

# Neuroscience Basics for Change Leaders

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In today's fast-paced, globally, systematically, structurally, and culturally changing world, the role of leaders is to influence their followers toward real change-making that reflects their mutual purpose. As human beings, we constantly operate based on the knowledge and emotions stored in our brains. The unique ways in which our brains are wired influence how we perceive change in our personal, interpersonal, social, and global environments. The brain is an adaptive organ that is designed to change in response to its experience and needs. Traditionally, neuroscience has been studied as a branch of biology focused on the mechanical aspects of the brain and nervous system. However, in the last decade, many innovative thinkers have begun linking the study of neuroscience with that of leadership development, performance improvement, innovative thinking, change management, risk management, education, consulting, and coaching.

Neuroscientist Dan J. Siegel, M.D., from the University of California Los Angeles, is an expert on cultural change, the brain, and neurobiology. In his book, *The Developing Mind: Toward Neurobiology of Interpersonal Experience*, he explains how human relationships can be enhanced at a personal and an organizational level by understanding basic biological processes. People and information are the two most important components for an organization to function, deliver, and grow consistently over time. Dr. Siegel has written many other books and has delivered numerous workshops globally on how to transform the brain and thereby enhance communication and relationships within organizations and our global society.

Within multicultural organizations, efforts to influence behavioral change are often focused on changing processes and systems. People are the living and breathing working capital of an organization and are key to making change scalable and sustainable. David Rock is a co-founder of the NeuroLeadership Institute and CEO of Results Coaching Systems. In his book, *Your Brain at Work*, he shares the story of a day in the life of two people at the office. He describes what's happening in their brains that makes work hard for them. He then makes the connection between their experiences and how leaders and human resource professionals can become more effective by understanding our core functional element, the brain.

## Key concepts

I have learned a great deal over the past three years as I have pursued my study of cognitive neuroscience and organizational change-making as well as the market trends associated with them. Following is my attempt to share with you a few social neuroscience concepts that can help leaders and change makers break the code of people's thinking in order to create positive change at the social and even biological level.

### Making change stick using the law of neuroplasticity

Science has progressed a lot in last decade. Neuroplasticity (the ability of the human brain to change as a result of one's experience) was one of the most extraordinary discoveries of the 20th century. The brain is a pattern-making organ that reinforces repeated or similar thoughts, emotions, and behavior. The most effective way to make and sustain a behavioral change is by successfully repeating the desired experiences. This is where the law of neuroplasticity comes into play. Each time we learn or acquire a skill or a new thinking pattern, our brain goes through physical wiring changes. When we acquire new knowledge and train our mind to think in a certain way, our brain forms electric signals and neural pathways reflecting that function. As a skill is developed, the neural pathways become more ingrained, strengthening the new

knowledge, skills, and habits. Because this portion of the brain is not hard-wired, through effective training and learning systems we can rewire it to act differently by repeating the desired experience. An organization enforces discipline through the training of the new processes, technologies and systems. This new information introduces flows and patterns that influence people's behavior. In order for change to endure, it requires regular reinforcement through rewards such as recognition.

Regulating human emotions also plays an important role in forming stronger neural pathways. Change leaders and trainers can use the science of neuroplasticity to influence people to change and then sustain their momentum by providing the right emotional environment for change. Delivering a meaningful experience rather than just information is a key to effective training. The longer that existing rules or habits have been in place, the harder it is to generate changes in those neural pathways and the more often an experience will have to be repeated in order for the change to become a lasting behavior or mindset.

### **Influencing social behavior by engaging mirror neurons**

It is common knowledge that we can learn and choose to change by observing the behavior of others. Human beings, just like others in the animal kingdom, imitate one another (we are usually just a little more subtle). Mirror neurons fire both when we act and when we simply observe the same behavior in others, mirroring the behavior of the other as though we were the ones acting. They generate similar emotions that enforce connection and generate repetition. In his book, *Neuroscience and Human Relationships*, Louis Cozolino, Ph.D., explains that the mirror neurons lie at the crossroads of processing of inner and outer experience, where multiple networks of visual, motor, and emotional processing converge. These cells bridge information and action and influence group behavior. They not only link the network within us, they link us with each other. Hence, they appear to be an essential component of the social brain and an important mechanism of communication among one another.

Cozolino notes that mirror neurons bridge the gap between sender and receiver, enhancing emotional resonance, empathic attunement, and mutual understanding. Visually stimulating communication plays an important role in positive change-making. We all have noticed how easy it is to exchange ideas with those leaders who communicate unpretentiously and with animated gestures, emphasizing their points, and conveying enthusiasm.

### **Neuro tips for influential leaders and positive change makers**

What follows are a few tips that are based on my research, learning, and consulting in the field of change-making.

#### **Repeat, Repeat, Repeat**

**Communicate the same information approximately five to seven time to be sure that it registers in working memory.** Working memory is a brain system for temporarily storing and managing the information required to carry out complex cognitive tasks such as learning, reasoning, and comprehension. Working memory is involved in the selection, initiation, and termination of information-processing functions such as encoding, storing, and retrieving data.

#### **Engage Visually and Emotionally**

**Portray the behavioral traits that you wish to see in others. Be animated, passionate, and compassionate in your communications.** Social neuroscience also teaches us that human emotions and attention are captured strongly when engaged in a visually stimulating way. Certain behavioral changes cannot be taught or explained; instead they are delivered by demonstration, interaction, and experience. The brain is an adapting organ that builds its systems and processes based on influential behaviors of those others around us. Leaders can influence behavioral change by demonstrating the desired behavior themselves.

### Form Mutual Desire

**Develop a sense of relatedness and partnership with others by sharing visually compelling stories and anecdotes that demonstrate how the desired change will create mutual benefits.** Dan Cohen, in his book *The Heart of Change*, asserts that leaders should create change at both the emotional and rational levels. While there are many rational reasons for confronting a problem or making a change (for example, financial, industry, market, social trends), the real desire for change often comes from capturing people's emotions, sharing a compelling story, or drawing a picture that grabs people's attention. It is these types of emotive behavior that generate the high level of energy necessary to compel social behavior and form the desire for change.

### Reward Success

**Maintain the spirit of change through rewards such as recognition and social status.** Earl Miller, a Picower Professor of Neuroscience with the Picower Institute for Learning and Memory and the Department of Brain and Cognitive Sciences at Massachusetts Institute of Technology, focuses much of his research energy on the neural mechanisms of attention, learning, and memory needed for voluntary, goal-directed behavior. His article in the journal *Neuron* highlights the critical role of environmental feedback in improving how people teach and motivate others. His research also confirms that we learn more from success than from failure.

### Show Empathy

**Use active listening and other engaging behaviors to demonstrate empathy to those around you.** In today's diverse global market, empathy or the ability to relate to others is proving to be an essential social skill. Leaders and influencers can initiate the formation of cooperative social environments within their organization, institutions, or educational systems just by being empathetic. Jean Decety, Professor of Psychology and Psychiatry at the University of Chicago, where he heads the Social Cognitive Neuroscience Laboratory shares great scientific insights on the human capacity for empathy in *The Social Neuroscience of Empathy*.

### Concluding thoughts

The study of neuroscience is teaching us much about how to help people increase their social and emotional intelligence. These techniques can be used by leaders in schools, institutions, and organizations, as well as in our everyday relationships. I hope this brief article helps stimulate your neurons to explore this area further and find ways to apply in your own organization.

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