That's Using Your Brain!

BY DANA R. VISSER

"Head, shoulders, knees and toes,
knees and toes,
Head, shoulders, knees and toes,
Eyes and ears and mouth and nose
Head, shoulders, knees and toes
Knees and toes."

WHEN DID YOU LAST sing that song? Did you start singing along as you read it? Do you still remember motions that go with it? Where were you when you learned it? Did you last sing it 20, 30, 40 years ago? Why do you remember it?

You probably remember it because it was simple, rhythmic, and enjoyable. There were music, movement, and memories associated with

Adult learning can't be like child's play, right? Wrong! In fact, new learning practices that engage all the senses not only make learning fun again, but they also may make it more effective.

the words and the learning. In other words, you used your senses as you learned, you watched the leader give directions, your heard the words, you sang the words, you moved as you sang about them, and you had fun.

But as you grew up, learning lost its fun. It became more like, "Learn or else." You learned by memorization, by what you read and wrote. You learned by primarily using your linguistic and logical mental capacities.

Given that adult way of learning, how can you as a trainer recreate a child-like sense of fun and enjoyment and make people want to learn?

The Industrial Age focus on manufacturing, production, uniformity, and centralization fostered the need to use the linguistic and logical parts of the brain. But as we move deeper into the Information Age, we need new skills such as problem-solving, cre-

ativity, and interpersonal skills. They use different parts of the brain and senses than our Industrial Age skills.

New learning theories are being practiced in educational and workplace training programs. Research reveals that learning is tremendously enhanced if all the parts of the brain are used. Many people call this whole-brain learning. Roger Sperry's "left brain/right brain" model for learning shows it orchestrated in such a way that the creative, intuitive, holistic, visual, and playful right brain is appropriately engaged in cooperation with the logical, systematic, linear, verbal, and judgmental left brain.

The "triune brain" model, based on the research of Paul MacLean, separates the brain into three functional regions:

▶ physical and environmental, which corresponds to the reptilian portion of the brain
▶ emotional and attitudinal, which correspond to the limbic portion
▶ mental, which corresponds to the neocortex.

Traditional training generally has been directed only to the left hemisphere in the neocortex. New learning techniques maximize learning potential by stimulating the physical-environmental, emotional, and mental portions of the brain.

Seven intelligences

Howard Gardner's multiple-intelligences theory states that there are many forms of intelligence, many ways by which we know, understand, and learn about our world. His seven intelligences include:
▶ verbal and linguistic—dealing with words and language, both written and spoken
▶ logical and mathematical—dealing with inductive and deductive thinking, numbers, abstract patterns, and the ability to reason
▶ musical—dealing with the ability to recognize tonal patterns, pitch, melody, rhythms, and tone
▶ kinesthetic—dealing with the ability to use the body skillfully and to handle objects adroitly
▶ visual and spacial—dealing with the sense of sight and ability to visualize, including creating mental images, thinking visually, and having a keen sense of observation

▶ interpersonal—dealing with a person's ability to understand, work, and communicate with people and maintain relationships
▶ intrapersonal—dealing with self-knowledge, sensitivity to one's own values, purpose, feelings.

While most traditional Western learning has focused on verbal-linguistic and logical-mathematical intelligences, the multiple intelligences theory also includes the emotional interpersonal and intrapersonal intelligences. Trainers, or facilitators, are now putting these theories into practice to accelerate the learning process and to increase worker performance.

Laurence Martel, president of Integrative Learning Systems Inc., Hilton Head, South Carolina, has developed

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an approach to learning, known as Interlearn, which combines a variety of nontraditional theories and techniques. According to Martel, "It is a systematic approach that views learners as diverse, highly individual, whole persons who learn best when their senses and emotions, their many kinds of intelligences, and their very diversity are all actively involved in the process of learning. This provides us with the best opportunity to tap into their own learning styles so that they not only learn and retain the information better, but also learn how to learn better."

For example, in working with Sara Lee, in order to enable the workers to better understand the manufacturing process for sweatshirts, the workers actually "became" the process. In other words, workers role-played being the needle, the sewing machine, the shirt, and so forth, and created a play to demonstrate to the group what they were and how they fit into the process.

Educational Discoveries, a Col-

orado-based company, created the "lymbic training method." Judith Orloff, cofounder and CEO, says, "Because we are physical beings with emotional and intellectual processes, information needs to be sense-specific to be retained. The brain has many parts working together, and in order for information to lodge in long-term memory, it needs to be recognized by the limbic brain (middle brain). When learning is wrapped in a metaphor with meaningful storyline, values, and real experiences, the depth of the experience creates immediate application."

A new learning model

The Accounting Game, by Educational Discoveries, is a model for the new learning perspective. Most participants find the course fun, but the training is very deliberate and carefully planned. All the props, including each participant's game board and pieces, emphasize the physicality underlying accounting concepts.

In the course, participants learn the basics of accounting through the metaphor of a child's street-corner lemonade stand. Participants put on name tags bearing their childhood nicknames and become eight-year-olds, playing out business transactions and working with accounting information in the lemonade business.

The instructor has a basket of lemons, a pitcher and glasses, a piggy bank, and cash. In the room there are balloons, rock n' roll music, and whistles. Each participant has a game board with cardboard pieces representing assets, liabilities, cash, and equity. The design elements conjure up childhood memories of play and the positive emotions associated with them. The accounting information is embedded in the play. The metaphor of the lemonade stand provides the structure for the music, role-play, games, simulations, interactive exercises, presentations, and discussions which are woven together.

"In the Accounting Game, the use of color, music, story, costume, and rituals creates a feeling of safety and engages the emotions and the senses. These tools allow complex content to be taught in a simple, understandable way. The entire brain is stimulated, not just the intellect," Orloff says.

Bill Wilson, of the Tallahassee, Florida-based Professional Growth Associates, uses accelerated learning, new brain research, and multiple intelligences, and applies these theories to technical training situations. To teach participants how to use Windows software, he also uses metaphorical, kinesthetic, and other techniques.

To help participants understand the concept of a database-index file, he has them stand up and arrange themselves from A to Z. He asks them to look to their left and right, and see who is next to them. Then, he asks them to create a new line, this time arranging themselves by height, and asks them to look to their left and right to see who is next to them. Finally, he asks them to create a new line based on shoe sizes and to follow the same procedures. Each time they create a line, he clocks them to see how long it takes them to create it. They run through the exercises twice and compare the times; it always takes less time for them to form the lines the second time.

Metaphors anchor the software

"The point of the exercise is to show them the indexing of a database and the relationship between items. The metaphor anchors what is going on in the software for the participant," explains Wilson. "In the beginning the learners are nowhere near the computers. We want to provide them with the big picture before we get to the specifics. For example, in a five-day seminar, 40 percent of the time is on the keyboard, and 60 percent of the time is spent doing related concepts and exercises."

Wilson provides many "gateways"

> ■ *If some of these methods and techniques sound like child's play, you've broken the code* ■

for the learners to use their multiple intelligences. Learners are asked to write a poem, a song, or design a poster to demonstrate what they learned and how they can use it at work. There is a hand-manipulated toy at each work station to keep kinesthetic learners busy. Background music is played as the learners are at their workstation, and there are opportunities for collaborative learning as well.

Nancy Maresh and Susan Fine have synthesized many accelerated-learning tools and techniques, brain-based theories, and other innovative strategies in designing and developing their training programs to help participants learn complex concepts. Maresh and Fine are partners in Creative Learning International, a Boulder, Colorado-based training and consulting firm.

They have created the Internet Game to train people not only how to use the Internet, but also to have them understand how the Internet works. A guided visualization using the metaphor, "Adventure in Cyberspace," introduces four major threads in the Internet through a history tour of communication, transportation, commerce, and technology.

"Context is very important, not just content. The environment where learning takes place is important. How do you take the information and bring it alive? You use color, graphics, music, metaphor," Maresh says, who is also a cocreator of the Accounting Game. "For the Internet Game, the room is filled with large blowups of Web pages, blowups of covers of *Time, Newsweek, U.S. News and World Report*, other magazines that have had cover stories about the Internet. We have a giant display board of 'Planet Internet,' so the participants are immersed in the

world of the Internet before they even get to a computer."

Sending messages via the Internet is not as simple or straightforward as we think. The sentences get broken up into packets, coded, and sent to their final destination via a variety of routes. To explain how messages are sent via the Internet participants "become" the sentence. Each person in the sentence is given a word. On the back of the card is a list of route "sites"—such as London, Tokyo, Washington, D.C.—that the "word" will go to on the way to its final destination. In the "audience" members have signs of the "sites." When the signal is given, the "sentence" breaks up, the "words" disperse to their sites, and total chaos reigns, until finally the "sentence" regroups on the other side of the room at the "new computer." By using multiple senses, understanding is facilitated.

A cautionary note

However, there is a danger in multisensory learning. Sivasailam Thiagarajan of Workshops by Thiagi in Bloomington, Indiana, cautions that too many stimuli may impede learning. "With so many senses stimulated, people may learn irrelevant things. Or, they may learn highly undesirable things," Thiagi cautions. "It is very important to debrief the participants to make sure they are learning the right things."

Do some of these methods and techniques sound like child's play? To quote Larry Martel: "You've broken the code!" Research has shown that children learn the most complex activities by using all of their intelligences, sensors, and capacities. Those new learning techniques mimic many of these processes and have shown that adults can learn quicker and have greater retention of material when they incorporate their whole brain and all of their senses. ■

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