

# 10 QUESTIONS FOR DR PATRICIA RIDDELL

Patricia Riddell is one of the speakers at the L&D Talks 2021. She has a unique combination of skills that allows her to bring neuroscience solutions to individuals and organisations. She received a doctorate in Physiological Sciences from Oxford University and teaches in Coaching, Behavioural Change and Leadership programmes where she brings her knowledge of Applied Neuroscience to learning. She also researches areas including learning and memory, motivation and leadership. Patricia co-authored “The Neuroscience of Leadership Coaching” published in 2016. We asked her 10 questions leading up to her keynote ‘learning with the brain in mind’.

## **1** Are there new insights that you have seen in the last years that are different from ten years ago?

One of the biggest changes that I have seen, and that I find really useful when I am thinking about the brain, is the way it works as a system. When we first started to consider how the brain works, we had a model that was a bit like advanced phrenology. Phrenology was a pseudoscience popular in the Victorian era in which the lumps and bumps on the skull were used to predict personality traits. The first imaging studies might be seen as considering which parts of the brain were responsible for different traits – but from the inside.

Now neuroscience is more focused on systems in the brain. So, if I have a particular goal, I need to activate particular parts of my brain in order to achieve that goal. It might be that I need my memory so need to activate the hippocampus. I might also need to plan so will require the posterior parietal cortex. And then I might need parts of the brain in-

involved in decision making, including the dorsolateral prefrontal cortex. All of these areas need to be active for me to achieve one goal.

The brain creates coordinated activity in different areas exquisitely well. It does this by synchronising the timing of activity in the areas that need to work together, so that they come together as a dynamic system. Change the goal, you change the parts of the brain that are synchronised. When considered like this, the brain can be described as a constantly changing dynamic system, that allows you to achieve different goals as required.

I find this concept really useful, because it provides a reason to throw away some myths about the brain, including the idea of left and right brain. Even when we are being purely creative or wholly logical parts of the brain on both the left and right will be synchronized to achieve the goal. Similarly, the idea of female and male brains being different is a myth. Apart from differences in size, you cannot differentiate male from female brains.

Considering the brain as a system is therefore useful way of thinking, partly because it destroys myths. But another consequence of understanding the brain as a dynamic system is that, in order to improve in a particular area, we will need to build stronger connections between the parts of the brain required. We build these connections when we practice. Therefore, if I want to develop expertise in engineering, I need to practice engineering, because that will create the connections I need to become more expert. It is not about what do I need to be taught. It is much more what do I need to do. What expertise I need to develop, so that my brain learns. These connections are really important. While knowledge is often important when learning a new area, practicing how to use the knowledge is just as important as this will help us to develop expert neural systems.

## **2** I saw in your book “The neuroscience of leadership coaching” that epigenetics is changing the way that we think about personality. Can you say something about this?

Our personality is based on our genetics to some extent. This helps to explain the individual differences between people in whether they are introverted or extroverted, or whether they are conscientious or not. Measures of personality can be used to uncover these individual differences. Being shown how different we are can be really useful in helping people recognize that not everyone thinks like them. It allows individuals to reflect on what they do that is different from their colleagues,





why these differences exist, and who this impacts the way that we work with others.

It is also useful to consider personality measures as a starting place that describes the way an individual thinks now. When we are able to reflect on the consequences of thinking in a particular way and how this affects our relationships with ourselves and others, we are able to consider whether this is something that we want to keep or change. With effort and perseverance, and the right strategy, it is possible to change our personality in ways that can be really helpful to our personal development.

**3**  
**We often here people who are older say they cannot learn anymore. How can we convince such people?**

You are right that some people have a strong belief that learning is harder as we grow older. The age at which it is all downhill varies - some people think 40, some 50, some 60 years of age. But there is very good evidence that this is not the case across all aspects of IQ. For instance, our ability to understand and remember and how to use words improves beyond 70 years of age. So long as you still are reading new material, you can still acquire new vocabulary. Other aspects of IQ, for instance reasoning, do not get better after about 40 years of age but they do not get worse. The idea that our brain stops learning at 40, 50 or 60 years old is just categorically wrong. But having that believe make it just almost a self-fulfilling prophecy because it stops us from trying to learn.

**4**  
**It is believed that people have to be challenged to learn new things so that work does not become boring. Do you think that it is good to challenge everyone?**

I think that any job can be boring or not boring, depending on how you approach it. Some people that have jobs that are quite repetitive can find engagement in finding the best way to do the job, trying different ways to do the same thing, or by being appreciated for their skills. It is not just the job. It is what you bring to the job and how you are appreciated for your contribution.

Another area that is gaining more support recently is the idea of creating roles that people want to do by individualising the job. Organisations that understand that they have employed individuals and not robots recognize the benefit of treating each employee slightly differently. By creating roles that best use the individual talents of employees, organisations create the conditions in which their em-

ployees will want to keep learning because they are being engaged. We also have to accept that there are some jobs which are not very interesting but have to be completed. It can be useful when considering who will do these jobs to understand more about motivation. Motivation can come from external source (e.g., money, pressure or ego) or from intrinsic sources (e.g., autonomy, purpose, belonging or personal growth). Research suggests that being intrinsically motivated results in greater job satisfaction. But how might an employee be intrinsically motivated to do something that is not very interesting? What research has shown is that people remain intrinsically motivated when the job they are doing meets their values – even when they find it boring.

My own example of this is when I have large piles of exam papers to mark. Reading many versions of the same essay is not very interesting. But one of my values is teaching people to be independent learners and therefore the feedback I can provide is valuable to them. In this way, the job meets my values.

Organisations can tap into employee values by reminding them of the purpose of the work rather than focusing on just the output. This will help employees to feel more engaged with their work as it is more likely to connect with their values.

**5**  
**There are have been so many development and scientific papers in the last decade concerning the brain. Is there something new from this research that we should be aware of?**

If I had to say one thing that recent research has taught is that to really learn employees need to be willing to try and unafraid to fail. It is also to be in the first place. Blame cultures get this wrong since they ensure that employees will not try for fear of the consequences of failure. This is just the wrong way to do it.

When organisations make it safe to fail, employees can be more creative and are more willing to learn. And then when they do make mistakes, they can learn from these. The optimal conditions for learning and development is to want to grow, and to recognize that growth comes not just from doing things better, but from doing things worse and learning from your mistakes.

**6**  
**How well do people retain of their learning? Is there a link between learning outcomes and the brain?**

When we consider how the brain learns, there are positives and negatives.

One positive is that the brain evolved to learn. In my session, I will talk about how the brain learns across the lifespan. The message is certainly one of hope.

What often stops us from learning is not our brains. It is our beliefs about our ability to learn. When this is understood, and some incorrect beliefs are changed, people are more willing to commit to learning. It is important both for individuals to understand that their beliefs are wrong but also for leaders to be aware of how their beliefs about who can or cannot learn can affect the organization. If a leader believes their team cannot learn, they are correct because they will have created a self-fulfilling prophecy. For this reason, it is important for leaders to understand the learning capability of the brain.

The more negative aspect of the brain comes from understanding memory, what it is and what it is for. Learning is impossible unless you remember what you have learned. We might think that memory is like a video that takes in all the details of each learning situation accurately. But memory is not like this – and for good reason. I will explain why at the conference.

**7**

**Is there a difference between the way that young and older brains learn?**

There are so many differences. One of the biggest differences between learning in young people and older people is that very young learners start with a blank slate. All they have to do is to learn. Older people will most often have to unlearn and learn simultaneously. The unlearning is the thing that is more difficult which is one reason that learning can seem more difficult when we are older.

**8**

**Do you think that we as L&D people have to learn to unlearn first?**

The most common situation that learning is needed in organisations is when rolling out change programmes. By definition, changing behaviour means that there is a behaviour currently in place that needs to be changed. This will require both unlearning and learning.

What can make this even more difficult is that the behaviour to be unlearned has embedded within the organization and has become a habit. Uninstalling a habit can be a quite hard work and can be harder than installing new ones. Learning a new behaviour in the training room can seem really easy because you are removed from the triggers of the old habit. But these triggers are still there when you go back into the workplace and so the new behaviour becomes more difficult to implement. One of the things that L&D people can address is how new behaviours can be transferred back into the workplace. What is going to be seen, heard, felt that is going to trigger old habits. L&D people can help trainees to begin to recognize the triggers so that they can catch them and therefore replace the old habits with the new behaviours.



the opportunity to change, they are more likely to be more motivated to make the change. Motivation will be further enhanced if employees understand the reason for the change.

When competence, opportunity and motivation are in place, then you get self-efficacy, and people are more likely to change.

I think we miss giving employees the opportunity to practice change. This requires more than blended learning. It is about how we plan how to go from the training to doing. This is where we potentially go wrong.

**10**

**The L&D sector try to learn skills and competencies, but there is also the human factor. Do you think training programmes sufficiently account for individual differences in learning?**

---

**“The idea that our brain stops learning at 40, 50 or 60 years old is just categorically wrong.”**

---

**9**

**What is the best way from a neuroscientific point of view to understand habits? Would blended learning work better for this?**

Blended learning is not sufficient to create behavior change. What is important is providing people with opportunities to practice the behaviour change. One thing that is important here is the concept of self-efficacy.

Do I believe that I can change? Am I motivated to make the change? There are several components of self-efficacy. The first is competence. Employees need to believe that they will be able to change. This might require that they have been given the right training and that they are therefore able to make the change. The second is opportunity. Employees need to be able to practice the change since this is what is required to replace a habit. This will require both a time and place to practice and any external resources that are needed for the new behaviour. When employees believe that they are competent and know they have

There is a sense that some of the trainings that you see, especially training online, is one size fits all. And that is unlikely to work. In situations where employees are told to watch a video then complete a test we fail to recognize that individuals will take create their own meaning from the training.

I know that I have found, and this must be true for almost every trainer, that I think I have said one thing, but it is understood quite differently. We have to accept the communication is not what we say, but what others hear. When we train face-to-face we have more opportunity to check individual understanding. And if concepts are misunderstood, then a different way can be found to make the message clear.

For this reason, I think learning has to have an individualized component to it. One size fits all doesn't work since it can turn into a box ticking exercise. It implies a belief that, once the information has been supplied, there is no further responsibility as a teacher. We can be better than that. ■



**Philip Oosterlinck** is managing partner of Oxalis from where he advises and coaches top management talent. He has extensive experience in construction project management and as CEO in family SMEs. Philip provides training in leadership skills, biosystemics and ... neuromanagement. The conversation with Patricia was therefore right up his alley.