

It's the taking part that counts

Health and safety is a serious subject but it doesn't have to be dull and boring. Simple teaching practices that use active learning can make a big difference to staff engagement, argues David Towlson

The benefits of active or participative learning (where the student is far more involved in the learning process) have been known for some time. Active learning is all about engaging and motivating students, developing a rapport with them. However, student participation doesn't in itself necessarily aid learning. It has to be meaningful, have a learning point and be clearly outlined.

For example, although there is a lot to be said for 'discovery learning' – where students are thrown into a scenario to work out for themselves what is going on – if a learner doesn't understand what is expected, or has insufficient background knowledge to even start to tackle a task, it can actually have a negative impact on learning, especially in terms of motivation. This is why being attentive to those students who may be struggling, getting and giving feedback and adapting strategy accordingly are essential ingredients of good teaching. Outlined below are some tried and tested active learning techniques.

Models

In the absence of the real thing, building models is a very useful tool. For instance, when teaching about the use of personal samplers to measure airborne



contaminants in the workplace, students can be asked to build a model using a variety of components. I use individual-sized cardboard breakfast cereal packets to make the sampling pump, clear plastic tubing and pop-up bottle tops for the sampling head, and name tags, blu-tack and other bits for pinning the sampling head to the chest.

The model takes only a few minutes to make and can then be used to aid a follow-up activity working out what can go wrong with the pumps and what is important to get right. It turns a dull lecture into a more memorable and fun learning experience.

To get a little closer to the real thing, harness the power of smart phones and tablet PC apps. For example, there are several surprisingly accurate simple sound level meter apps for the iPad and iPhone. Making a noise source (a battery connected to a driven piezo transducer/buzzer) is cheap and easy. Students can then experiment with measuring the noise level and seeing the effect of multiple sources, distance and different types of barriers (like a cardboard box over the buzzer).

Teaching legislation

To illustrate how health and safety legislation is created and developed, try this exercise: start with two separate groups that each create an initial draft

piece of legislation (give them a topic). They then swap and refine. Breaking the task down into chunks and reminding students that time is up on a particular chunk makes the discussions and debate snappy and clarifies the relationship between the exercise and how real legislation is developed. If the legislation had merely been described, it would not have the same impact and people would stop listening.

Videos are often viewed as passive resources, but they don't have to be. If it is a dramatisation, people become immersed in the story and remember it. But even if the video is inherently dull, you can improve attention by keeping the video short, asking students to look for things during it, and answering questions afterwards.

Over the years I have experimented using the 'jigsaw method'. There are many ways to do it but one way is to divide students into three groups. I provide each group with a summary of a different set of legislation (each set has some similarities and some differences). The teams then each spend five to ten minutes becoming 'experts' in their subject by reading, discussing, adding and highlighting. Students are then split into just two groups that each has at least one 'expert' for each piece of legislation, to tackle a joint task, filling in a matrix identifying concepts that are common to all sets of legislation and items that are unique.

The students quickly learn that all they need to learn is what is common and then a few exceptions. Each group summarises their findings at the end. The ensuing discussions, debate, questioning, thinking, teacher observation and feedback mean that students actually begin to understand the thrust of the legislation rather than trying to learn unconnected facts.

In conclusion, my advice to trainers is: add variety, try something new, experiment, and watch it transform your lessons. Remember also that activities can be tiring for students, so don't use activities exclusively. There's nothing wrong with a little lecturing as part of the mix (in moderation).

David Towlson is director of training at RRC Training

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Tel: 020 8944 3100
www.hsmsearch.com/enquiry

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