<p style="text-align:center">Increasing Learning Effectiveness
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I am often asked how I increase learning effectiveness in training programs and classes I teach at the university level. After giving some thought to the question, I realize that there is no one quick answer. Instead it is a culmination of strategies and activities that I use throughout a session that helps ensure that learners get the most from the content. Here are five tips for increasing learning effectiveness:

1. Get supervisors and managers involved in the learning process. Too often, employees are sent to training to be "fixed" because something is not going well in the workplace. In truth, the issue is often more of a management or organizational issue.

By actively engaging supervisory personnel in the process, you can help them take ownership for transferring learning to the workplace. The following are some ways to involve supervisory staff.

Pre-Training:

- Distribute a brief memorandum to attendees stressing the importance of the training. It should also encourage participants to focus attention on obtaining specific ideas and strategies for application on the job following training. Participants can do this by coming prepared to discuss specific types of generic and/or specific situations related to the training topic, express questions and concerns, and to actively participate in program activities.

- Frontline managers/team leaders can also assist in mentally preparing attendees. They can do so by reinforcing precepts outlined in the memorandum and discussing with attendees how to relate the upcoming training to personal and job success.

During Training:

- Where appropriate, members of upper management should observe segments of the training and participate or assist the facilitator. This will send a nonverbal message of the importance of the training and that management supports the initiative.

Following Training:

- Supervisors should discuss the concepts learned in training with returning employees. Specifically relating what was learned to the workplace.

- Supervisors should also observe employee behavior following training and provide feedback on situations in which the concepts learned are applied. Additionally, they should provide constructive feedback for improvement in instances when the concepts are ignored or misapplied.

- Program objectives should be linked into individual performance goals for the training attendees. Thus, accountability for use of the information, knowledge and skills addressed in training is accomplished.

2. Recognize the difference between male and female brains and their impact on learning. Much research has been done on children to determine whether there is any biological difference that accounts for males and females acquiring knowledge and skills at different times in their life. There is. Not only is there a biologically different makeup in size, but different areas of the brain that influence and control things such as, language and mathematical and spatial skills, as well as emotional skills mature at different ages for boys and girls. Also, the increase or decrease of in estrogen (girls) or testosterone (boys) at different periods in their life and daily cycles can impact their ability to process information. The more trainers, parents and educators know about this research and how to apply it, the more likely they will likely be in encouraging positive learning outcomes.

3. Create a learning environment by ensuring that you consider everything that will touch learners from the time they enter until the time they leave. This includes the following:

- *Organize furnishings and training aids* in a manner that is learner-centered. This includes setting up desks and chairs to allow clear visibility of learning aids from anywhere in the room, maximum interaction between you and learners and amongst themselves, and access and mobility for people of all ability levels.

- *Introduce colors into the environment* through use of residual materials on walls (e.g. posters, pictures, charts, drawings, or other similar items), wall color, and handouts, since researchers have found that color stimulates the brain.

- *Use effective illumination* that does not cause eye strain, eliminates shadows from writing and viewing surfaces, reduces glare on visual aids screens and monitors, and avoids flickering (e.g. fluorescent lighting). All of these can cause distraction and learning breakdown. The ideal situation is to try to mirror natural lighting as much as possible and to even incorporate natural light to help energize participants and stimulate the brains of learners.

- *Provide nourishment and hydration* by providing healthy alternatives to the standard "continental breakfast" consisting of sugared pastries and coffee only. Provide fresh fruits and fruit juices, bagels, muffins, caffeinated and decaffeinated coffee and tea, and plenty of fresh water. For snacks, avoid greasy chips and sweet cookies or pastries only. Offer alternatives like pop corn or pretzels along with some fresh fruit. Also provide fruit juice drinks, along with any coffees/teas and sodas you offer, as well as plenty of water. If you are serving a lunch consider what you will provide. It is best to avoid heavy pastas and meals. If providing sandwich meat or a sit down luncheon, avoid turkey which has a

natural enzyme called *l-triptophan* that induces doziness. In case you ever had the desire to take a nap after Thanksgiving meals, now you know why!

- ***Monitor the room temperature*** to ensure that the room is not to hot or cold. Keep in mind that you are likely active and moving around so learners may feel cold more than you do.

  According to various research studies, the optimal temperature for a learning environment ranges between 68-72 degrees Fahrenheit or 20-22 degrees Celsius. However, since people have different levels of tolerance, it is a good idea to suggest that participants dress in layers or bring a coat or sweater with them to your programs or class. This allows them to address personal comfort needs.

  If possible, use a training site where you have control of temperature settings. This is important because being in a room that is either too hot or cold can dramatically affect learner concentration and ultimately negatively impact learning. If you must decide between having the room warmer or cooler, choose cooler. This is especially important following a meal when people normally become sluggish. If the room is warmer and you have no control, make sure that there are plenty of breaks and activities as well as liquid refreshments for participants.

- ***Plan acoustics and control sounds and noises*** since everyone needs to hear what is said in the room to facilitate their learning. Check you audio-visual sound levels from various points in the room before learners arrive to ensure that they can be heard. Additionally make a statement before beginning that if anyone has difficulty hearing they should let you know so that you can adjust the sound or ask others to speak up.

  It is also important to monitor outside noise. When planning a session or class, try to locate a room that is away from large gatherings, planned construction or maintenance work or foot and vehicular traffic, if possible. Additionally, check the room in advance to make sure there are no humming fluorescent lights, that the projector is not buzzing or rattling, and that no distracting noise is present.

  Participants also contribute to noise levels by using cell phones and beepers and by having side conversations or talking in loud voices during small group activities. This type of noise can actually cue you that learners have completed a small group task. That is because when participants finish discussing an assigned topic, they will typically begin networking, laughing and doing other things that cause the noise level to escalate.

  At any rate, all distracting noise should be controlled or eliminated to the best of your ability in order to enhance the learning experience.

- *Incorporate vegetation into the room* since green, non-flowering plants are a filter for carbon dioxide and introduce fresh oxygen into the air. Plants have been found to be another simple, yet effective, way to offset some of the pollution that exists in offices and training rooms. In research for the National Aeronautics and Space Administration (NASA), Dr. B. C. Wolverton conducted studies using plants to remove pollutants in controlled, closed environments. He and others have found that, "a number of common house plants successfully remove contaminants. The study concluded that placing plants within an individual's breathing zone (approximately 6-8 cubic feet surrounding the person) improves air quality. It is recommended that 2-8 small or 2 large plants be placed every nine square meters (900 square feet)."

- *Use smells and odors that stimulate.* For years, researchers have been exploring the impact of smells on learning and memory. In studies, the odors of pine, peppermint, osmanthus, violet leaf, floral, and orange citrus have been found to impact the brain and positively impact learning and recall.

4. Engage learners through the use of a variety of activities, games, reviews, and interactive group formats. Brain-based researchers have found that by getting participants and students actively involved in their own learning that you can help stimulate attention and interest while enhancing the acquisition, retention and recall of information. Use question and answer activities, challenge learners through fun activities using devices like crossword and word search puzzles based on session content, and conduct interim reviews throughout the program to reinforce key concepts.

5. Show real world application for learning since time is a precious commodity. Do not waste valuable learning opportunities teaching theory that someone "will need someday." Make it fast, realistic and useful if you want to engage and retain attention and foster retention, recall and usage. Build in activities where learners get time to brainstorm applications and solutions to issues and problems raised or presented. Make sure they can apply what is learned to their own situations before allowing them to leave. It is better for them to have one solid new idea, skill or strategy when leaving that taking a lot of information back to think over alone. Chances are that they may mean to do so, but once outside the classroom, the world and life takes over. They may never get back to the material and a learning opportunity or behavioral change is lost.

The bottom line in creating a stimulating and successful learning environment is to picture an ideal one yourself, then elicit ideas from others. Once you have a solid foundation; go build a place where the brain can function at its best.

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