

What Does Research on the Brain Tell Us About Workshop Design?

A supportive climate and feelings of personal autonomy facilitate learning.

Cognitive science and recent brain research indicate that if the learner feels 'in control' of the learning situation, perceives it as being meaningful, and experiences a positive emotional tone, learning is more likely to occur (Caine and Caine 1991), (Marzano 1992). Caine and Caine (1991) suggest that when the learner feels relaxed and in control, the brain's cortex (the center for complex thought) is fully functional. Deci and Ryan (1987) have found that creativity is facilitated by "autonomy, greater interest, less pressure and tension, positive emotional tone, higher self-esteem, more trust, and better physical and psychological health" (p. 1024).

Conversely, studies indicate that "human subjects experiencing anxiety, were also unable to perform complex intellectual problem solving, achievement, and teaming activities." (Caine and Caine 1991, p. 70). When individuals feel anxious or out of control, they often base their actions on habits, instincts, or already learned behavior and become dependent on extrinsic sources of motivation to learn. This translates into behavior in which individuals focus on goals constructed by others rather than looking for connections that are personally meaningful or intrinsically driven.

What implications do these findings have for designing professional development workshops for adults? Creativity and maximum learning occur in an environment characterized by high challenge and low threat. The following practices help build this environment from the very beginning of a workshop.

1. Invite participants to select their own seats. If you want to mix participants or break up cliques, design activities that can be

integrated throughout the training to accomplish this, but allow participants to return, after an activity, to their preferred seats. For example, a trainer might request that at specific times during a session, participants meet with another participant located at a different table to summarize what has been learned thus far. This dialogue might also include personal connections that individuals have made with the content of the session.

2. Provide time for participants to review the agenda and outcomes as well as browse through the training materials. Once you have done this, allocate time for participants to reflect on their expectations for the workshop and discuss their thoughts, questions, and desires with colleagues. You can then debrief these expectations and record them on chart paper. Refer to these posted expectations periodically, throughout the session, and revisit them at the conclusion of the training.

3. Create opportunities for participants to influence or control the pace of a workshop. You can do this by preparing a tent card folded from 8.5" x 11" paper on which "ready" is written on one half and "working" is written on the other. Each group uses their tent card to signal the presenter when they have completed an assigned group activity by turning it to the "ready" side. When a group desires additional work time, they keep the card with the "working" side facing outward. This practice minimizes dead time, it does not allow activities to go on for longer than necessary, and invites participants to share responsibility for pacing,

4. Extend an invitation to bracket distracting thoughts. Have you ever read to the bottom of a page and realized that you had no idea what it was about because you were thinking about other things? Bracketing invites learners to jot down the thoughts on their minds so they can be revisited

later if necessary, thus enhancing the participants' ability to focus. Some workshop leaders provide 3" x 5" index cards for bracketing, as well as envelopes in which participants can place bracketed thoughts.

5. Build in reflection time. Reflection time allows learners an opportunity, to assimilate new material, relate it to their prior knowledge, and create personal connections with new learnings. Options for reflection include: silent writing, mind maps, and word webs.

6. Design activities so that participants have the option of choosing how they wish to respond. Prepare several options, based on the theory of multiple intelligences (Gardner 1993). For example, participants might be invited to create a story; explore patterns, categories, or relationships; reflect silently; draw, chart, or diagram; participate in a group activity; develop a model; or create a song, rap, or poem as a way of reflecting their understanding of the content

7. Use language that is non-coercive. For example, "I'd like to invite you to reflect, and then do a quick write to summarize your thoughts." While these strategies are relatively simple, they show respect for the learner and create a positive, welcoming, accepting tone in the workshop room. It has been said that "in small ways we can make big differences." If participants in workshops experience specific strategies to create an inviting learning environment, and if we make our use of these strategies explicit, then the probability that participants will return to their classrooms and model these same behaviors for students is greatly increase.