

From Learning to Performance

global lessons from the brainladies



BRAINLADIES

@Brainladies 2019

Introduction

The world of work is currently subject to substantial change. Advances in artificial intelligence, robotics, neuroscience, genetics (to name a few) are transforming the way we live and learn. The rapid pace of change in jobs and skills means there's a growing demand for efficient lifelong learning. But how can we maintain high levels of performance in a time of unrelenting change? How do you get people to change their behaviours, rather than just tick the 'training' box? How do you get people to recognise when they are learning whether it's on the job or in a more formal way?

These are some of the questions Margie Meacham, Stella Collins, Ria Van Dinteren and Katelijn Nijsmans have heard a lot over the years. Together these 4 brain ladies have more than 100 years of practical experience in the field of learning & development. Working for both private and public organisations, big and small companies, they have been determined to find the answers to these questions and more to ensure people learn and perform at the highest level. And we found our answers in the beautiful world of neuroscience.

Luckily we didn't only find neuroscience, we also found each other. Together, as the Brain Ladies, we keep track of the latest advances in neuroscience, learning, cognitive psychology, artificial intelligence to get a clear picture of what learning and work in organisations can look like and to share it with you. This paper will give you some answers to our thoughts about the use of neurosciences in the field of learning and development. Our search started, possibly like yours, with questions we all face in our work around the world. Questions about the brain and change, the brain and learning. There are a lot of neuromyths that we encountered...this paper will give you some answers from a global perspective and is the start of our search to find answers about neuroscience and learning worldwide. In this first paper we focus on learning and change and learning on the job. Every item starts with a theoretical framework, followed by some practical tips anyone can use. Enjoy reading our paper, we would love to hear from you.

How do we achieve high levels of performance during constant change?

Evolutionary speaking the brain dislikes change because the more the brain can do automatically, the more energy it has left to detect threats and danger and perhaps also to create art, music and beauty . For example, imagine you are walking on the African savanna 300 million years ago. You want your brain to have sufficient energy to detect the sabre tooth tigers if they are in the neighborhood. Focus on possible threats is hugely important so the more information your brain can process automatically the more energy it has left to spend on detecting threats and potentially survive to do the creative thinking that makes us unique and improves our survival even more. In our daily work change is something that is a constant factor to consider. If our natural behavior is to avoid change, how can we work around that using neuroscientific insights? Here are some ideas to help maintain performance.



1.

“Create a safe learning environment”

Our brains are not wired for change but for keeping us safe. When change is the constant factor organizations need to work on safety. Our suggestion to HR departments and leaders is to integrate change and learning into the way people work rather than making it something separate and potentially threatening. Ideas such as job rotation programs, where people switch jobs for a day or a week, encourage people to learn new things, taking on new tasks and projects without it feeling overwhelming. A safe learning environment doesn't mean they need to do the same thing all the time but we need to get them used to regular change so that it starts to feel normal.

People need a safe psychological environment with room for **practice** and making mistakes whilst they are in the learning phase. The performance phase comes later.

Whilst the brain likes stability, the brain also pays attention to novelty and requires an appropriate level of stimulation. The Yerkes Dodson normal curve maps performance on complex tasks against 'arousal;' so with too little stimulation performance is low, increasing to a peak as stimulation rises but then performance falls again as stimulation increases further. Research from the Towards Maturity Report Feb 2019 shows that resistance to learning increases with length of time in the role so changing roles and increasing novelty makes sense when you want to promote learning.



When we are doing something we like, we naturally seek it out. The brain's reward system is a built-in learning tool, helping us to improve performance by making top performance feel good. When exposed to a rewarding stimulus, the brain responds by releasing more of the neurotransmitter dopamine, stimulating a repeat of the behavior to get the wonderful feeling again. Performance rewards can be as simple and personal as a good word from a colleague or supervisor, or as carefully orchestrated as a company-wide game board that recognizes top performers on a regular basis.

In *brein@work* (2010) Richard Ridderinkhof wrote about the reward systems of mature people, 45 years and over. In his research he discovered that when mature people are rewarded and dopamine levels are increased, they perform better. In an organizational context we often reward and encourage young people when they do something new but how about the our mature colleagues? Do we always recognize their achievements in the same way?



3. “Develop a Resilient Mindset”

Human beings have never been the strongest or fastest animals on the planet, so we had to develop a different “super-power.” Our brains evolved to withstand change and find a way to cope and even thrive in hostile environments. Today, we call that trait “resilience.” However, In a world where change is constant, many of your employees are likely to be suffering from some level of chronic stress, which makes it harder to adapt to change.

Specific strategies that have been proven to reduce stress include meditation, mindfulness and improved nutrition which all help develop a stronger, more resilient response to change, so that performance doesn’t suffer every time a new procedure is introduced. To maintain high levels of performance you need to balance mental and physical energy demands. For instance, physical activity stimulates a chemical called Brain Derived Neurotrophic Factor (BDNF) which acts like a fertiliser for cell growth in the part of the brain responsible for learning and memory (your hippocampus). At a basic level this means you’ll find it easier to learn and adapt to change if you take time away from your routine to exercise your body. A resilient mind is a sign of a more plastic brain, able to reconfigure itself to respond to any challenge the world can throw at it. And whatever you do, get enough sleep because that’s the best way for your brain to replenish it’s levels of ATP (adenosine tri phosphate), – the energy molecule for all your cells, to ensure you perform well the next day.



4. “Provide information”

Your brain needs to be prepared for the change that’s coming. The human brain is best viewed as an advanced prediction machine. In order to keep you safe and act upon the world it has evolved to minimise the amount of surprise, or unpredictability experienced. Recent advances in neuroscience have generated new understanding about this intuitive notion, and there is a growing consensus that predictions about the future are realised in the brain by a hierarchy of successively complex neural processes that continually exchange information. Working together, this hierarchy maintains a constantly updated set of beliefs about the causes of events in the external world. In order to feel ‘safe’ your brain needs information to predict what is coming next. It is therefore crucial to provide your employees with the necessary information. Give them for example the answers to the following questions:

- How does this change contribute to my ‘why’? And how do I contribute?
- How do I reach this goal? What steps are required?
- Who else is contributing? How do we work together?
- What will I learn from this change?

Finally

Neurosciences can make it easier to convince managers and HR that we need to do things differently and change our way of working as learning professionals. Teaching people how their brains work helps to develop their talents. Knowing about the brain is like receiving a permit to learn and perform better.

It's often a challenge when people say things like 'I haven't had any training this year' because they haven't been on an external course for 2 days whereas they've been coached by their managers, done some job shadowing, been part of a new project and spent ages asking questions and getting answers.

People are beginning to understand that learning is much more than simple attending formal courses. They need to know how to learn effectively, rather than continuing to believe in some abundant learning myths. Just doing job shadowing isn't good enough without purpose and time to reflect on what you learn so you can use that new experience/ knowledge later. This is less about neuroscience and more about creating a culture at work where people recognise when they are learning and demand better when they're not (perhaps in poorly designed courses).

Change is always with us, but performance doesn't have to take a hit. Employing sound learning principles based on neuroscience can keep your business humming through it all.

There is a lot more we can say about neuroscience and learning in our changing, global world and the challenges of the fourth industrial revolution, but that is all for our next papers, books, seminars, masterclasses, conferences and workshops. Please contact us if you have a question that is not answered yet in your organisation.

BRAINLADIES



Ria van Dinteren
mail@riavandinteren.nl



Katelijn Nijsmans
katelijn@thetippingpoint.be



Margie Meacham
margie@learningtogo.info



Stella Collins
stella@stellarlearning.co.uk

Contact us at www.brainladies.com

Inspirational reading

Swanson, L. & Newman, E. & Alfonso, A. & Dubinsky, M.J. (2017). *Beautiful Brain: The Drawings of Santiago Ramon y Cajal*. New York: ABRAMS.

Meacham, M. (2015). *Brain Matters: How to help anyone learn anything using neuroscience*. California : CreateSpace Independent Publishing Platform.

Medina, J. (2008). *Brain Rules: 12 Principles for surviving and thriving at work*. Seattle: Pear Press.

Dinteren, R. van. (2019). *Breinopeners*. Zaltbommel: Uitgeverij Thema.

Lazeron, N. & Dinteren, R. van. (2010) *Brein@work*. Houten: Springer Media B.V.

Collins, S. (2016). *Neuroscience for Learning and Development*. London: Kogan Page Ltd.

Scarlett, H. (2016). *Neuroscience for organisational change*. London: Kogan Page Ltd.

Sagan,C. (1977). *The Dragons of Eden: Speculations on the Evolution of Human Intelligence*. New York: Random House Publishing Group.

Sousa, A.D. (2011). *How the brain learns*. California: Corwin.