TRAIN THE TRAINER
Oh The Games People Play Now...

By Georgia L. Harris, NIST Office of Weights and Measures

Elizabeth Gentry and I taught a two day “Train the Trainer” seminar at the 2012 Measurement Science Conference and I asked the participants – what might you like to read about in an upcoming issue of Metrologist? They replied “games!” We spent time during the session talking about the increased effectiveness of training when the trainer includes activities in training: openers, closers, longer activities, and games. I tend to call role playing and quick quizzes or competitive brainstorming “games” where we award points for successful participation (well, in reality some folks still want stickers instead of points!). Others might consider “jeopardy-like” competitions as games. In fact, there are several of what I call toy catalogs (catalogs of trainer supplies) that have a number of games available. See www.trainerswarehouse.com for examples (no endorsement intended or implied).

Activity and Project Based Learning Effectiveness
I have touched on activity-based learning in past columns. We have also touched on aligning our learning objectives, activities, and classroom assessments so that we ensure that the learning objectives are achieved during the event and when participants take the material home to apply what they have learned. In 2011, in the Office of Weights and Measures, we modified much of our laboratory training to increase the amount of activity-based learning in all of our seminars. This was somewhat stressful for participants who have become familiar with our past lecture-based style of training, which of course included some discussion and hands-on calculations or measurements. But, we went from 20 percent to 40 percent hands on to reversing that – now there is 20 percent to 40 percent lecture, with the rest being activity-based learning. Our course evaluations reflected the stress and the changes (negatively)!

Elizabeth and I were at the American Society of Engineering Education (ASEE) conference in 2011 and the keynote included talks about the increased effectiveness of project-based and activity-based learning. They showed the curve associated with grief as the model for how students react when faced with a change from lecture-based university instruction to project-based instruction. Good grief! This was exactly what we experienced in our students – and it was expressed both loudly and in writing on the course evaluations. What we also realized upon seeing this graph, was that the reaction of students was normal and that this stage would surely pass. Thankfully, we are seeing the stages of anger and denial pass (for some quicker than others).

Activities and Fun
One thing that helps participants through these stages is to be encouraging during stressful parts of the learning process and to make the activities FUN! Fun and effective learning do go together. You just have to make sure that your fun activities are aligned with your learning objectives and that you can assess learning as a part of the activity. Again, the game must be related to the learning objectives and not just something that is fun. The nice thing about the games and activities is that they raise the cognition level of the participants to higher levels on the Bloom’s Taxonomy scale through enjoyable activities. What follows are some activity games we have tried and some additional resources for games you can try. Please join us for the NCSLI Train the Trainer session at this year’s conference – on “I Wish I Would Have Thought of That” where all participants will have a chance to share some of our best activities with other trainers. I find that when other trainers share ideas for activities, I always get new ideas and say “oh, I can try that on this other topic for which I’m preparing training material.” Sharing at the Measurement Science Conference was no exception (thank you for the great ideas!)

“Jeopardy-Like” Game
We have used this game in a couple of different ways. Elizabeth Gentry designed a Metric Estimation Game that many of you have been able to play at NCSLI or MSC conferences. Elizabeth and her assistants have played this game with adults, with middle-school science teachers, and with kids as young as early elementary school. The objective is to enable participants to gain experience using the metric system – starting with time. During the practice round, each team is given 30 seconds. And of course, seconds are one of the base SI units. This is often the first instance where people realize “hey, I use the metric system more than I thought!” Throughout the game, participants select the categories of mass, length, volume, and wild card for points. Then they get to estimate the mass of five rolls of nickels, a bowling ball, or a plastic produce bag (in metric units of course!) They also get to estimate the volume of empty juice or ice cream containers, the perimeter of umbrellas, and the length of a
jump rope. Using common, everyday items, the participants get a chance to improve their skills at estimating metric measurements. We have also incorporated this game in our "Fundamentals of Metrology" course where the categories are definitions, acronyms, number recall, calculations, and ISO/IEC 17025. In this case, the game is performed as a part of the course review prior to the final exam.

**Role Playing**

Role playing can take a number of forms. Writing a script and asking for volunteers to read through the script playing their parts will take a bit of time and energy to come up with a creative story that can be acted out by the participants. I have participated in several train-the-trainer sessions where this was used effectively. So far, I haven't been as creative in writing up a story ahead of time. But, I would like to spend some time creating role-playing stories and applying them in future seminars. The role playing activities that I have used and enjoy is for me as the facilitator to be the "difficult customer," "difficult vendor" or the "non-technical boss" and have the participants try to communicate effectively with me as a part of customer service, supplier evaluation, or management review scenarios. I love playing the challenging role and it gives the participants an opportunity to be creative in their communications as it helps them to express technical concepts in more appropriate ways or to defuse conflict situations with a customer or vendor.

**Debate**

We are conducting some training this year on customer service (section 4.7 of ISO/IEC 17025) and after we define customer service, talk about who cares about customer service, and the impact of poor customer service, we are going to try a debate. I got this idea from The Big Book of Customer Service Training Games (Big Book Series) by Peggy Carlaw, and Vasudha K. Deming. Of course, I had to add a twist to make it about the calibration laboratory situation.

**The scenario**

A customer has contacted you with a sob story about an audit they have coming up next week. They forgot to get a calibration done and the standards are past due for calibration according to their internal due dates. They want you to get the calibration done this week so that everything will be up to date when the auditor shows up next week. Your current laboratory policy is to calibrate according to the schedule, first-come, first-served, without showing favoritism to any specific customers and you have a three month back-log on calibrations.

Team A: You refuse to do the calibration and tell the customer that their failure to plan is not your problem. You also are concerned that if you let them get away with this now, they will do it again on a regular basis in the future and that this will set an unacceptable precedent. But, you tell them that you would be happy to schedule their work for three months out.

Team B: You let the customer know that you currently have a three month back log on scheduling and restate your laboratory policy. You also say that you understand their situation and would be happy to forward them to your management to see if they will authorize over time work to get the calibration done more quickly.

Both teams will be given a hand-out explaining their positions (without telling them the other team's position). They will be given five minutes to prepare a two minute statement about their position. After presenting their statement, both teams will be given another five minutes to prepare a one minute rebuttal. The same or different representative from the team can present their initial statement and rebuttal. After the debate, we will debrief the event, using the "5 Steps of Adult Learning" that I have covered in past articles. I'm looking forward to seeing how this plays out! After sharing the debate activity example in our "Train the Trainer" session at the Measurement Science Conference, the participants got sucked into playing the roles of the debate – which was fun – but a bit off track!

**Resources for Fun and Games**

If you search for "games trainers play" online, one of the first links that comes up will be Amazon with a list of books on games trainers play. This will likely include Games Trainers...
Play, More Games Trainers Play, Even More Games Trainers Play, Still More Games Trainers Play, and so on! I have several of these books and have gotten some great ideas from them. Again, you have to be creative in making the game applicable to your learning objectives and fit the audience you are working with. For example, in the customer service games book I mentioned earlier, there are ten chapters with several examples in each chapter. I found less than a hand-full of activities that I thought would be useful for metrology laboratory training scenarios. So, you will probably have to be picky and creative.

**Risks**
Some participants do not like group activities and games and will resist efforts to make learning fun. Some participants feel like they are being treated like middle-school students—which is not a good thing for adult participants. Finding ways to make the games fun without being too simple can be a challenge, but is well worth your effort. So, go have some fun trying! But, be sure you mean what you say now and say what you mean. La-da da da da da da; La-da da da da da de...

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