0	0798228	3	6
9/28/2016			
0	0797483	3	20
9/27/2016			
0	0794906	3	varies
9/27/2016			
0	0793643	3	varies.
9/27/2016			
0	0793470	3	5-8
9/27/2016			
0	0792829	3	8-12
9/27/2016			
0	0792339	3	9
9/26/2016			
0	0792064	3	Approx. 6 hours
9/26/2016			
0	0791999	3	12-14
9/26/2016			
0	0791788	3	6-10
9/26/2016			
0	0791764	3	8
9/26/2016			

Does your training program have core competency or proficiency requirements?

Yes : 60.00%No : 40.00%

Answer	Count	Percent	20%	40%	60%	80%	100%
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Answer	Count	Percent	20%	40%	60%	80%	100%
Yes	9	60%					
No	6	40%					
Total	15	100%					

If yes, how often does your department assess proficiency?

Annually : 46.15% Semi-annually : 7.69% Never : 46.15%

Answer	Count	Percent	20%	40%	60%	80%	100%
Annually	6	46.15%					
Semi-annually	1	7.69%					
Bi-annually	0	0%					
Never	6	46.15%					
Total	13	100%					

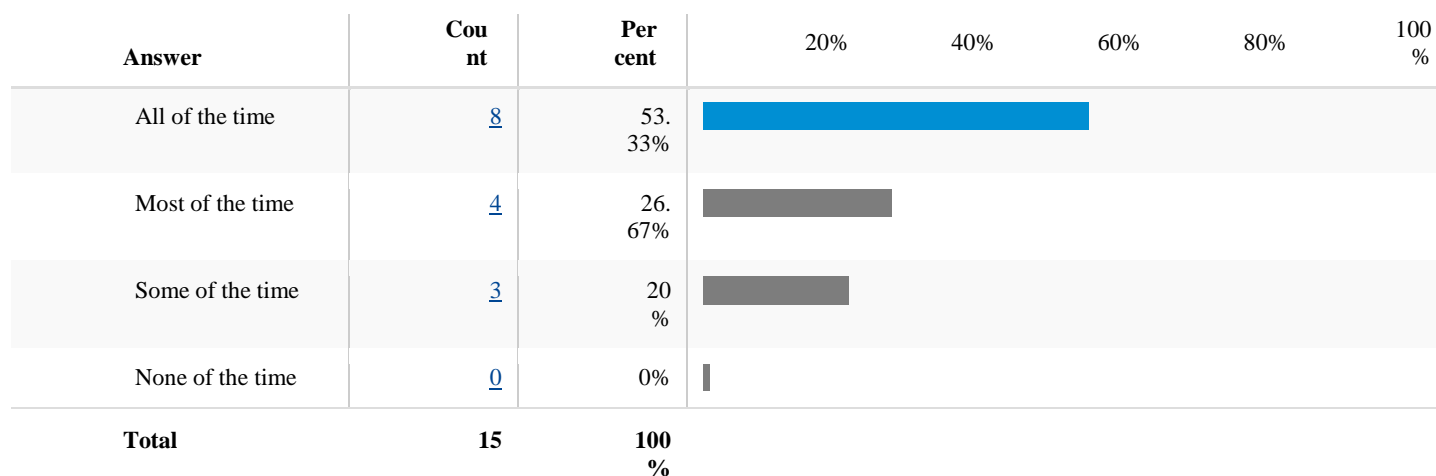
Estimate the number of employees that fail your proficiency test.

0-3 : 57.14% No proficiency testing : 42.86%

Answer	Count	Percent	20%	40%	60%	80%	100%
0-3	8	57.14%					
4-6	0	0%					
7 or more	0	0%					
No proficiency testing	6	42.86%					
Total	14	100%					

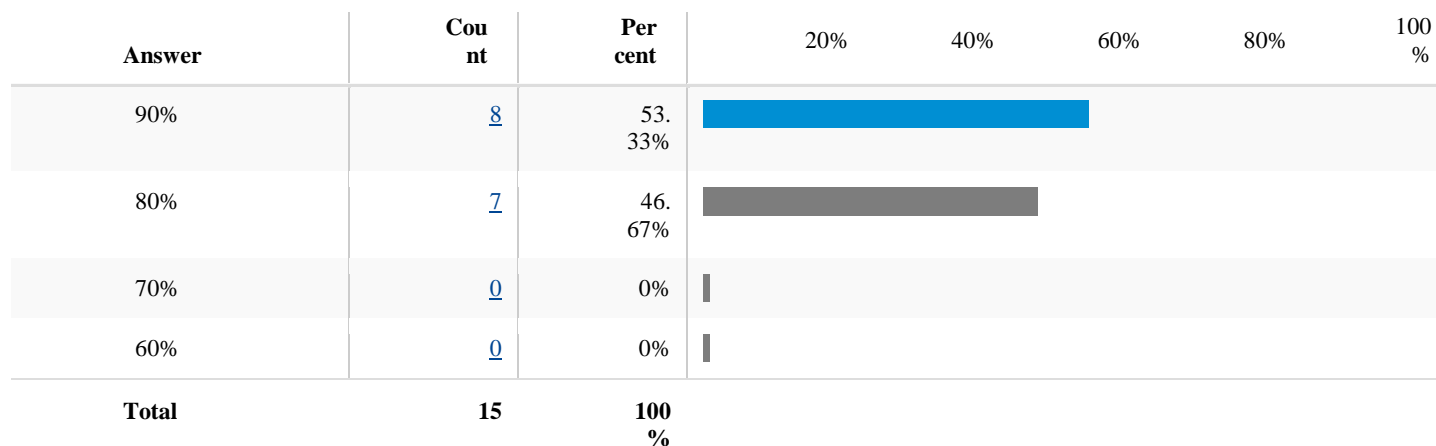
How frequent does your organization provide basic training to maintain basic fire skills?

All of the time : 53.33% Most of the time : 26.67% Some of the time : 20.00%



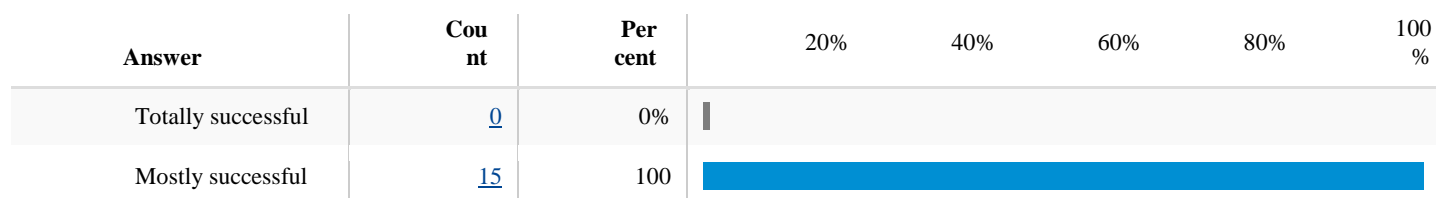
How proficient are your organizations firefighters with basic firefighting skills? Select the most appropriate answer that applies.

90% : 53.33% 80% : 46.67%



How successful is your current training practices with maintaining basic firefighting skills?

Mostly successful : 100.00%



Answer	Count	Percent	20%	40%	60%	80%	100%
		%					
Somewhat successful	<u>0</u>	0%					
Not successful	<u>0</u>	0%					
Total	15	100%					

What change(s) would your organization like to make in its training program/content to improve basic firefighting skills?

More hands on training : 47.06% More proficiency testing : 29.41% Other please specify : 23.53%

Answer	Count	Percent	20%	40%	60%	80%	100%
More hands on training	<u>8</u>	47.06%					
More classroom	<u>0</u>	0%					
More proficiency testing	<u>5</u>	29.41%					
Other please specify	<u>4</u>	23.53%					
Total	17	100%					

What change(s) would your organization like to make in its training program/content to improve basic firefighting skills?

1	<u>3</u>	Currently implementing a new training program.
0/10/2016	0836443	
0	<u>3</u>	A full-time monitor to maintain consistent training for each shift
9/28/2016	0798228	
0	<u>3</u>	It varies on how their performance is on actual details. If a Battalion notices a deficiency; then that deficiency is addressed department wide. When things are going good, you continually drill on the basics.
9/27/2016	0794906	
0	<u>3</u>	Currently implementing a new calendar based program core competencies.
9/27/2016	0792829	

Please estimate how often your organization completes the following.

38.67%65.33%Hands on training : 1.87 | 37.33%Classroom instruction : 1.93 |38.67%Proficiency testing : 3.27 | 65.33%30255075100

Question	Count	Score	Often	Somewhat above average	Average	Somewhat below average	Not often
Hands on training	15	1.87					
Classroom instruction	15	1.93					
Proficiency testing	15	3.27					
		Average	2.36				

Hands on training

Often: 46.67%Somewhat above average: 26.67%Average: 20.00%Somewhat below average: 6.67%

Answer	Count	Percent	20%	40%	60%	80%	100%
Often	<u>7</u>	46.67%					
Somewhat above average	<u>4</u>	26.67%					
Average	<u>3</u>	20%					
Somewhat below average	<u>1</u>	6.67%					
Not often	<u>0</u>	0%					
Total	15	100%					

Classroom instruction

Often: 46.67%Somewhat above average: 20.00%Average: 26.67%Somewhat below average: 6.67%







Answer	Count	Percent	20%	40%	60%	80%	100%
Often	<u>7</u>	46.67%					
Somewhat above average	<u>3</u>	20%					

Answer	Count	Percent	20%	40%	60%	80%	100%
Average	<u>4</u>	26.67%					
Somewhat below average	<u>1</u>	6.67%					
Not often	<u>0</u>	0%					
Total	15	100%					

Proficiency testing




Often : 13.33% Somewhat above average : 13.33% Average : 33.33% Somewhat below average : 13.33% Not often : 26.67%

Answer	Count	Percent	20%	40%	60%	80%	100%
Often	<u>2</u>	13.33%					
Somewhat above average	<u>2</u>	13.33%					
Average	<u>5</u>	33.33%					
Somewhat below average	<u>2</u>	13.33%					
Not often	<u>4</u>	26.67%					
Total	15	100%					

VIEWED  40	STARTED  3 2	COMPLETED  30	COMPLETION RATE  93.75%	DROPOUTS  2	TIME TO COMPLETE  6 mins
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What is your opinion about the amount of training hours you're required to complete each month?

Not enough : 3.33% Just right : 43.33% Too much : 53.33%

Answer	Count	Percent	20%	40%	60%	80%	100%
Not enough	<u>1</u>	3.33%					
Just right	<u>13</u>	43.33%					
Too much	<u>16</u>	53.33%					
Total	30	100%					

Do you feel that the current training program maintains your basic firefighting skills?

Yes : 86.21% No : 13.79%

Answer	Count	Percent	20%	40%	60%	80%	100%
Yes	<u>25</u>	86.21%					
No	<u>4</u>	13.79%					
Total	29	100%					

Rate your proficiency with basic firefighting skills?

Overall performance : 85.37 | 100%10255075100

85.37 | 100%

Question	Score	0	100
Overall performance	85.37		
Average	85.37		

Rate your proficiency with basic firefighting skills i.e. Ground ladders, hose deployment, and PPE donning.

Slightly below average : 3.33% Average : 30.00% Slightly above average : 36.67% Above average : 30.00%
Average : 30.00%

Answer	Count	Percent	20%	40%	60%	80%	100%
Below average	0	0%					
Slightly below average	1	3.33%					
Average	9	30%					
Slightly above average	11	36.67%					
Above average	9	30%					
Total	30	100%					

How many years of firefighting experience do you have? Include both part time and career.

0-5 : 3.33% 5-10 : 20.00% 10-15 : 33.33% 15 or more : 43.33%

Answer	Count	Percent	20%	40%	60%	80%	100%
0-5	1	3.33%					
5-10	6	20%					
10-15	10	33.33%					
15 or more	13	43.33%					

Answer	Count	Percent	20%	40%	60%	80%	100%
		33%					
Total	30	100%					

How many fires did you respond to in the last year in which you used basic firefighting skills?

0-3 : 66.67% 4-6 : 23.33% 7-9 : 10.00%

Answer	Count	Percent	20%	40%	60%	80%	100%
0-3	<u>20</u>	66.67%					
4-6	<u>7</u>	23.33%					
7-9	<u>3</u>	10%					
9 or more	<u>0</u>	0%					
Total	30	100%					

Estimate the amount of times you deployed a ground ladder in training or a fire scene in 2015?

0-3 : 46.67% 4-6 : 20.00% 7-9 : 16.67% 9 or more : 16.67%

Answer	Count	Percent	20%	40%	60%	80%	100%
0-3	<u>14</u>	46.67%					
4-6	<u>6</u>	20%					
7-9	<u>5</u>	16.67%					
9 or more	<u>5</u>	16.67%					
Total	30	100%					

Estimate the amount of times you deployed a hose line in training or a fire scene in 2015?

0-3 : 33.33%4-6 : 23.33%7-9 : 20.00%9 or more : 23.33%

Answer	Count	Percent	20%	40%	60%	80%	100%
0-3	<u>10</u>	33.33%					
4-6	<u>7</u>	23.33%					
7-9	<u>6</u>	20%					
9 or more	<u>7</u>	23.33%					
Total	30	100%					

Have you completed a competency assessment or a skills evaluation in the last year?



Yes : 96.67%No : 3.33%

Answer	Count	Percent	20%	40%	60%	80%	100%
Yes	<u>29</u>	96.67%					
No	<u>1</u>	3.33%					
Total	30	100%					

If yes, do you feel you're that your skills were truly evaluated through the process?



Yes : 83.33%No : 16.67%

Answer	Count	Percent	20%	40%	60%	80%	100%
Yes							
No							
Total							

Answer	Count	Percent	20%	40%	60%	80%	100%
Yes	<u>25</u>	83.33%					
No	<u>5</u>	16.67%					
Total	30	100%					



Do you feel that you maintain your basic firefighting skills better through hands on practice or through a classroom with a Power Point?

Hands on : 96.67% Classroom with a Power Point : 3.33%

Answer	Count	Percent	20%	40%	60%	80%	100%
Hands on	<u>29</u>	96.67%					
Classroom with a Power Point	<u>1</u>	3.33%					
Total	30	100%					




Do you feel that on the job experience maintains your skills?

Yes : 33.33% No : 66.67%

Answer	Count	Percent	20%	40%	60%	80%	100%
Yes	<u>10</u>	33.33%					
No	<u>20</u>	66.67%					
Total	30	100%					



Are you able to demonstrate skill proficiency better if the content of the training is suitable to your liking?

Yes : 83.33% Content of training does not matter : 16.67%

Answer	Count	Percent	20%	40%	60%	80%	100%
Yes	<u>25</u>	83.33%					
No	<u>0</u>	0%					
Content of training does not matter	<u>5</u>	16.67%					
Total	30	100%					



Does the quality of training effect your proficiency when re-learning a basic firefighting skill?

Yes : 86.67% No : 13.33%

Answer	Count	Percent	20%	40%	60%	80%	100%
Yes	<u>26</u>	86.67%					
No	<u>4</u>	13.33%					
Total	30	100%					

Do you feel that some of your peers need more hands on training?

Yes : 92.86% No : 7.14%

Answer	Count	Percent	20%	40%	60%	80%	100%
Yes	<u>26</u>	92.86%					
No	<u>2</u>	7.14%					
Total	28	100%					

What would you like the training program to do better at to enhance basic skill performances of all. Leave blank if you feel the training program is adequate.

0/07/2016	1	0828616	3	Less quantity with focus on more quality
0/06/2016	1	0826989	3	More hands on, practical training. Quality training over quantity.

What would you like the training program to do better at to enhance basic skill performances of all. Leave blank if you feel the training program is adequate.

/05/2016	10	0823622	3	Make time to do the drills. Obtain houses to train on. Ask crews to go perform a task that they would actually be assigned.
/05/2016	10	0823259	3	We have already begun this with the Task Manual, but develop our skills for how we do them here at Clearcreek. Set skill standards.
/01/2016	10	0812704	3	Make everyone accountable on the same level.
/29/2016	09	0808003	3	Less monthly trainings so we can spend more time on the trainings we are assigned.
/29/2016	09	0806378	3	less online work more hands on training

What would you like the training program to do better at to enhance basic skill performances of all. Leave blank if you feel the training program is adequate.

/05/2016	10	0823622	3	Make time to do the drills. Obtain houses to train on. Ask crews to go perform a task that they would actually be assigned.
/05/2016	10	0823259	3	We have already begun this with the Task Manual, but develop our skills for how we do them here at Clearcreek. Set skill standards.
/01/2016	10	0812704	3	Make everyone accountable on the same level.
/29/2016	09	0808003	3	Less monthly trainings so we can spend more time on the trainings we are assigned.
/29/2016	09	0806378	3	less online work more hands on training

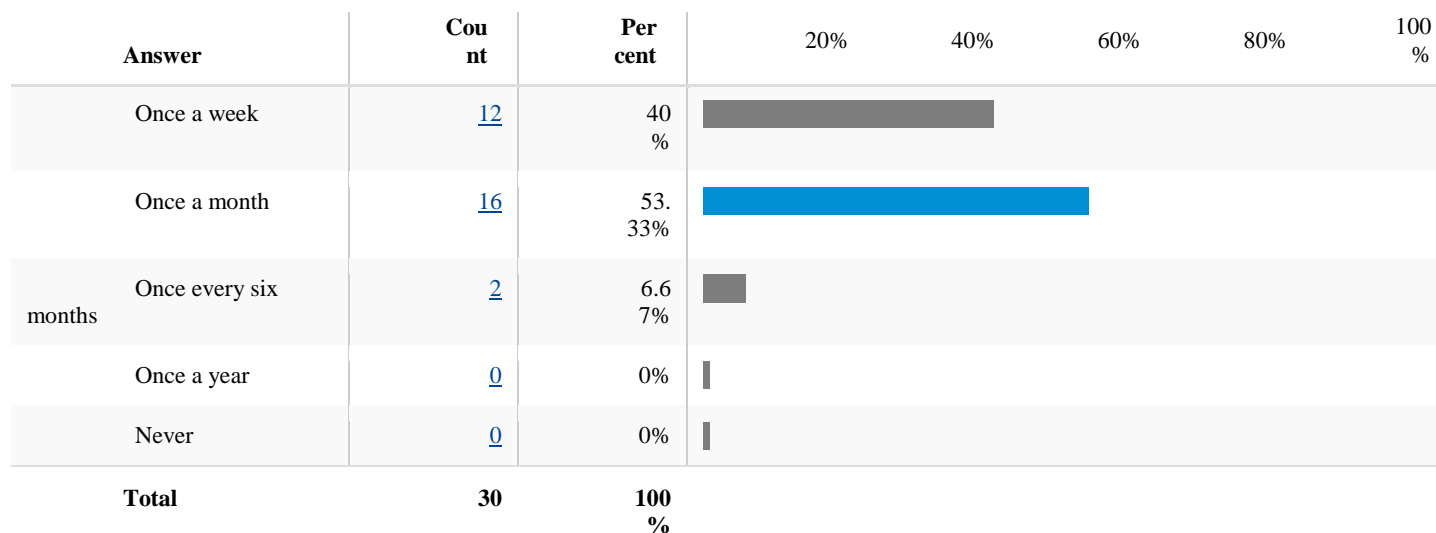
What would you like the training program to do better at to enhance basic skill performances of all. Leave blank if you feel the training program is adequate.

/28/2016	09	0798086	3	
/28/2016	09	0798028	3	Focus on quality training, not hours. ISO hours do not mean anything unless you are going for a 1.

09 /27/2016	3 0797262	Quality training versus quantity of training. Three quality trainings are better than 6 quantity trainings.
09 /27/2016	3 0793787	KSA's need to be based on the individual's competency. Training needs to be based on assessing if the individual can or cannot perform at a competent and acceptable level.
09 /27/2016	3 0792695	Provide more time to train allowing all persons to perform the skills.
09 /26/2016	3 0792182	Train has we fight. Do the basics that we do on each and every fire scene.

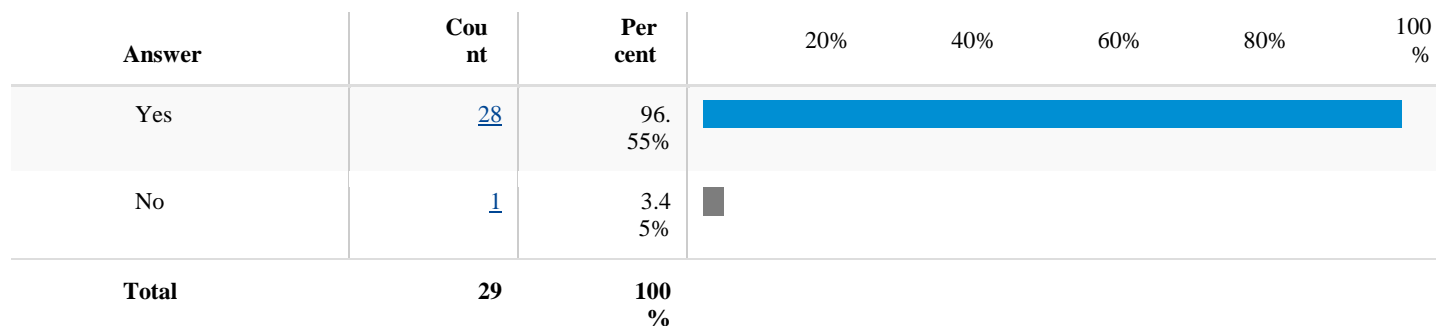
How often do you think we should train on basic firefighting skills?

Once a week : 40.00% Once a month : 53.33% Once every six months : 6.67%



Would you like to be better at performing basic skills on scene?

Yes : 96.55% No : 3.45%



Please make comments based on your opinion of the need for basic skills training proficiency within our organization.

10 /06/2016	0825319 ³	I believe basic skills are an important aspect of the job and they should be refreshed on. Keep things simple and less mistakes are going to be made. There is no need to complicate things with advanced skills we will rarely ever use if at all.
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Please make comments based on your opinion of the need for basic skills training proficiency within our organization.

10 /05/2016	0823622 ³	Prioritize what we need to drill on and give a practical place and time period to train. For example, if a station 21 Lieutenant spends just 30 minutes training each crew member (7) on basic skills he would have to commit 3.5 hours not including set up and tear down time. Add in Kaplan, blue card, weekly/monthly details, calls, meals, house duties, reports, projects, CPR classes, station tours and inspections. There is just so little time available. And if the training is to go ladder the side of the station or advance a hose through cones in the bay that they have already done several times before, they just are not interested and rush through.
10 /05/2016	0823259 ³	I do think we need to focus on the proficiency of basic skills. Maybe instead of PPE, Hose , and Ladders each month..... Break it down to PPE one month, Hose one month, and so on. That way we can do a quality training rather than just getting through the training hours.
10 /04/2016	0817760 ³	basic skills should be covered monthly throughout the year, just not every basic skill every month
09 /29/2016	0808003 ³	We have too many people that want to show how smart they are by teaching us Tech rescue stuff that we will never use instead of concentrating on the stuff we will use.

Please make comments based on your opinion of the need for basic skills training proficiency within our organization.

0 9/27/2016	0797262 ³	There needs to be a mixture of hands-on and discussion trainings. Discuss tactics we could use, apparatus placement and go over scenarios. Get different ideas on how objectives can be accomplished. I feel 90% of CCFD employees are proficient at pulling hoses, standing ladders. We could focus more on teaching drivers and jump seat FF'S what they need to do. This will allow the Lt's and commanders more time to concentrate of tactics and not have to micromanage on scene crews.
0 9/27/2016	0792695 ³	Train the instructors
0 9/26/2016	0792182 ³	Very important.