Bag of Tricks–Presentation Design

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Introduction

This is intended to be a summary of the presentation as it is given. I'll break down my understanding of, approach to, and general thoughts for presentation design, with a noticeable emphasis on safety training.

When I had first arrived at my current place of employment, I used whatever I could lay my hands on for training. I found several CDs at the site with a bunch of presentations on them, and went to town. Don't misunderstand me—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 personal protective equipment (PPE) training for example, I used a football equipment analogy to get the employees to "buy into" my plan to change and upgrade their PPE. So I showed them a visual history of football helmets. Much like football helmets had changed over the years, our PPE would also be changing. I had to overcome the "if it's not broken, don't fix it" syndrome. (Not that that doesn't happen anywhere else, of course.)

Now, besides being site-specific, another benefit was realized. The employees knew I was putting in the time to create the training, and thus, the training had greater value to them. After all, perception is often reality, when it comes to effective training.

Of course, I'm not the first person to realize that good training can be made better with a well-designed presentation. There are lots of books on the subject, so I'll only mention three of them here.

Presentation Zen by Garr Reynolds is a decent book, and worth checking out, but I think I can sum it up with the following phrase: "Use Pictures." Images are remembered longer by people. There are several examples of before and after slides in this book.

Beyond Bullet Points by Cliff Atkinson is another book on subject and is a decent read. Its' big message is, "Tell a Story, Have a Plot." Think of the presentation as a mini-movie, with a beginning, middle, and end. One of the interesting ideas from this book is the use of hidden slides for organizing a presentation when in "view all slides" mode.

Then you have *Slide:ology* by Nancy Duarte. This is a pretty good book with lots of insight to slide design. It covers fonts, colors, placements, space, arrangement, backgrounds, text use and images. It also gets into some fundamental animation, motion and multimedia methods. I've gone back and re-read this one a few times.

Fundamental Considerations for Any Presentation
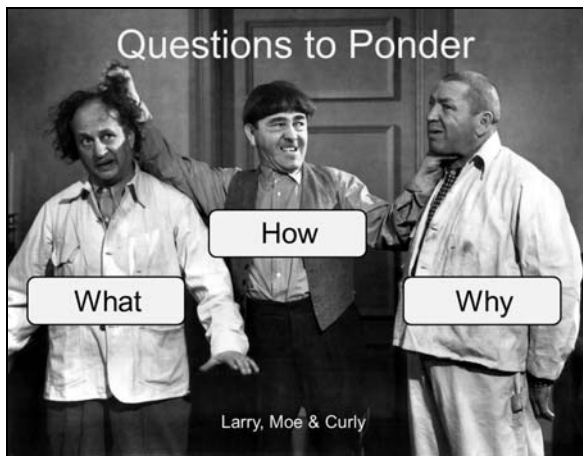
So what is needed for any presentation? Speaker, audience, room and deck. Hmm, maybe we can ask these guys?

It would be great if we could all speak as well as John F Kennedy; but, alas, most of us cannot. Certainly, I'm at best an average speaker, so I want something behind me that is going to help. I've seen good speakers (Steve Jobs comes to mind), and I strive to be as good or as effective as he was.

It helps to know the size of your audience: Is it a few people, a few hundred, or a few million? If the group is under 40 or 50 people, you can have good audience interaction. But above 200 or so, you move from being an educator to an entertainer. Your presentation will need to adjust accordingly. Is the audience your employees at the plant, your CEO or your peers? Each group will have different expectations.

The room is everything, from the projector being used to the physical size of the room, and how the seating is arranged. From the presentation design perspective, will green look green on the screen is a question I ask. That is to say, "Will colors in my presentation show as I intend?"

Those in the "seminar" business tend to call the collection of slides that they use their *deck.* The deck, by itself, is not the presentation, but it is an important part and warrants due consideration with proper design. The author of *Slide:ology* is the same person who helped Al Gore's "Inconvenient Truth" go from being a somewhat boring presentation to a great one. Shucks, it even became a movie and earned an Academy Award for Best Documentary Feature in 2006.

Ways to Give Presentations

There are five basic paths or "ways" to give a presentation: live, web pages, webinars, ePresentations, and eLearning. Each has its' own set of pros and cons.

1. *Live:* This is what most of us do. 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.

2. *Web pages:* Presentations can be saved as web pages (HTMLs). If you have an internal web site, this can be uploaded to it. But you, as the speaker, will not be there, so having good notes on each slide is important.

3. *Webinar:* A webinar is basically a Web version of the presentation with someone talking behind the slides as they are being shown. The design of slides becomes much more important since people cannot see the speaker. So the slides need to carry more of the load and be more interesting.

4. *ePresentation:* This is a PPT that has had narration added it, custom animation applied and been converted to a YouTube-like format. It basically plays like a movie. In this format, keeping what is on the screen moving is important. (We are a TV generation, after all.)

5. *eLearning:* This is basically an ePresentation with some level of interactivity build into it. Once considered the second coming of training, I now see this as just another tool in the toolbox.

Types of Presentations

Safety presentations tend to fall into one of three main types: topic, task, and story.

Topic Presentation

The topic presentation is the primary kind that most of us deal with at work. Many of these are rooted in one regulatory requirement or another. These include most of the OSHA, EPA and DOT training topics. You are basically trying to pass on information about something. (And hoping they'll remember it all!)

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

Task Presentations
The task type of presentation will also have some level of hands-on activity associated with it. This type of presentation will be rooted in some direct aspect of the employee's job. In the case of respiratory protection, you have the fit test, positive and negative flow tests, and a piece of PPE that they use in the plant. For forklift safety for example, employees will be asked to do 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, the classic "show me" presentation.

Another type of a task-based presentation is the visual standard operating procedure (SOP). For example, I have a presentation on how to do a proper plant restart after a power failure (a not uncommon occurrence in my neck of the woods). In several slides, I show the the proper valve settings for a pieces of equipment, allowing employees to visually verify the correct arrangement. A copy of this presentation is in the control room and shipping office at my plant, just in case. (After all, with no power, there will be no computers or internet, and so there is the hard copy to the rescue.)

Story Presentations
The story type 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, perhaps better than I would have liked to have known it. But in either case, I give a cold stress class one year and a winter safety on 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 have to relate work-based safety ideas to day-to-day activities associated with home and play.

Differences Among Types of Presentations

TOPIC:
- Least interesting
- Benefits from plant-specific photos
- Important to change these up every time they are given

I have about 18 topics that I have to cover every year, according to regulations. So keeping these presentations fresh can become a job into itself.

TASK:
- More interesting due to the hands-on component
- Harder to create due to specific imagery needed
- Site-specific images critical

I'm a decent photographer, but getting sufficient lighting inside any plant building can be rough. Not withstanding that, I've gathered a good collection of site-specific photos over the years for use in my plant specific presentations.

STORY:
- Most interesting
- Lends itself to strong imagery
- More practice than normal needed

I find this often harder to present effectively due to the subject matter. I'll practice three to five times more for this type of presentation. The timing of your talk with the slides becomes more critical.

Another thing that happens when you do a story type is that any lack of flow or choppiness in presentation will become more obvious.

Ok, so what? Well, it's a matter of perspective. In a given year, I'll give 25 to 35 training presentations at my site. About 50% of them are topic, 25% task and 25% story.

Realizing that there are 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. But my general goal is make all presentations seem like a story. I go this route, as this tends to be more enjoyable to the audience. The more they like it, the better they'll remember it. To further complicate things, it is not unusual for a presentation to be a blend of all three types. Well, you didn't think it would all be easy, right? Goals are good.

Dos and Don'ts for Presentations

Borrowing from a famous late night routine, let's cover a top 10 things to remember about presentation design and delivery.

10. People can read a slide faster than you can speak it. I talk fast, maybe 150 words a minute, but even the average reader is at 250 to 400 words a minute. This means your audience has read slide before you have gotten part way through it. In fact, the words and image on the slide should support, but not be the same as, what you are saying. Or to put another way: Never read a slide to the audience!

9. The bigger the room, with more people, the larger the font with fewer words on the slide! I suggest a minimum 32 point for text, and 44 point for headers. For myself, I tend to use 48-point headers and 40-point text.

8 . Remember that color wheel from your elementary days? Guess what—it's made a comeback! 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 doesn't 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. Of course, if you're doing a course on hazard recognition, then some red may be involved.

7. In earlier days when overhead slides were used, we used black or very dark backgrounds with white or yellow lettering. Today, we have training rooms with digital projectors, and in these cases, a light or earth-tone color for the background is preferred. Not withstanding all that, if you have a corporate standard, then you have a corporate standard. I tend to use contrasts in the 4.5 to 1 range (http://trace.wisc.edu/contrast-ratio-examples/ColorSets_6x6x6_OnWhite.htm).

       As you construct your slide, try to keep text at least a ¼" to ½" from the edge of the slide, which will allow for the variations in computers, printers and projectors that you are likely to run into.

6. 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 get your kids to giggling. Anyone remember the flying toaster screen saver from early Windows? That was cute for about 30 seconds; then it got old real fast. The same is true for most cartoon-like animations, only faster.

5. Just because I can put the entire Declaration of Independence onto a slide doesn't mean I should. Powerpoint is not Word, nor is it a book or magazine. Think of it as a billboard. The presentation is meant to be a visual representation of the idea or concept you are conveying to the audience via your spoken word.

4. When using images, be careful to use a high enough resolution picture. As you make a picture bigger, pixilation can start to be a problem. Good imagery can go a long way, but only if the imagery works with your presentation and what you were talking about. Always try to get the highest resolution image that you can. Generally, the higher the resolution is, the sharper the image will be.

3. *Remember--Rules, Not Guidelines. I'm from New Jersey, don't make me come to your house and pull a Soprano on you.* ☺

2. Use Arial as a font, as opposed to Times New Roman. Times New Roman is a Serif font, meaning that it has little feet, while Arial (San Serif) has none. Arial is more informal, while Times New Roman is formal. It works well for the NY Times, as they use two-inch columns with really tiny type. It helps your eye to keep on the same line. On a slide with such large fonts, the feet become more of a visual distraction.

1. A well-constructed presentation will help an average speaker, but it takes a very good speaker to overcome a poorly designed one. Why put yourself in the hole at the start? Remember, presentations work dirt cheap. Slides are free, and you can always make more. Use more if needed to break down a complex slide.

Miscellaneous: Avoid all CAPS, it is harder to read, and is akin to shouting, just like in e-mails. About seven to 10 percent of the male population in the Americas is red/green colorblind, which is another good reason not to use red and green on the same slide. Also, think about some kind of mental break or diversion every 10 or 15 minutes or so.

Basic Process for Presentation Design
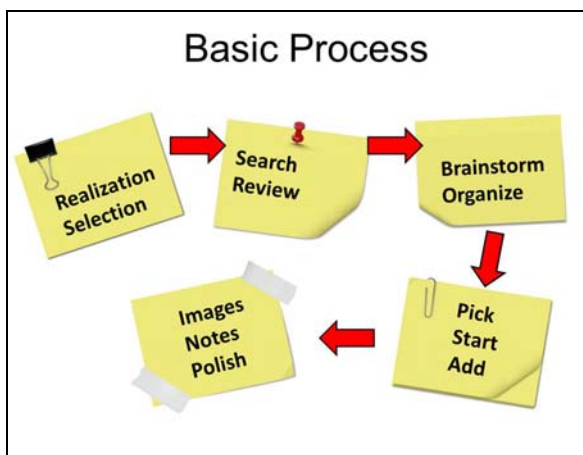
Well, I'm a chemical engineer by degree so of course I have a PROCESS! ☺

Realization. Oh no, a training session is needed! To be fair, that's what it was like when I first got to my plant. However, now I lay down the training schedule for the next year in December of the prior year and put it up on our internal web site. When I set up my schedule, I take into account whether a new or existing presentation will be used to give myself time. There is no point in setting up a training session with three new presentations when I can spread those out.

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

Search. Beg and borrow as needed from the internet. For just about every topic, there are lots and lots of presentations via searches through Google or Yahoo. Most states and universities have safety training available for download. Get it all; good ideas can come from almost anywhere. However, make sure you acknowledge the sources where appropriate.

Review. After you have search your files and the internet, and you've gotten everything you could lay your hands on, it is time to 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. I do this to basically prime my brain for the next step.

Brainstorm, Time to brainstorm, jot down ideas/concepts with pen and paper. Yeah really, I actually use a pen and paper for this. Get into a comfortable chair and relax. Write down everything, no matter how silly it may seem to you.

Organize. Then we come to organizing the ideas into subgroups or an outline. I'll use Excel or Word as needed, whichever is easier. For my winter safety training, I ended up with four categories: weather, activities, automobile, and the holidays. This is also the point at which I begin to think about a plot per se. Basically, do I have a beginning, middle and end. *"Beginning--Why; Middle--The Meat; End--Summary, Why Again."* This was taken from one of son's first grade homework assignments, but I thought it gets the point across.

Pick. Now it is time to select a template (or use an existing presentation if a good one was found). I used to use a group of five or templates, but these days, I actively search for a template that may fit the nature of the presentation, such as one with a wintery background for winter safety. Just like searching the internet for presentations, you can search for templates. If I don't find a template I like, I will default to my basic all-white background, with no bullets, header only template.

Start. Construct the presentation with one idea/concept per slide. I suggest that the title block reflect the main idea clearly. Keep in mind you can also combine slides later if you need to.

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

Images. Then add the images as appropriate. This is also the time at which, if I am thinking of making this a part of an ePresentation or eLearning system, I give thought to multiple pictures or objects on a slide. Generally, I seem to have better luck with getting images on Google, then Yahoo. Yahoo tends to give you a lot of Flicker images, but not all of those can be copied to your presentation.

> *NOTE: Always, Always, Always, cut and paste the link for an image to the notes section of the slide. You can construct a photo credit page if needed when the presentation is done then.*

I really prefer to use a digital photo that I take at my site over internet pictures. It is easy to get site-specific photos for some topics, harder to do for others. But you have to be careful with the camera you use. Today, you can get cameras for 50 to 200 dollars, with 8 to 12 megapixels per picture and lots more memory. However, my old camera still takes a far better picture due to the lens construction. The distinction becomes more apparent if your presentation is to be converted to a movie or flash (i.e., YouTube). The better the picture at the start, the better it will convert later on if needed.
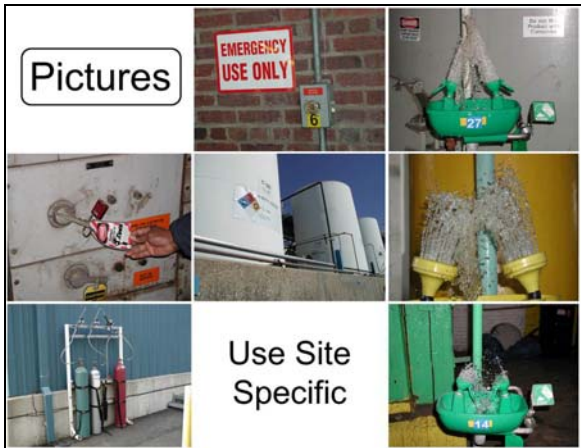
When I decide to use a picture, my pecking order is site-specific photos over web-based photos over illustrations over cartoons over clip art.

Notes. The notes can be used for narration and later reading by others. I know no one likes doing the notes. But what I discovered is that as I write down what I'd like to say, my slides change. I realize that some things are better for me to talk about, rather than to show and vice versa. Between the images added and notes written, you will discover the words on the slide should be reduced considerably.

Polish. Once the PPT is functionally done, set it aside for a week, and come back to it. Decide if the PPT flows properly, then maybe put in a few slides with a question for the audience. Work in audience interaction in the presentation; almost any of that is a good thing.

You can put in a picture with something that is wrong relative to the training you're giving and query the audience on it.

Just the act of giving your presentation out loud to any audience will likely lead you to make subtle changes to it. If all else fails, give your presentation to any chair you have in house. I often use my young son for this; he often asks every good questions. If you know other trainers, ask if they would be willing to peer review your work.

So you've done everything to the presentation that you wanted to. Then it is time to "test" it. I shoot for 10 to 60 seconds per slide.

A cordless presenter such as the one pictured at left, is something I've come to really appreciate having. No longer am I tied to the computer or podium when doing a presentation. Some even have timers, which vibrate when there are 5 or 10 minutes left.

Now let's consider the three versions of the Einstein slides.

Version 1. This slide is a Word document. If I were print to it out, leave it on a table and go home, you would know 80-90% of what I had intended to say. Basically, the presenter was not needed.


Version 2. This version of the slide is a classic PowerPoint. If I were print it out, leave it on a table and go home, you would know 50-60% of what I had intended to say. Basically, the presenter might be needed. Although the words on this typical slide are less than in Version 1, you have to ask yourself: Are these words for the audience or crib notes for the presenter?
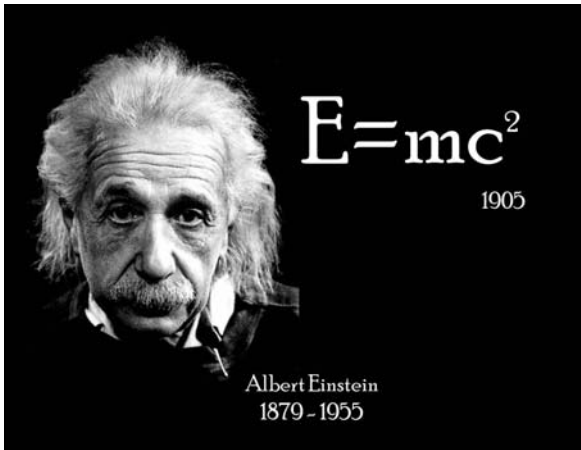
Version 3. This version of the slide is a Presentation. If I were print it out, leave it on a table and go home, you would know 10-20% of what I had intended to say. Basically, the presenter is needed.

And that is a key point; the presentation is meant to provide a visual key/anchor to help facilitate getting your message into peoples' brains and staying there. *Remember–Rules, Not Guidelines. I'm from New Jersey, don't make me come to your house and pull a Soprano on you.* ☺

Presentation Design Theory
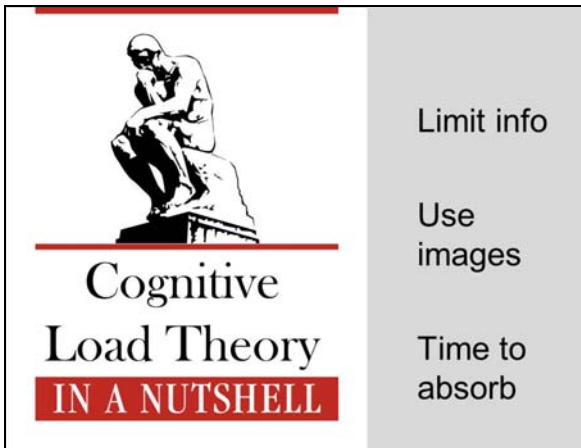
Why presentation design, dos and don'ts and the process? Well this is why: cognitive load theory developed by Professor Sweller in 1988. (Well, at least that's of one of the whys.)

This is the theory behind why the amount and balance of text, color, contrasts, imagery, sound, movies and animation are important.

There are two sides to your brain, the left side (math, facts, data) and the right side (music, art, emotions). During any presentation, you can hear me (right side) or you read the slide (left side). But if I try to make you do both, your brain goes into "panic" mode, and you miss part of the presentation.

This theory is pretty straightforward: If you want to be effective when doing training, keep in mind the human brain can only take in so much at a time.

You have stuff trying to get into your brain (working memory) and the stuff that has gotten into your brain (long-term memory). The barriers or "filters" on your mind are what I want to get through. If I can do that, I'm golden.

Every person has filters. These filters, in effect, determine what gets into your brain easily, and what has to really work to get in. Everyone has different filters ,including where you grew up, went to school, what you got a degree in, whether you have kids, who you work with, an so forth; these all affect your filters. Now, imagine you are giving a presentation to room full of people all with different filters. How does one get through to everyone? The way to get through is the effective use of images and cognitive load theory.

Cognitive load theory, as it applies to presentation design, suggests that we limit the information per slide, use images, and give the audience time to absorb the slide.

Retention
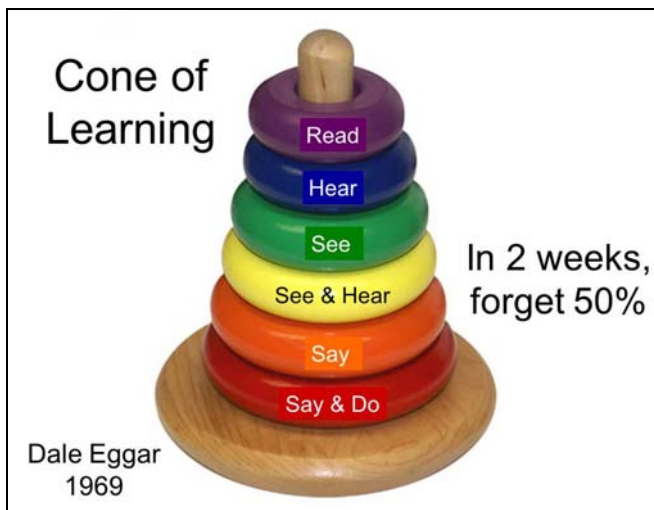
Who knew you were getting advance learning theory when you were 2 years old?

Cone of learning, developed by Dale Eggar in 1969, tells us that in two weeks, your audience will forget 50% of your presentation. But you got to love the Confucius quote from about 2500 years ago: "I see and I forget; I hear and remember; I do and I understand." This quote seems to say basically the same thing. So what are some of the things that can be done to help improve retention?

Administering proficiency tests after you have given training can be an effective way to gauge whether they understood, or if there is a gap in your training. However, creating tests can be time consuming, or you may think the people you are training will revolt at the idea of a test. I created an access database and threw about 4000 questions into it across 60 categories to make my life easier. I pick a topic, then decide how many questions, and how many different versions I want, and click print. I sometimes give a test right after the training, or occasionally months later.

I found a good template for Jeopardy on the internet and adapted it to my needs. I did one after NFPA 70E arc flash training with the employees. Basically, I split the room into two groups and alternated between one side and the other. This version had double and final Jeopardy questions in it. Of course, after doing it, I realized, that I would have been better served to have given them the question and asked for the answer, rather than the other way around. It turns out not everyone watches Jeopardy.

Near miss /unsafe condition reporting is another important element. I've used this to focus on a recently completed training session like lockout/tagout (LOTO). I'll grab two or three employees, take some near-miss cards and look specifically for near misses on LOTO. Also, I'll make use of the good/positive check box whenever I see it done right.

Contests can be fun. I did one for hazard recognition which used five photos with multiple hazards in them. Everyone got five minutes per photo to write down as many things as they could identify, with the best set of answers receiving a certificate to a local restaurant.

Why Presentation Design ?
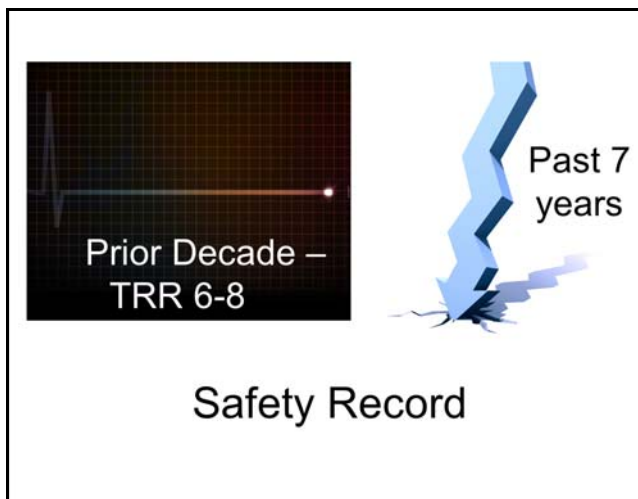
It has worked for me. After all, getting people home in the same general shape as when they came to work is the goal. Good training is one of the big ways you can get there.

In the end, a well-design presentation will be remembered. Better retention on safety training leads to a safer workplace. Presentations will be more fun to sit through. Once you get in this mode of presentation design, it takes less time to get to a quality presentation. And, of course, since you're the one creating it, it hardly costs anything, except your time.

If you have done it right, your audience will never appreciate the time you put into it. Oh, you'll hear if it is bad, but you're not likely to get any compliments if is good. Such is the life of safety professional.

Now, being from Buffalo, NY originally, I know many of the bands in Canada. One of the more famous is the Barenaked Ladies. They did a remake of a song back in 1992 called "Love in a Dangerous Time," which is really good if you haven't heard it. But I remember this song for a line that is in it, that in my mind uniquely states what training is all about. "Kick at the

darkness, until it bleeds daylight." That's right; if you don't get through to them the first time, try something else.

So, here are two questions for you: How many slides did I use? In general, the average answer for the number of slides is 50; that is, about 1 per min. And 50 is considered a big (long) presentation and therefore, by default, boring. But it doesn't have to be; that is the mindset we have to get past. I used way more than 50 for this session, and it didn't feel like that at all. In fact, I strongly suspect that had I mentioned the actually number of slides at the start, most of the audience would have exited the room.

And, how many slides had bullet points on them, not counting the slide that actually had a picture of a bullet on it? Of course, I used no bullets. Just because Microsoft gives them to us in the Master Slide doesn't mean you have to use them. I create a master slide, with no bullets, white background and only a title block. This is what I start with. Using bullets tends to cause you to put too much information on a given slide. So try to avoid bullets if you can.

So keep in mind: We can save the world, one presentation at a time!

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Links and other useful references

Link to presentation on-line for viewing - **http://tinyurl.com/yfcudd8**

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