

The Importance of Neuroscience in Talent Development

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Why should talent development professionals learn about neuroscience? Why should we study to understand the workings of the brain and nervous system? Why, indeed! Understanding the brain helps us explain why instructional design practices work the way they do. Understanding the brain helps us explain why people embrace change ... or not. Understanding the brain helps us explain why some leadership practices are effective ... and why others are not. When we understand the brain we gain personal insights that will make us more influential, more successful.

In recent years, we've learned a lot about the brain, primarily because of advanced tools and methods for examining and dynamically testing the brain. But still, we've only just scratched the surface. As far as we know, the human brain is the most complex thing in the universe. This amazingly intricate organ is relatively small – it weighs 2 or 3 pounds, for most people about 2% of their body weight. But the brain is like a small power plant – it consumes 20% of the energy burned by your body. It uses 20% of your blood supply and oxygen.

The brain has about 85 billion neurons. To illustrate the magnitude of that number (and because neurons, a special type of cell, often look like a tree), I compared the number of neurons in one brain to the number of trees in the state of Washington, the Evergreen State. The US Forest service estimates there are 8.5 billion trees in the Evergreen State that have a diameter of 1 inch or larger. Your brain has ten times the number of neurons as there are trees in the state of Washington!

And it's those neurons who make you the person you are. The firing of neurons control your autonomic body functions – respiration, digestion, circulation, etc. The firing of neurons account for your movement, both conscious and unconscious. And it's our need to move that might explain why we even have a brain. At the risk of oversimplification, let's consider two of the major differences between plants and animals. First, unlike plants, animals have a nervous system that (in higher order animals, at least) includes a brain. Second, unlike plants, animals self-propel themselves. Animals move. Our need to move requires a brain.

Our brains exists for our survival, to enable us to move toward things that ensure our survival and away from things that threaten our survival. Some neuroscientists refer to the 4Fs, a cheeky mnemonic to help us consider the movements undertaken to ensure our survival. In regard to threats, there are two typical responses – Fight and Flight. And in terms of movements toward rewards that ensure our survival, we have Feed and, because we need to procreate to ensure survival of our species, we have the fourth F – “Fool around.”

Understanding how the brain's threat and reward networks cause us to move toward some things and away from others is key to applying neuroscience to talent development. Whenever

we see approach or avoidance behaviors, we can ask why? Why do some learners reject feedback? Why do many employees resist an organizational change initiative? Why do some learners engage in deep, focused and sustained practice in order to improve? Why do some managers bully employees? Why do some employees demonstrate high levels of engagement and exert extraordinary discretionary effort? Why do employees generally hate performance appraisals? Why do some teams descend into dysfunction? For any of these questions, we can employ the 5 Whys method in order to get to the root cause. And if you ask why enough times, you will eventually reach the brain.

While neuroscience doesn't directly tell us what to do, it helps explain why research-based and empirically-proven practices do work. In future postings, we'll dive into brain functions, especially threat and reward networks. In separate posts, we'll explore specific applications of neuroscience to performance management, to leadership development, to leading change, and to succession management. For each of these topics, we'll learn how neuroscience can help us to influence and lead others, to help them approach desired behaviors and avoid objectionable behaviors.

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