

Brain Compatible Training

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Our understanding of how the human brain learns has fascinated and often baffled neuroscientists for many decades. Over the past ten years, thanks to new brain imaging technology, we have made exponential leaps in understanding how the brain works and also how it learns at a cellular level. At its simplest, the best way to describe the way our brain works is by using the parallel of the great network called the worldwide web. In other words, our brain has a complex network of multiple potential connections called neurons, which when given the right electro-chemical stimulus create specific pathways. Every pathway represents a specific type of connection called a synapse that our brain makes to create a unit of learning. So for example, a new born baby who recognizes her parents' faces would have created two specific neuro-pathways to recognize and distinguish between the two faces. Every neuron has hundreds to thousands of connecting points that can receive information from other neurons to create neuro-pathways. When one considers that we are born with a staggering 100 billion neurons, this makes our potential for learning much greater than we can ever imagine!

The efficiency of our learning brain is determined by a complex interplay between our DNA, our physical and emotional states as well as the external environment. One encouraging bit of news for the over twenty, is that when it comes to learning, our brain exhibits a fair degree of neuroplasticity, in other words flexibility, even in adulthood. This means that although our hard-wiring is forged in our early years, our brain is able to build and modify these patterns of connectivity to create new learning especially if the right conditions are present. Another important factor in the learning equation is the notion of "use it or lose it". How many times have we learnt something like a language, or a sport, and lost our skill due to lack of practice? Basically, the neuro-pathways responsible for that particular skill would have become redundant through lack of use. Depending on how well we would have learnt it, that skill can come back to us as

we reactivate our neuro-pathways through practice. If totally unused over a long very long period of time, these neuro-pathways can disappear and we lose the skill completely, especially if the skill was originally not learnt very well.

The information we get from neuroscience has also enabled us to determine which conditions mostly facilitate learning and which conditions suppress or hinder it. This has led to the creation of a number of brain compatible learning principles that, when applied to learning greatly enhance and facilitate the acquisition and transfer process.

Brain Compatible Training consists of learning and development that is designed and delivered according to principles that facilitate the formation of neuro-pathways. The following are a few examples of such principles and the way that they can be applied to adult training. These principles are based on recent research carried out by Professor Renate Caine and Dr. Geoffrey Caine.

1. The Human Brain is Intrinsicly Social

The brain seems to work better when it is engaged in a relationship with other people. Consequently, learning is enhanced when done within a social environment. This implies that the more interactive the training, the more likely it is that participants will connect with the learning. The opportunity for participants to get to know each other, discuss topics, problem solve, experiment in a group and interact heavily with the trainer goes far beyond simply making the session interesting. Moreover, the nature of interaction needs to be based on empathy, challenge, feedback and the encouragement of thinking creatively. This practice is actually meeting a condition that the human brain needs for learning new skills.

2. The Human Brain Innately Searches for Meaning and Does This Through Patterning

Effective training, especially with adults, has to make sense for participants otherwise the content will be discarded as meaningless. This highlights the importance of tying the training content to the life context of the trainees so that they can immediately see the benefit and usefulness of learning. This is done by presenting and eliciting examples, case studies, scenarios, and situations that are similar to the ones faced by the trainees in their daily reality. The brain

attempts to make meaning by fitting new information into existing patterns of information and then making the necessary additions or modifications to assimilate the new learning. Trainers should therefore present material in a way that can, as much as possible fit into existing patterns of learning. One way of doing this is to use high levels of sensory input. The brain gets its information through the five senses. There are particularly high concentrations of neuropeptide receptors in all locations of the brain where information from the five senses enters the nervous system. This means that as experience is perceived by the brain a great deal of information is being processed, organized, and filtered to fit into already existing patterns. Consequently, multi-sensory input from the trainer facilitates acquisition of learning as the content is being presented in as many forms as possible to make it compatible with how the brain takes in information. This is why we encourage the use of eye-catching visuals, exercises and games that get people to move around and handle materials, dvd's that combine auditory and visual input, and the pleasant smells and taste of good food and drink during breaks. All of this helps to make the brain more open and ready to learn.

3. Emotions are Critical to Patterning and Learning

It is now firmly established that our cognitive system, that is our mechanisms for understanding and making sense of information, is heavily impacted by our emotional state. Studies have repeatedly shown how the emotionality of the learning experience has a direct influence on learning and retention. A stressful, hostile environment raises levels of anxiety and tension which triggers the brain to downshift into survival mode, thus reducing its ability for the sophisticated higher-order functioning required for learning. On the contrary, learning environments that are characterized by a relaxed and friendly atmosphere that offers interesting challenges, stimulate the brain and enable optimum functioning. Very often, trainers spend a great amount of time analyzing training needs, developing training content, and designing programmes and dedicate less effort to the type of training delivery they provide. While preparation is crucial for effective training, delivery style, which includes the type of learning climate the

trainer creates, is equally important as it determines the quality and permanence of learning. Trainers are thus encouraged to dedicate conscious time and effort to creating positive rapport with their participants and creating an atmosphere of trust and safety in the group. There are many techniques to achieve this however, fundamentally it is the trainer's genuine attitude of empathy and understanding that has the greatest impact. Learning content also needs to be presented and associated with a degree of emotionality. Powerful learning is enhanced by rich emotional experiences. Humour and fun play an important role here and it is the trainer's skill that can create a positive emotional climate even when the training content is heavy, complicated or very challenging. Research indicates that trainers who are high in emotional intelligence are more effective in getting their message across than those who ignore this important aspect of learning.

4. Optimum Conditions for Learning

As a result of their extensive research, Caine and Caine have established three necessary conditions for brain compatible learning. These are:

1. An optimal state of mind called relaxed alertness, consisting of low threat and high challenge.
2. The orchestrated immersion of the learner in multiple, complex, authentic experience.
3. The regular, active processing of experience as the basis for making meaning.

These three conditions can be met by trainers as they keep them in mind during both the design and delivery phases of the training, ensuring that they are continuously present in their programmes.

The role of NLP in training

Trainers can effectively use NLP to enhance Brain Compatible Training. Consciously using principles, tools and techniques from NLP can help trainers to present training content in ways that match participants' various learning styles,

preferences and patterns. NLP also offers excellent techniques for building and maintaining positive rapport with learners as well as providing multi-sensory training. It also enables the brain to learn consciously from focused attention and unconsciously from peripheral perception of all that will be going on during the session apart from the main focus of learning. Tapping the brain's natural way of learning is a logical way of making learning "stick. It also facilitates the transfer of the training content to the every day reality of the learners. When trainers base their programmes and training skills on well founded principles of brain compatible learning they also have a reliable blueprint that ensures the effectiveness of their training delivery.

Perhaps the greatest challenge we face in understanding how the brain learns is the fact that we are using the brain to understand itself. There is still a long way to go in understanding the vast complexity of the human brain, much like the universe. However, if we put what we know to good use we can greatly enhance the way we negotiate our world through the most powerful tool we possess – the capacity to learn.