Bag of Tricks: Presentation Design

Part 1

When I had first arrived at my prior place of employment, I used whatever I could lay my hands on for training. I found several CDs at the site with many presentations on them and went to town. Purchased training presentations can be a good starting point, but once I got past the initial rush, I began to create my own site-specific training.

In my PPE training for example, I used a football equipment analogy to get employees to buy into my plan to change and upgrade their PPE. I showed them a visual history of football helmets. Much like how football helmets had changed over the years, their PPE would change. I needed to overcome their “If it is not broken, do not fix it” syndrome.

The employees knew I put in time to create a site-specific training plan, which gave the training a greater value. After all, perception is often reality when it comes to effective training.

I am not the first person to realize that good training can be made better with a well-designed presentation. Many books exist on the subject, but I will mention only three of them here.

*Presentation Zen* by Garr Reynolds is worth reading, but it can be summed up in two words: use pictures. People remember images longer. Reynolds’s book includes several examples of before and after slides.

*Beyond Bullet Points* by Cliff Atkinson is another good book on this subject. Its main message is “Tell a story, have a plot.” Think of the presentation as a mini-movie, with a beginning, middle and end. One idea from this book is to use hidden slides for organizing a presentation when in the “View All Slides” mode.

*Slide:ology* by Nancy Duarte includes insight on slide design. It covers fonts, colors, placements, space, arrangement, backgrounds, text use and images. It also explores some fundamental animation, motion and multimedia methods.

**Fundamental Considerations for Any Presentation**

It helps to know audience size and demographic. With less than 40 or 50 people, you can have good audience interaction, but more than 200 or so will change your role from educator to entertainer. Your presentation will need to adjust accordingly. Is the audience your employees at the plant, your CEO or your peers? Everyone will have different expectations.

The room is everything from the projector used, to the physical size of the room to how seating is arranged. From a presentation design perspective, ask yourself, “Will the colors in my presentation show as I intend?”

The collection of slides used in a presentation is often called a deck. The deck alone is not the presentation but warrants due consideration with proper design.

The five basic paths or “ways” to give a presentation are live, webpages, webinars, e-presentations and e-learning. Each has its own set of pros and cons.

**Live:** The audience gets the full benefit of the speaker—hand gestures, facial expressions and the ability for the speaker to answer questions as they are asked.

**Presentations:** These can be saved as webpages or uploaded to an internal website. However, since the speaker will not be there, have good notes on each slide.

**Webinar:** This is basically a web version of a presentation with someone talking behind the slides as they are shown. Slide design becomes much more important as people cannot see the speaker. The slides need to carry more of the load and to be more interesting.

**e-Presentation:** This is a PowerPoint that has narration and custom animation and has been converted to a YouTube-like format. It basically plays like a movie. In this format, keep what is on the screen moving.

**e-Learning:** This is basically an e-presentation with some level of interactivity build into it. Once considered the second coming of training, it is now just another tool in the toolbox.

Safety presentations tend to fall into one of three main types—topic, task and story. A topic-type presentation is what most of us use at work. Many of these are rooted in one regulatory requirement or another. These include most OSHA, EPA and DOT training topics.

Training of this type includes confined space, hot work, hazard communication, fall protection, machine guarding,
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industrial hygiene, lockout/tagout, hazardous waste, heat stress, bloodborne pathogens, back safety, drug and alcohol programs and physical properties of chemicals.

Task-type presentations also have some level of hands-on activity associated with them. This type of presentation is rooted in some direct aspect of employees’ jobs. In the case of respiratory protection, you have the fit test, positive and negative flow tests and a piece of PPE they use in the plant. For example, for forklift safety, employees are asked to perform an inspection of a forklift and to conduct defined tasks with the forklift to show they are capable of handling one. Electrical safety, NFPA 70E, arc flash and safe use of portable power tools are all job-specific training. Operational training is often of this type.

Another type of task-based presentation is when it is used as a visual standard operating procedure. For example, I have a presentation on how to do a proper plant restart after a power failure. In several slides, I show the proper valve settings for a piece of equipment and allow employees to visually verify the correct arrangement.

A story-type presentation is one that draws upon life experiences, personal beliefs or interests. Since I grew up in Buffalo, NY, I know cold, snow and winter well. I give a cold stress class one year and a winter safety class the next based on my experience.

Many off-the-job safety presentations will be like a story. Examples include Fire or Electrical Safety in the Home, Bugs and Bunnies (insects, etc.) Halloween Safety and Mower Safety. In effect, most of my off-the-job safety topics are my attempt to sell safety as a 24/7 idea. To do this effectively, I must relate work-based safety ideas to daily activities associated with home and play.

**TOPIC**
- least interesting;
- benefits from plant-specific photos;
- important to change these every time they are given.

**TASK**
- more interesting due to hands-on component;
- harder to create due to specific imagery needed;
- site-specific images critical.

**STORY**
- most interesting;
- lends itself to strong imagery;
- more practice then normal needed.

Realizing that three kinds of presentations can help as one builds one type or the other. The resources used will change, and the flow and structure of the presentation will be different. My general goal is to make all presentations seem like a story. This tends to be more enjoyable for the audience. The more they like it, the better they will remember it. Also, it is not unusual for a presentation to blend all three types.

**PRESENTATION DOS & DON’TS**
- People can read a slide faster than you can speak it. This means your audience has read a slide before you have gotten through it. In fact, the words and image on the slide should support but not be the same as what you are saying. Never read a slide to the audience.
- The bigger the room and with more people, the larger the font with less words on the slide. I suggest a minimum of 32-point for text and 44-point for headers. I tend to use 48-point headers and 40-point text.
- It is important that the right contrast be used and that colors complement each other. With the classic color wheel, any two colors opposite each other will have sufficient contrast, but that does not mean you want to put that combination on a slide. While red and green go together for Christmas and have great contrast, they do not belong on the same slide. In fact, avoid red as a background or for lettering, as it generally associated with danger. However, if you are giving a course on hazard recognition, then some red may be involved.
- In earlier days with overheads, black or dark backgrounds with white or yellow lettering were used. Today, training rooms have digital projectors, and in these cases, a light or earth color for the background is preferred. I tend to use contrasts in the 4.5 to 1 range.
Cognitive load theory as it applies to presentation design suggests limiting information on each slide, using images and giving the audience time to absorb each slide.

- As you construct your slides, try to keep text at least one-quarter inch to one-half inch from the edge of the slide. This will allow for the variations in computers, printers and projectors that you are likely to encounter.
- Animation in the right place at the right time in a presentation can work. Just avoid any that come with Windows or anything that would make your kids giggle. Remember the flying toaster screensaver from early Windows? That was cute for about 30 seconds and then it got old. The same is true for most cartoon-like animation.
- PowerPoint is not Word, and it is not a book or a magazine. Think of it as a billboard. The presentation is meant to be a visual representation of the idea or concept you will convey to the audience via your spoken word.
- Use images with a high-enough resolution. As you make a picture bigger, pixilation can become a problem. However, good imagery can go a long way, but only if the imagery works with your presentation and what you were discussing. Generally, the higher the resolution, the sharper the image.
- Use Arial font as opposed to Times New Roman. Times New Roman (serif) has little feet, while Arial (sans-serif) has none. Arial is more informal, while Times New Roman is formal. It works well for narrow columns with small type because it helps keep your eye on the same line. On a slide with large fonts, the feet in a serif font become more of a visual distraction.
- A well-constructed presentation will help an average speaker, but it takes a good speaker to overcome a poorly designed one. Presentations work dirt-cheap. Slides are free, but you can always make more. Use more if needed to break down a complex slide.
- Avoid all caps. It is harder to read and is akin to shouting, just like in e-mails.
- Avoid using bullets because it can cause you to include too much information on a given slide. I create a master slide with no bullets and a white background and title block only.
- A fair percentage of the male population is red/green colorblind so do not use red and green on the same slide.
- Include a mental break or diversion every 10 or 15 minutes or so.

**Basic Process for Presentation Design**

**Realization**

I plan the training schedule for the next year in December of the year prior and post it on our internal website. When I set up my schedule, I take into account whether a new or existing presentation will be used.

**Selection**

Pick a focus for the presentation. Sometimes the hardest thing to do is to make a choice. If it is a standard topic like hot work or confined space, it is no big deal, but when you get to off-job safety topics, the volume of possibilities can be overwhelming. I tend not to dwell on this; I just pick something and run with it, like winter safety or home fire safety.

**Search**

Borrow as needed from the Internet. An Internet search will yield many presentations for just about every topic. Most states and universities have safety training available for download. Get it all because good ideas can come from almost anywhere. Be sure to acknowledge sources where appropriate.

**Review**

After you have searched your files and the Internet and you have everything you need, review your bounty. For example, I found 14 or so presentations for winter safety. I open, review and close each of these in 30 seconds or so to prime my brain for the next step.

**Brainstorm**

When it is time to brainstorm, sit in a comfortable chair and jot down ideas/concepts with pen and paper. Write down everything, no matter how silly it may seem to you.

**Organize**

Organize ideas into subgroups or an outline. I use Excel or Word as needed, whichever is easier. For my winter safety training, I had four categories: weather, activities, automobile and the holidays. This is also the point at which I begin to think about a plot or the beginning, middle and end.

**Pick**

I used to use a group of five templates, but today, I actively search for a template that fits the nature of the presentation, such as one with a wintry background for winter safety. If I do not find a template I like, I default to my basic all-white background, no bullets, header-only template.

**Start**

Construct the presentation with one idea/concept per slide. The title block should reflect the main idea clearly. Keep in mind you can also combine later if you need to.

**Add**

Add information to each slide that is different from notes or narration. Add whatever ideas or concepts as related to the topic header. You can always remove some of the text later.

**Images**

Add images as appropriate. This is also the time at which, if I am thinking of making this a part of an e-presentation or e-learning system, I give thought to multiple
pictures or objects on a slide. Generally, I seem to have better luck obtaining images from Google, then Yahoo. Yahoo tends to have more Flicker images, but not all of those can be copied to your presentation.

Be sure to always copy the link for an image to the Notes section of the related slide. Construct a photo credit page if needed after you complete your presentation.

I prefer to use digital photos taken at my site over Internet pictures (I use a Rebel EOS camera). It is easy to get site-specific photos for some topics but harder to do for others. When I decide to use a picture, my pecking order is 1) site-specific photos, 2) web-based photos, 3) illustrations, 4) cartoons then 5) clip art.

Many cameras are available today for $50 to $200 with 8 to 12 megapixels per picture and much more memory. Resolution is important if your presentation is to be converted to a movie or Flash (i.e., YouTube). The better the picture is at the start, the better it will convert if needed.

**Polish**

Once the PowerPoint is functionally done, set it aside for a week then come back to it. Decide if the presentation flows properly, and maybe insert a few slides with questions to encourage audience interaction.

Practicing your presentation out loud will likely lead you to make subtle changes to it. If you know other trainers, ask if they would be willing to peer-review your work.

As you practice your presentation, spend between 10 and 60 seconds discussing each slide. Remember the presentation is meant to provide a visual key/anchor to help your message get across to the audience.

**Presentation Design Theory**

Presentation design theory involves the amount and balance of text, color, contrasts, imagery, sound, movies and animation.

The brain has two sides—left side (math, facts, data) and right side (music, art, emotions). During a presentation, you can hear the presenter (right side) or you can read the slide (left side). However, if the presenter makes you do both, your brain enters “panic mode,” and you miss part of the presentation.

For training to be effective, keep in mind the human brain can only absorb so much at a time.

The brain has both a working memory and a long-term memory. A presentation should strive to get through the barriers or “filters” of the mind. These filters determine what enters the brain easily and what must really work to get in. Effective use of images and cognitive load theory is how to get through everyone’s different filters.

Cognitive load theory as it applies to presentation design suggests limiting information on each slide, using images and giving the audience time to absorb each slide.

**Retention**

In 1969, Dale Eggar developed the cone of learning, which says that in 2 weeks, an audience will forget half of a presentation. What can be done to help improve retention?

Posttraining proficiency tests can gauge if the audience understood the presentation or if a gap exists in the training. However, creating tests can be time-consuming, and it is not certain if the audience will be receptive to a test. I created an Access database and entered about 4,000 questions into it across 60 categories. I choose a topic, the number of questions, how many versions I want and print it. Sometimes I give a test right after the training or, occasionally, months later.

I also found a Jeopardy template online and adapted it to NFPA 70E arc flash training. I divided the class into two groups and alternated between each one. This version also included Double and Final Jeopardies.

Near-miss/unsafe condition reporting is another important element. During a lockout/tagout (LOTO) training session, I gave a small group of employees near-miss cards and asked them to look specifically for LOTO near misses.

Contests can be fun. During a hazard recognition contest, I showed five photos that each depicted multiple hazards. Everyone had 5 minutes per photo to write down as many things as they could identify. The best set of answers received a gift certificate to a local restaurant.
Why Presentation Design?
In the end, a well-designed presentation will be remembered, and better retention of safety training leads to a safer workplace. Once you get in presentation design mode, it ends up taking less time to create a quality presentation. And since you are the one creating it, it costs hardly anything except your time. If you have done your presentation right, your audience will never appreciate the time you put into it.

REFERENCES

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Z359 Fall Protection Code Version 3.0 Now Available

New data indicate that falls from heights are still a concern within the U.S. workforce. The fatality rate for falls from heights is even higher globally.

To counteract these statistics, SH&E professionals in the U.S., as well as in Central and South America, Canada and the Middle East, have used the ANSI/ASSE Z359 Fall Protection Code to implement and manage fall protection/restraint systems. Initially released in 2007, the code is a series of coordinated standards and reference documents that establish the requirements for an effective and comprehensive fall protection management system.

Version 3.0 of the code includes these additional standards:
• Safety Requirements for Assisted-Rescue & Self-Rescue Systems, Subsystems & Components (ANSI/ASSE Z359.4-2013)
• Personal Energy Absorbers & Energy-Absorbing Lanyards (ANSI/ASSE Z359.13-2013)
• Fall Protection Systems for Construction & Demolition Operations (ANSI/ASSE A10.32-2012)

Click here for more information on the new Z359 Fall Protection Code Version 3.0 or click here to purchase it.

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