

Effective Training for Adult Learners

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Introduction

In November, 2004, I enrolled in the ASSE Safety Training Symposium and Expo. I had worked as a safety and health professional for almost 20 years, but long recognized that training was my passion and my strength. I was a good trainer, but I wanted to improve my skills and knowledge. While I had several degrees, I had never taken the opportunity to enroll in education courses. One instructor at the Symposium introduced me to terms I had never heard before - accelerated learning, brain dominance, Brain Gym, brain wave states, etc. (Anzalone). Ann Anzalone from Wright State University was the epitome of an "effective trainer." The session was fun and interactive. With passion and enthusiasm, Ann exposed me to a higher level of learning than I ever imagined possible. Immediately after the course, I emailed Ann with lots of questions and she graciously responded with more answers and references to read. And so, for the last five years, I have been immersed in accelerated learning, brain books, training seminars, etc. I have reworked many of my training courses. Like Ann, I now facilitate fun, interactive training programs using principles of accelerated learning.

Accelerated learning means changing behaviors faster, i.e., learning new skills, knowledge or attitudes with increasing speed (Russell 4). When I think of traditional learning in college, I recall a biochemistry course that I took. It was a boring, passive, lecture style course where we were expected to memorize facts such as the Krebs cycle. I often questioned the value of rote memorization compared to problem-solving. Contrary to traditional learning, accelerated learning is a smorgasbord of fun, interactive experiences with a variety of instructional methods. Accelerated learning is collaborative and involves the whole brain. In traditional learning, the instructor feels that he/she is responsible for the trainee's learning. In accelerated learning, the instructor facilitates the experience, and the trainee is held accountable for his/her own learning.

Accelerated learning is critical for businesses today, especially in the current economic crisis where we are expected to do more in less time. In 1986, Mary Jane Gill, a training director at Bell Atlantic, attended an accelerated learning seminar. She later led the way for Bell Atlantic to cut training time in half and measurably improved job performance by converting its initial training of customer service representatives to an accelerated learning format (Meier 5). Revising your training programs to incorporate accelerated learning principles can be an important competitive advantage for your company in 2009 and beyond.

This paper will discuss several principles of accelerated learning and how you can use them to deliver effective training sessions.

Appeal to Multiple Intelligences

Do you know how many intelligences there are and whether one is better than another? Do you use a variety of instructional methods when you train? Do you follow the 30/70 rule?

Howard Gardner authored the principle of multiple intelligences. He defined intelligence as “an ability to solve a problem or fashion a product that is valued in one or more cultural settings” (Rose and Nicholl 37). It is not a fixed number on a written test, but varies by context. There are different numbers of intelligences, depending upon which accelerated learning book you review. The critical point is that all are of equal value. It should be noted that typical IQ tests mainly measure two (2) intelligences – linguistic/verbal and mathematical/logical. Students who are strong in linguistic and mathematical intelligences generally perform extremely well in a traditional classroom setting. One goal of accelerated learning is to appeal to as many learning styles as is possible during a typical training session.

A simple exercise will help you identify your learning style(s). How many days are left in 2009? How you approach this problem gives you clues about the intelligence(s) that you are dominant in. Did you visualize a monthly calendar? Did you work the problem out mathematically, perhaps using a calculator? Figure 1 is a partial list of intelligences, a famous person who demonstrates that intelligence, and the suggested instructional method(s) to use when appealing to each.

Intelligence (Example)	Instructional Method
Emotional (Mohandas Gandhi)	Guided imagery, discussion of feelings, storytelling
Interpersonal (Oprah Winfrey)	Small group activities, interview
Intrapersonal (Howard Hughes)	Individual problem-solving, journal
Kinesthetic/Physical (Michael Phelps)	Role play, field trip, games, notetaking, fill-in-the-blank handouts
Linguistic/verbal (Abraham Lincoln)	Read, write, speak, lecture
Mathematical/logical (Albert Einstein)	Logic problem, checklist, flowchart
Musical (Josh Groban)	Rap, poem, song
Naturalist (John Denver)	Outside activities, fresh flowers or live plants in room, open blinds
Visual/Spatial (Frank Lloyd Wright)	Diagram, mind map, window pane, image-rich handouts

Figure 1. Intelligences and associated instructional methods.

The 30/70 rule challenges the trainer to be a “talking head” 30% or less of the class time while using 70% or more time for partnered and team-based learning exercises (Meier 207). It challenges the trainer to be a facilitator, not a lecturer.

Maximize Recall on the Memory Curve

When you begin a training session, do you start by discussing logistics such as breaks, lunch and restroom facilities? Do you understand why your grade school teacher recited information at three different times in a session?

The memory curve shows that you remember information most from the beginning and end of the session with less recall of information that is presented in the middle (Rose 84). Primacy means that people remember things presented in class first, for example, the information presented during the first 10 minutes of a 1 hour session. Recency means people remember things presented in class last, for example, the information presented during the last 10 minutes of a 1 hour session. To maximize recall, take frequent, short breaks so you have lots of primacy and recency. That is why your grade school teacher told you critical facts three times – once in the beginning, once in the middle and once at the end of a session. Accelerated learning changes the paradigm so that trainees echo information back at the end of the session. Recall that you do not really learn until you are asked to teach. Echoing is a form of teaching.

So the next time you begin a session, start by discussing critical information such as the correct order of air monitoring for confined spaces – oxygen first, then flammables, then toxics. Ask students to summarize or echo critical information at the end of the session. Where do you include logistic information such as break time? Consider putting logistics on peripherals taped to the walls of your training room. Blue painter’s tape is recommended to prevent damage to the walls.

Integrate the Whole Brain

The brain and the body are inseparably connected. When you conduct training, do you use kinesthetic exercises?

I incorporate marching exercises (“cross crawls”) to encourage crossing over the corpus callosum maximizing use of the right and left brain simultaneously. The corpus callosum is the largest connective pathway in the brain and contains more than 200 million nerve fibers allowing the right and left brain to communicate efficiently. Cross crawls improve skills such as listening, reading, writing and memory (Dennison and Dennison 4). If you would like to use simple body movements to integrate all areas of the brain and enhance learning, take a Brain Gym course.

Do you need both sides of your brain? Absolutely. When we listen to a conversation, the left brain is concentrating on what was said, i.e., the context of the verbal communication, while the right brain is concentrating on how it was said, i.e., the emotional context of the nonverbal communication, for example, inflection and tone of voice. Metaphors such as “his heart was the size of Montana” would be unintelligible without the integration of the right and left brain.

Have you ever wondered why children learn their ABCs so easily when they sing them? When words (speech) in the left brain are integrated with the music (melody) in the right brain, they are easier and faster to learn. That's accelerated learning! Storytelling is a powerful instructional method because, like singing your ABCs, it involves the whole brain. Story is the ability to place facts from the left brain in context and deliver them with the emotional impact of the right brain.

What happens when you encounter stress? You default to one side, i.e., your right- or left-brain dominant side. People who are left-brain dominant are organized and analytical and pay special attention to details. People who are right-brain dominant are creative, nonlinear and pay special attention to the big picture. If you are a left brainer and worried about being left behind with your linear approach, read Daniel Pink's book, "A Whole New Mind: Why Right Brainers Will Rule the Future" and try some of the right-brain activities (Pink).

Serenade the Brain

Did you know that students with experience in musical performance scored 51 points higher on the verbal part of the SAT and 39 points higher on the math section than the national average (Amen 2005 162)? Do you play music before, during or at the conclusion of a session? Do you encourage trainees to compose a song or rap to help them learn the material?

Any music which reduces stress enhances learning. Music activates the limbic area of the brain. Because the limbic area is so crucial to long-term retention, music makes long-term retention more efficient (Russell 181). Certain types of music, so-called "baroque" music at 60-80 beats per minute, calms breathing, reduces the heart rate and sets the rhythm of brain waves to 8-12 cycles per second (alpha brain state). Your pulse literally becomes synchronized with the beat of the music. The alpha brain state is one of relaxed alertness which strengthens long-term memory and nurtures creativity. Could your organization benefit with a few more creative thinkers? Consider listening to Baroque music from composers such as Bach, Handel, Corelli, Vivaldi and Couperin. Or one of my favorite contemporary accelerated learning composers—Steven Halpern whose music I listened to while preparing this paper.

Sleep On It

Did you know that many great achievers created their works in the early morning hours immediately upon waking? Do you provide 8 hour HAZWOPER refresher training in 2 sessions separated by at least one night of sleep?

Sleep has been shown to boost memory, especially the sleep associated with dreaming – rapid eye movement (REM) (Rose and Nicholl 48). During sleep, the brain turns off short-term memory and moves information to long-term memory. To enhance retention, Colin Rose suggests the following schedule: 1) Learn; 2) Review the material before sleep; 3) Sleep – learning takes energy. Get plenty of uninterrupted sleep (7-8 hours for adults); then 4) Briefly review the previous day's learning again.

The bottom line? Learners who cram and sleep outperform learners who cram and test without sleep. So the next time you're considering pulling an all-nighter, sleep on it.

Provide Brain Boosters

Did you know that trainees who ate 3 traditional meals per day had less cognitive functioning than trainees who ate multiple (17) snacks throughout the day (Russell 160)? Do you provide brain boosters during training?

Dark chocolate with $\geq 70\%$ pure cocoa is a brain booster which increases dopamine release. Dopamine is a neurotransmitter which produces positive, fun feelings and reduces depression. Positive emotions greatly improve learning. Dark chocolate also provides flavonoids which increase nitric oxide to dilate arteries. Flavonoids reduce the rate of arterial and immune aging and enhance memory (Roizen and Oz 2005 91).

Water, the universal solvent, is another brain booster. Increased water intake improves the capacity of hemoglobin to carry oxygen by one hundred to one thousand times (Hannaford 146). The brain weighs only 3 pounds, yet it uses 20% of the body's oxygen. Do you begin sessions with deep belly breathing? Deep breathing helps your lungs go from 97% oxygen saturation to 100% (Roizen and Oz 2007 132). How much water do you need? Take your weight in pounds and divide by 2. The result is the number of ounces of water you need each day (Colbert 31). For example, a 200 pound person needs $200/2 = 100$ ounces of water or about 6 - 16 ounce glasses of water per day. Many foods high in water content such as grapes and strawberries are also brain boosters.

Caffeine and nicotine are brain busters. They are powerful vasoconstrictors that decrease blood flow to the brain, especially to the temporal lobes (Amen 1998 209). In addition, caffeine is a diuretic which dehydrates the body. Eliminating caffeine and nicotine will help both the trainees and the facilitator to feel sharper and better able to focus. So the next time you order continental breakfast for a training session, skip the coffee and donuts. Order water, grapes and strawberries covered in rich, dark chocolate.

Conclusion

I love to learn and I have sat in countless lecture-style courses - long 8 hour days with a single 15 minute break in the morning and afternoon, 5 days in a row. Having studied accelerated learning principles, I realize that type of training was very efficient, but not very effective. The next time you are asked to conduct training, aim to amaze your learners by:

- Appealing to multiple intelligences using a variety of instructional methods;
- Maximizing recall by taking frequent, short breaks;
- Using activities that integrate the whole brain;
- Using music to serenade the brain;
- Scheduling training in shorter segments separated by one or more days of sleep;
- Providing brain boosters; and making it fun!

Remember, as Henry Ford said:

“The only thing worse than training your employees and having them leave is NOT training them and having them stay.”

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