SafetySmart

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SAFETY TRAINING

Delivering Safety Training to Millennials - Part 3

In part two of this three-part series on training millennials, we discussed ways eLearning can be used to reach and teach millennial learners. In this final part, we are going to discuss why using technology to deliver training makes sense for millennial learners.

Why Online Training?

Millennials are incredibly self-sufficient when it comes to getting information. So, it makes sense to give them this same type of autonomy when it comes to accessing and taking training. One way to do this is through online self-paced courses. Online training also allows them to learn in a no shame/no blame environment. A learner can take their time, repeat sections they didn't understand or had trouble with, and refer to the material later. If they have questions or need help, they can ask via text, email, instant messaging, or even face-to-face, as old fashioned as that might sound.

Of course, since much of safety training is compliance driven—they can have some control over their pace but it must be within compliance guidelines and deadlines you set.

PowerPoint is so 2016

I'm kidding—sort of. Often, PowerPoint might be the only option...but when more engaging and efficient options are available and make more sense, don't be afraid to use them!

Remember, millennials want and expect to receive training on-demand through their mobile devices.

Sometimes though instructor led, classroom training is the best way to present the information. In other cases, a full length online course makes the most sense. The best approach is to use a mix of options. Whatever option you choose, make sure it fits the audience, the topic and the technology you have available to you.

Read More on Page 2 ▶

If you can reach them—you can teach them

According to a 2012 study commissioned by Time Inc., millennials switch media types 27 times every nonworking hour. So, it should come as no surprise that millennials are multi-focused and bounce from one device, media type and topic to the next quickly and often. This just reinforces the concepts we have been discussing; millennials want information that is concise and available on demand through mobile devices—because that's how they are used to receiving it.

Find, create, and use content that can be accessed on a smartphone or tablet. Find, create and use content that has a current look and feel to it. Find, create and use content that incorporates gamification and other aspects that fit with millennial's key characteristics.

Learning Management Systems

Finally, if we have all this great online content and ways to use online training - we must have a vehicle that allows us to assign, deliver and track it, right? That's where learning management systems come into play.

LMSs have been around for several years now, but it feels like they are finally coming into their own. They are becoming more intuitive and more flexible so you can use

them for more than just HR or soft skills training, but safety training and compliance as well.

When I was a safety manager I wanted an LMS that would allow me to upload safety policies, pictures, sign in sheets, inspections, and safety committee meeting minutes...you name it I wanted to store it in my LMS. I wanted to be able to create my own training materials and alerts to share lessons learned and incidents within all levels of the organization. I also wanted it to look like my company—meaning the brand, logo and colors I identified with my organization. A lot of this is possible with the right LMS and getting creative with how you use it will make the safety and training experience better for you and your learners. ❖

FATALITY REPORT

Fall Through Roof Kills Ironworker

A journeyman ironworker fell through a roof and died of a brain injury. He and a co-worker were working on the roof of a building being dismantled. They were in the process of removing large bundles of roofing panels, which were stacked along the edge of the roof. A crane was being operated from the ground to remove them.

The victim was acting as a signal person to the crane operator below. He had directed the operator to extend and lower the boom as far as possible to connect to the next bundle. The end of the boom and the next bundle were not visible to the crane operator. The crane began to lift a bundle, which shifted and snagged one of the remaining bundles.

The victim signaled the crane operator to halt and then attempted to dislodge the load. In doing so, he stepped out onto an unsupported roof panel. The foreman heard it crack and shouted for the workers on the roof to stand clear. A co-worker who was trying to help the victim was able to step back onto the supported structure. The victim attempted to do so, but fell through the roof more than 40 feet. He died later in hospital.

Final Word

Many things went wrong to contribute to this incident, most notably a lack of safety knowledge, training and equipment. The workers were not equipped with fall prevention equipment while working on the roof.
Improper rigging was used to move the roof panels and the attempted maneuver with the materials was dangerous.

No pre-job conference was held to plan the job, and no engineering advice was sought in planning the demolition project.

The investigation also disclosed the victim had a blood alcohol content of more than .08% which would have made him unsafe for driving. In the case of persons working at heights, they endanger not only themselves and their co-workers, but the public as well.

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POLICIES AND PRACTICES

Fall Hazard Assessment Checklist

A fall hazard assessment should be done prior to any work from heights begins. Adapt the checklist for the fall protection program and assessment in your workplace and applicable safety laws.

Completed by _____ Date _____

Location or Task _____

FALL HAZARD ASSESSMENT CHECKLIST	YES	NO	COMMENTS
1. Can an employee enter the area without restriction and perform work?			
2. Are fall prevention systems such as cages, guardrails, toeboards, manlifts in place?			
3. Have slipping and tripping hazards been removed or controlled?			
4. Have visual warnings of fall hazards been installed?			
5. Can the distance a worker could fall be reduced by installing platforms, nets etc.?			
6. Are any permanently installed floor coverings, gratings, hatches, or doors missing?			
7. Does the location contain any other recognized safety and or health hazards?			
8. Is the space designated as a Permit Required Confined Space?			
9. Have anchor points been designated and load tested?			

ASSESSMENT INFORMATION	
Hazard	**Remarks/Recommendations**
Total potential fall distance:	
Number of workers involved:	
Frequency of task:	
Obtainable anchor point strength	
Required anchor point strength: (not less than 5,000 lbs)	

ADDITIONAL REQUIREMENTS	
Potential environmental conditions that could impact safety:	
Condition	**Remarks/Recommendations**
Possible required structural alterations:	
Condition	**Remarks/Recommendations**
Possible task modification that may be required:	
Condition	**Remarks/Recommendations**
Training requirements:	
Condition	**Remarks/Recommendations**
Personal protective equipment required:	
Condition	**Remarks/Recommendations**

AUTHORIZATION

I certify that I have conducted a Fall Hazard Assessment of the above designated location and have detailed the findings of the assessment on this form. Further detailed on attachment: ☐Yes ☐No

Name: _____ Signature: _____

Title: _____ Date: _____ Time: _____

SAFETY WORKPLAN
Fall Protection

If your crews work at heights, how can you be sure you're doing enough to protect them from vertical fall hazards? Here are six easy ways supervisors can help in implementing and enforcing their company's fall protection program.

What's at Stake

Falls from heights kill over 1,000 workers a year and seriously injure or disable countless more workers.

- Falls are the number 2 cause of lost time injuries;
- Over 40,000 workers suffer fall injuries each year, nearly 110 per day;
- The average fall injury costs employers $3,500 in direct costs;
- Losses balloon to $21,000 when you add indirect costs like replacing injured workers, equipment repairs, etc.

6 Ways to Prevent Falls From Heights

Your company may rely on you to do six things before any work from heights starts. Work with your safety director and talk with the employees doing the work; they have experience when it comes to safety regulations and workers have first-hand knowledge on the hazards they face.

1. Help Assess Vertical Fall Hazards

Safety regulations specify when fall protection for workers working at heights is required based on:

- How high up they are (typically 6 feet/3 meters or higher);
- The surface or platform they work on (e.g., vehicles, scaffolds, sloped roofs); and
- What they're at risk of falling through, on or into (e.g., machinery, hard surfaces, water).

2: Help Select Fall Protection Measures

As with any other hazard, total elimination is the preferred method of dealing with fall hazards, but, it's often not possible to eliminate the fall hazards. That's where barriers, other controls, and fall protection equipment comes into play.

There are two basic types of fall protection barriers:

Guardrails consist of a top rail, intermediate rail and toeboard installed around or in front of an opening to prevent somebody from falling into it. Requirements for guardrail design, construction, installation and use vary. Talk to your safety director for specifics on:

- How close to the edge the guardrail must be installed;
- The minimum height of the top rail;
- The maximum amount of space between rails/toeboard;
- How tall the posts must be and how far apart they can be spaced;
- What materials the rails must be made of; and
- How much force the guardrail must be capable of resisting.

TOOL

Use the Fall Protection Hazard Assessment on page 2 to carry out your own assessment.

Protective Coverings are used to seal openings workers may step, slip or fall into. Safety regulations require coverings:

- Completely cover the opening;
- Be securely fastened or held in place;
- Be made of material strong enough to support the expected load without collapsing; and
- Be clearly identified as covering an opening.

Other Controls

- Supplement physical barriers with passive fall protection systems including warning signs and safety nets that cushion any falls that do occur.
- Remember, safety nets must meet specific design and use criteria around materials, strength, elasticity and how high above the surface they're installed.

Active Fall Protection Systems prevent or stop falls by securing workers to an anchorage point attached to their bodies via a lifeline or lanyard connected to a harness. There are two basic types of fall protection systems you can use:

- *Travel or Fall Restraint Systems* prevent falls by limiting workers' mobility so they can't get to the edge or opening.
- *Fall Arrest Systems* stop falls before the worker hits the ground or dangerous thing below.

Because they don't prevent falls the way travel restraint systems do, fall arrest systems are lower on the preference list. Another concern with fall arrest systems is that arresting a fall can put a lot of stress on the body creating

Continued on Page 7

SAFETY TALKS

HANDOUT

Flammable & Combustible Materials ■ T201708-01

Don't Let Your Safety Go Up in Flames

WHAT'S AT STAKE?

Flammable and combustible materials, such as gasoline, solvents, and paints, pose real danger to persons and property because they ignite easily and burn rapidly. Keep in mind, it is the vapors from these materials, not the liquids themselves, that ignite and burn. These vapors often can't be seen or detected by smell.

WHAT'S THE DANGER?

When an injury is caused from the impact of being hit by something it is considered a struck-by incident. When an injury happens from being pulled into or crushed between two or more objects it is considered a caught-between incident.

- Flammable liquids and gases can ignite at temperatures under 100 °F or 37.8 °C—a temperature close to room temperature and easily reachable on most days during the summer.
- Combustible liquids at temperatures above 100 °F or 37.8 °C, can release enough vapor to form burnable mixtures with air.
- Spray mists of flammable and combustible liquids in air can burn at any temperature if there is an ignition source.

HOW TO PROTECT YOURSELF

Understanding what you're working with and how to prevent ignition is key to working safely with flammables and combustibles.

Safe Use

- Read the container label and the safety data sheet (SDS) for each flammable and combustible substance you work with.
- Avoid ignition sources such as open flames, smoking materials, hot surfaces, sparks and static electricity. Don't smoke near flammable and combustible liquids.
- Wear the right personal protective equipment (PPE) and use the right ventilation systems.
- Use grounding and bonding wires to prevent static electricity buildup.
- Know the location of the fire extinguishing equipment and the spill control station before you begin work. Familiarize yourself with the equipment and how to use it.

Safe Storage

- Store flammable and combustibles separately in a temperature-controlled area that is well-ventilated and away from sources of heat and electricity.
- Use a special storage room or an approved safety container with vapor-tight caps and flame arrestors.
- Examine containers periodically to ensure labels are on and readable and containers are in good condition—no rust, holes, damage or leaks.

Safe Disposal

- Read the SDS to learn the safest way to dispose of flammables and combustibles.
- Never pour either into the drain, sewer, garbage or ground.
- Dispose of clothing and other materials that have been contaminated according to company policy.

FINAL WORD

Don't let your safety go up in flames. Know the hazards of flammables and combustibles you work with and how to use, transport, and store them safely. ❖

Meeting material to go: Safety meeting materials such as presentation tips, PowerPoint presentations, quiz answers and more are downloadable at: **www.SafetySmart.com**

Quiz Answers: 1. False, 2. B, 3. True, 4. False

TEST YOUR KNOWLEDGE

1. Flammables must be exposed to extreme temperatures to ignite.
   ☐ True ☐ False
2. What information do safety data sheets provide?
   a. Basic safety advice.
   b. Detailed information on handling, storage, disposal, first aid and emergency procedures.
   c. Only emergency contact numbers.
3. Open flames, cigarettes and static electricity can all ignite a flammable substance.
   ☐ True ☐ False
4. Flammables and combustibles can be poured down the drain, or sewer or in the garbage, if you mix them with bleach first.
   ☐ True ☐ False

What Would You Do?

It's a hot day, and even hotter in the warehouse. You notice a spill near an open container where hot work is being done. You can't tell what's in the container because the label is missing. Nobody seems to know where the spill came from either. What would you do?

Don't Leave Your Safety Up in the Air: Protect Against Falls from Heights

WHAT'S AT STAKE?

Working at heights without fall protection is irresponsible and dangerous. You could end up getting yourself killed or injuring or killing someone else. In fact, thousands of workplace injuries and deaths could be prevented each year by wearing fall protection.

WHAT'S THE DANGER?

How many unsafe activities and conditions do you see in this photo? The one that stands out the most is the total lack of fall protection and regard for personal safety this worker is demonstrating. Most workplace deaths and serious fall-related injuries happen because of falls from heights.

HOW TO PROTECT YOURSELF

4 Ways to Stop Falls from Heights

1. *Always use fall protection when working at heights.*
   - Employees working at heights 6 feet/3 meters or more, must use fall protection—guardrails, safety nets, or personal fall arrest system.
   - You want to choose a harness, lanyard and connectors that will either stop you from falling, such as a positioning device, or arrest your fall, i.e. a shock-absorbing lanyard.
2. *Choose your lanyard wisely.*
   - Think about the total fall distance when selecting a lanyard and anchor point. Lanyards must limit free fall to no more than 6-feet and 1,800 pounds of force.
   - To do this, always select the shortest possible lanyard. Using a longer lanyard will lead to a longer fall and more force on your body upon impact. How much force? A 200-pound worker falling 10-feet is subject to 8,000 pounds of force on impact.
3. *Use a Solid Anchorage Point.*
   - Anchor points literally anchor you and your protective equipment to the structure you're working from in the event of a fall. You want to choose ones that will support you if you fall, be high enough to prevent you from hitting the ground if your lanyard deploys, and will prevent you from slamming into other structures as you swing and dangle after falling.
   - Anchor points for vertical lifelines or lanyards must be able to hold 5,000 pounds of force. Guardrails and conduit DO NOT make safe anchor points.
   - Each worker must be attached to a separate vertical lifeline. The buddy system doesn't apply here.
4. *Deal with Damaged Equipment.*
   - First, inspect all equipment prior to each use. Look for frays in the webbing, burns, chemical damage, and other signs of wear and tear.
   - Next, check your connectors. It should take two actions to open a snap hook or carabiner, not just a single click and push. This prevents the lanyard from rolling out of the hook in a fall. Do not use equipment that is damaged.
   - NEVER use fall protection equipment that has been in a fall. If your harness or lanyard have been in a fall, report the fall to your supervisor and turn in your equipment.
   - Finally, look to see if guardrails, ladder cages, safety nets and hole covers are in place and secure. Report any issues to your supervisor right away.

FINAL WORD

Don't leave your safety up in the air! Wear the right fall protection whenever you are working from heights! ❖

Quiz Answers: 1. False, 2. D, 3. True, 4. True

TEST YOUR KNOWLEDGE

1. You can use your harness again after a fall – just not the lanyard.
   ☐ True ☐ False
2. How many pounds of force must an anchor point be able to hold?
   a. 2,000
   b. 3,000
   c. 4,000
   d. 5,000
3. Lanyards must limit free fall to no more than 6-feet and 1,800 pounds of force.
   ☐ True ☐ False
4. When inspecting equipment, look for frays in the webbing, burns, and chemical damage.?
   ☐ True ☐ False

What Would You Do?

You're up on a structure that doesn't have a suitable anchor point. What would you do?

SAFETY WORKPLAN: Fall Protection, Continued from Page 4

physical shock that can injure or even kill the worker. So, fall arrest systems are subject to stricter design, use and installation requirements regarding:

- How far they can let a worker fall before arresting it; and
- How much force they can exert on the worker's body in arresting the fall.

3. Know Your Company's Administrative and Work Practice Controls

Controls affecting how the work is done are commonly called administrative or work practice controls (safe work practices). Key work controls for vertical fall hazards include:

- **Fall Protection Programs** setting out a complete plan for hazard assessment, system installation, inspection and maintenance, rescue and safety training.
- **Safe Work Practices** for working at heights, assembling and disassembling fall protection systems and rescuing workers swiftly and safely after their fall is arrested.
- **Equipment Inspection and Maintenance** including daily field inspection before each use to check for dangerous defects like:
  - Cuts, tears, abrasions, burns, mold, stretching, corrosion and other damage;
  - Water damage or corrosion in ropes;
  - Distorted hooks and faulty hook springs;
  - Cracked, broken or deformed D- and O-rings or snaphooks;
  - Loose, damaged or nonfunctioning parts and mountings; and
  - Unauthorized repairs or alterations that harm equipment effectiveness.

Fall arrest systems and their components also need to be re-inspected after each incident in which a fall is arrested. You also need a way for workers to report damages and defects and ensure that defective equipment is taken out of service immediately.

4. Help in Selection and Use of PPE

PPE is the last line of defense used as a supplement rather than a substitute for fall protection systems. PPE for vertical fall hazards include:

- Full body harnesses attached by a lanyard or lifeline to an independent and secure anchor system;
- Shock absorbers on lanyards or lifelines to cushion the force of arresting the fall;
- Hardhats, knee, elbow and other pads to cushion any falls that do occur;
- Shoes with slip-resistant soles to prevent slips;
- Life jackets or flotation devices where work is performed above water or other liquids in which workers could drown; and
- Rescue equipment like a speed boat or heaving line for work above water.

TOOL

Use the Fatality Report on page 2 to capture workers and drive home the message that fall protection is literally a matter of life and death.

Give your workers the Fall Protection Safety handout on page 6 if they are exposed to fall hazards.

5. Delivering Fall Protection Training

Workers aren't allowed to use a fall protection system unless and until they successfully complete training in its safe use. At a minimum, training must cover:

- The fall hazards to which the workers are exposed;
- The fall protection measures and systems used;
- Assessment and selection of anchors;
- Proper use of connecting hardware;
- How to inspect and care for the equipment;
- The impact of falls and fall arrest on the human body; and
- The safe work and rescue procedures to follow.

6. Coordinating with Contractors

Finally, fall protection must also account for the contractors who work at your site. At a minimum, you must notify contractors of the fall hazards to which their workers will be exposed. Then it becomes a matter of coordinating safety measures with the contractor. How you do that will depend on which of you is legally responsible for carrying out the work safely and in compliance with safety laws. For example:

If you, as the **employer**, are in charge:

- Give the contractor your fall protection plan and/or safe work procedures;
- Require the contractor to communicate the plan and/or procedures to its workers and ensure that they'll comply; and
- Have the contractor verify that its workers are properly trained to use the fall protection required.

If the **contractor** is in charge as a prime or controlling contractor or constructor, require it to either:

- Follow your fall protection plan and/or safe work procedures, if you have them in place; or
- Furnish fall protection that meets the requirements of required safety regulations. ❖

THE SAFETY VIOLATION

Firestarter

Any guesses on what caused this raging dumpster fire? Turns out, a contractor working on a home remodel for a family in Colorado, had his crew throw oily rags into the dumpster. As the rags dried they began to heat up until they spontaneously combusted.

Spontaneous combustion of oily rags occurs when a rag or cloth is slowly heated to its ignition point through oxidation. A substance will begin to release heat as it oxidizes. If this heat has no way to escape, like in this dumpster, the temperature will raise to a level high enough to ignite the flammable vapors and ignite the rag or cloth.

Oil-soaked rags should never be disposed of in trash compactors, trash dumpsters, or ordinary trash cans. Instead, all oily rags must be disposed of in covered metal containers. A metal safety can with a self-closing lid manufactured specifically to hold oily waste is recommended. These safety cans should be placed at key locations (away from ignition sources) and should be emptied and properly disposed of regularly. ❖

COMPLIANCE CORNER

OSHA Injury Tracking Application–Electronic Submission of Injury and Illness Records

OSHA will launch on Aug. 1, 2017, the Injury Tracking Application (ITA). The Web-based form allows employers to electronically submit required injury and illness data from their completed 2016 OSHA Form 300A. The application will be accessible from the ITA webpage.

In June, OSHA published a notice of proposed rulemaking to extend the deadline for submitting 2016 Form 300A to Dec. 1, 2017, to allow affected entities sufficient time to familiarize themselves with the electronic reporting system, and to provide the new administration an opportunity to review the new electronic reporting requirements prior to their implementation.

The data submission process involves four steps:

- Creating an establishment.
- Adding 300A summary data.
- Submitting data to OSHA.
- Reviewing the confirmation email.

The secure website offers three options for data submission. One option will enable users to manually enter data into a web form.

Another option will give users the ability to upload a CSV file to process single or multiple establishments at the same time. A third option will allow users of automated recordkeeping systems to transmit data electronically via an application programming interface.

The ITA webpage also includes information on reporting requirements, a list of frequently asked questions and a link to request assistance with completing the form.

www.osha.gov/news/newsreleases/trade/07142017 ❖

CONTRACTORS' CORNER: Five Ways to Connect with Contractors

The Campbell Institute—the National Safety Council's center for excellence for environmental, health and safety (EHS) management—recently released a report detailing five best practices for keeping contractors safe.

1. **Prequalification:** Contractors must submit their safety stats—including total recordable incidents and fatalities—over a given time, usually three years. Set the bar high during prequalification and study the stats.
2. **Pre-job task and risk assessment:** Before a contractor begins work, the hiring company must have a way to evaluate the risk of the work and to place contractors in a predetermined risk category. This helps companies and contractors understand the scope of work and have a chance to put additional written safety programs in place.
3. **Training and orientation:** Contract workers require both safety orientation and skills training to be approved for work. They also require special permits or training for specific kinds of work, including confined space entry, electrical work, hot work, energy control, use of forklifts and working at heights. Check training records.
4. **Job monitoring:** Contract workers must be assessed periodically through daily checklists, safety talks, weekly walkthroughs, and monthly and yearly assessments, for longer work. Some companies or organizations require contract employees to submit safety observations or report non-compliance or unsafe conditions.
5. **Post-job evaluation:** Create and use post-work evaluations of contractors to ensure the work was done correctly and safely. Analyses of contractor claims, observations, and injury rates are some ways to measure the effectiveness of contractor safety training.

As a supervisor, you must watch out for the safety of all workers on site, including contract employees.