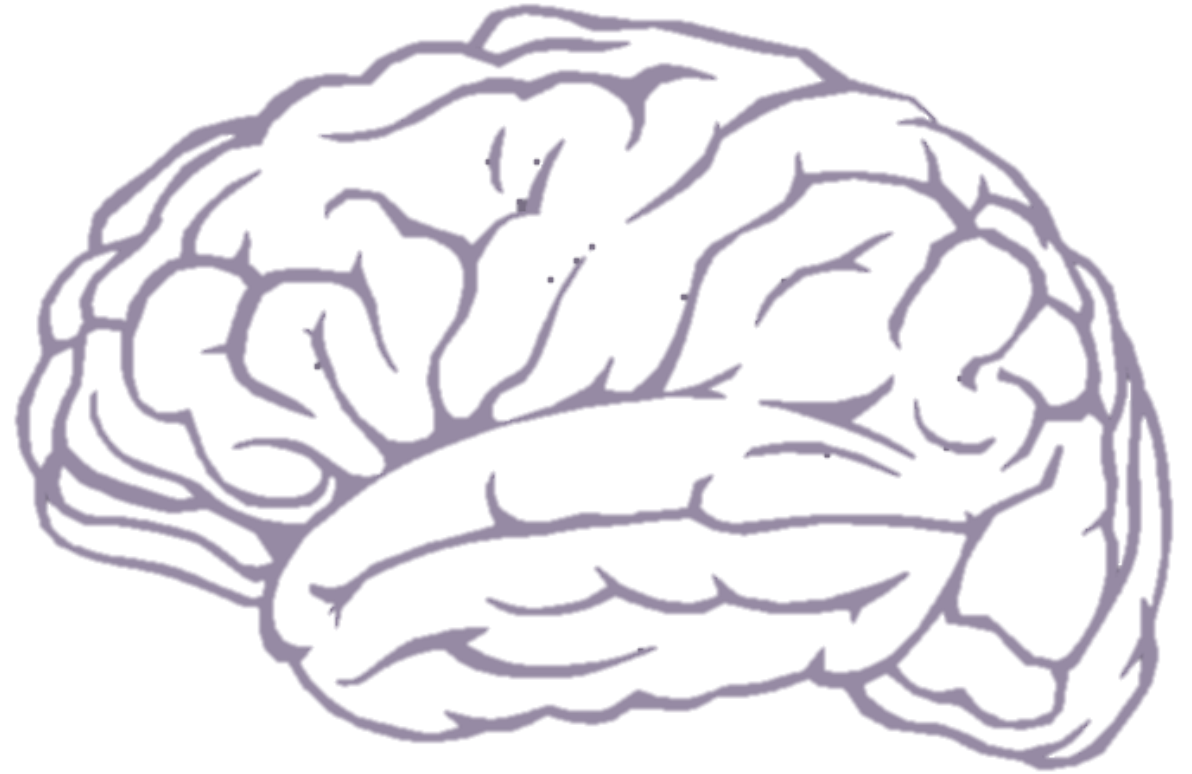


Learning with the Brain in Mind

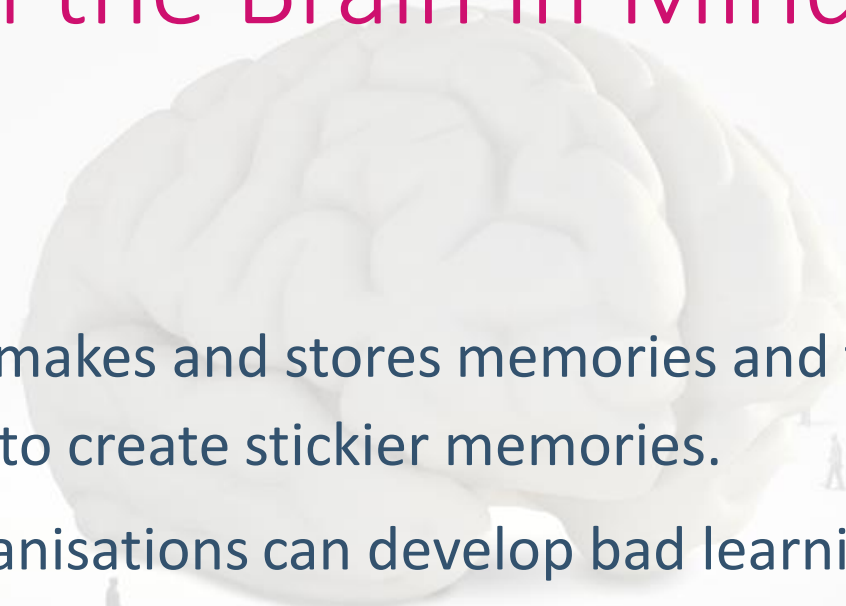
L&D Talks

Brussels, 27th October, 2022

With Professor Patricia Riddell



Learning with the Brain in Mind



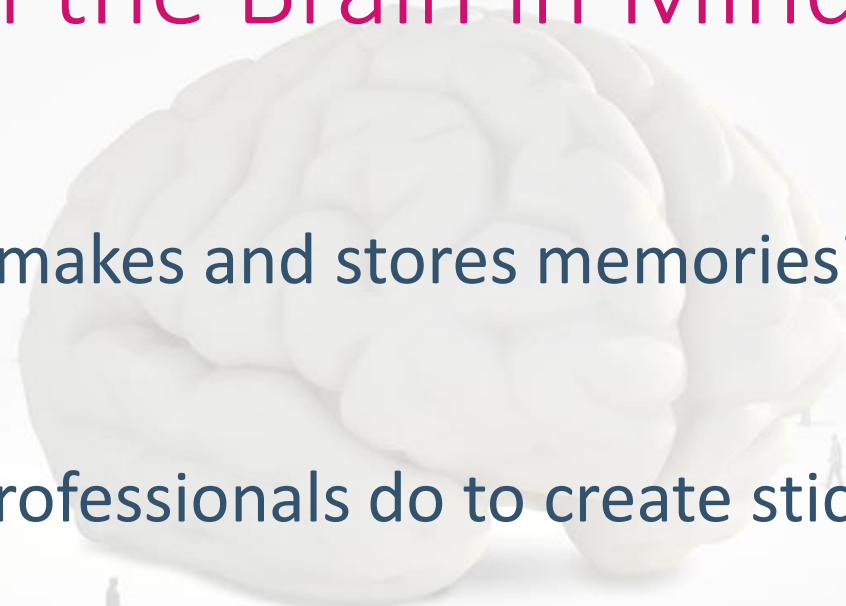
In this session you will:

- Learn how the brain makes and stores memories and therefore what learning professionals can do to create stickier memories.
- Understand how organisations can develop bad learning habits and how to change these for the better.
- Take away practical advice on how to increase learning in the workplace based on how our brains work.

Learning with the Brain in Mind 1

How does the brain makes and stores memories?

What can learning professionals do to create stickier memories?



What is Memory?



Events in the past

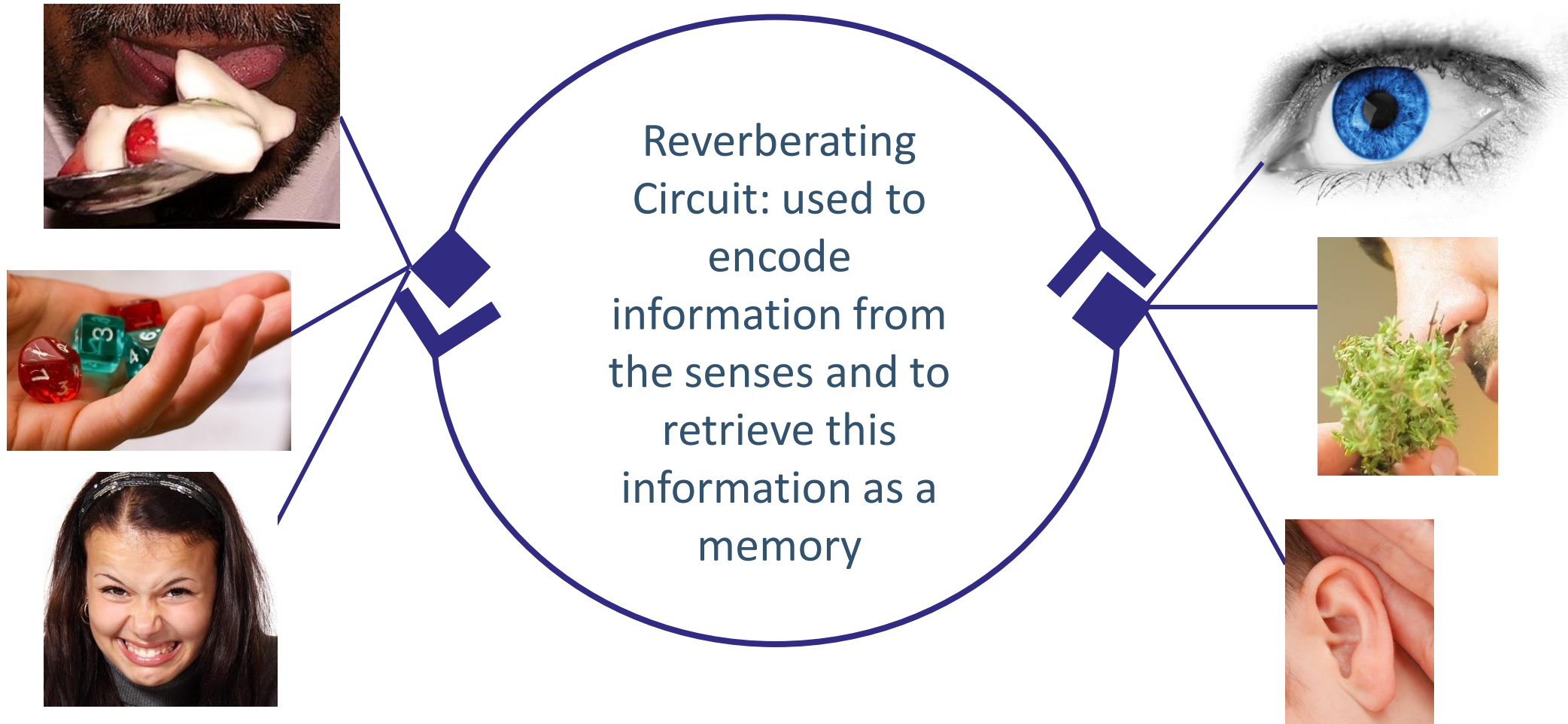
Storage for past events

Process of storing past events

A man in a dark suit stands in front of a large wall covered in a dense, hand-drawn sketch of various business concepts, including charts, graphs, and diagrams. He is holding a large, light-colored puzzle piece that fits into the overall sketch, symbolizing the integration of a new idea or strategy.

How accurate should
memory be if it is
required to store and
remember past events?

Remembering Past Events



What is Memory for?



Memory allows us to predict aspects of the future including:

- events, people or things we might want to approach (preferences) or avoid (threats)
- what our goals are and whether we have completed these yet
- ways of behaving that have been successful and that might be useful in the future

Memory is for the Future



How accurate should our memory be if it is required to predict the future?

Question

What implications does the role of memory in predicting the future have for learning in organisations?

How might this affect your expectations of the ability of participants in workshops to remember new information?

What are you currently doing, or what might you do differently, to address this?

How can we help people remember better?



Many of the techniques that we think are effective, don't increase memory – especially for detail!

Beliefs



Believe in memory:

Foster a growth mindset

Learning States

State	What's happening?	What for?
Curiosity	Anticipation of answer (dopamine)	To create attention and arousal
High Energy	Noradrenaline released	To energize; create intense emotions
Healthy Concern	Stress hormones released (harmful with longer exposure)	To create vested interest; motivation
Enthusiastic Confidence	Dopamine released (reward)	To celebrate, reward or just to have fun
Reflection & Calm	Cortisol levels drop	To focus inwards and promote reflection

Learning States:

Activate Different States for Learning

Encode, consolidate and retrieve

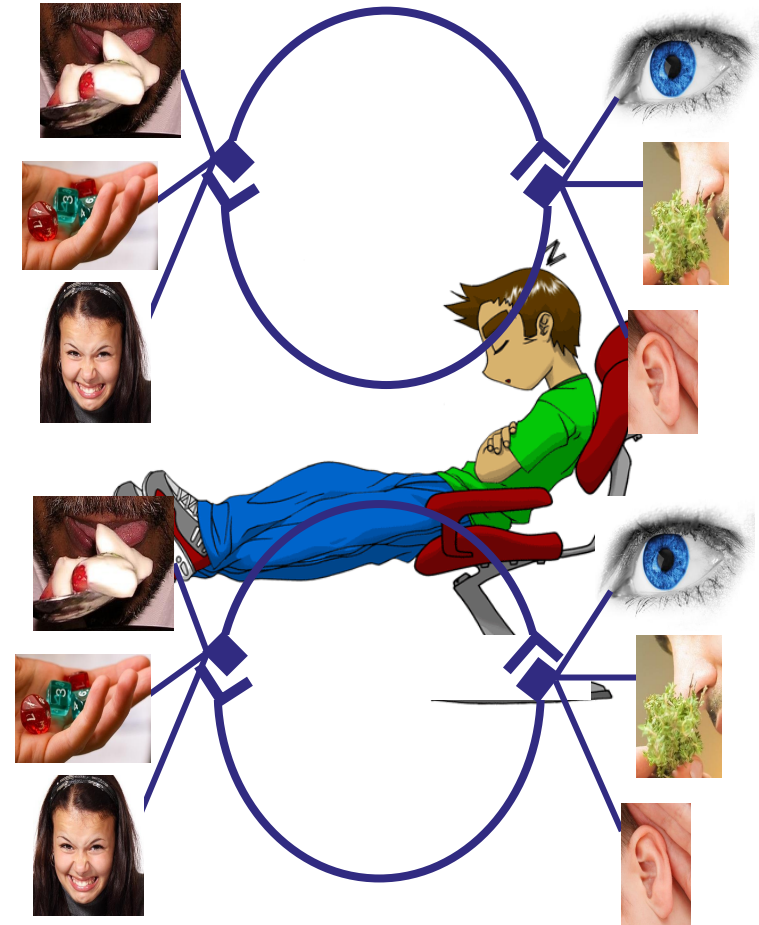
Code New Memories on the basis
of selective attention to events

Consolidate (and reconsolidate)
memory each time it is recalled

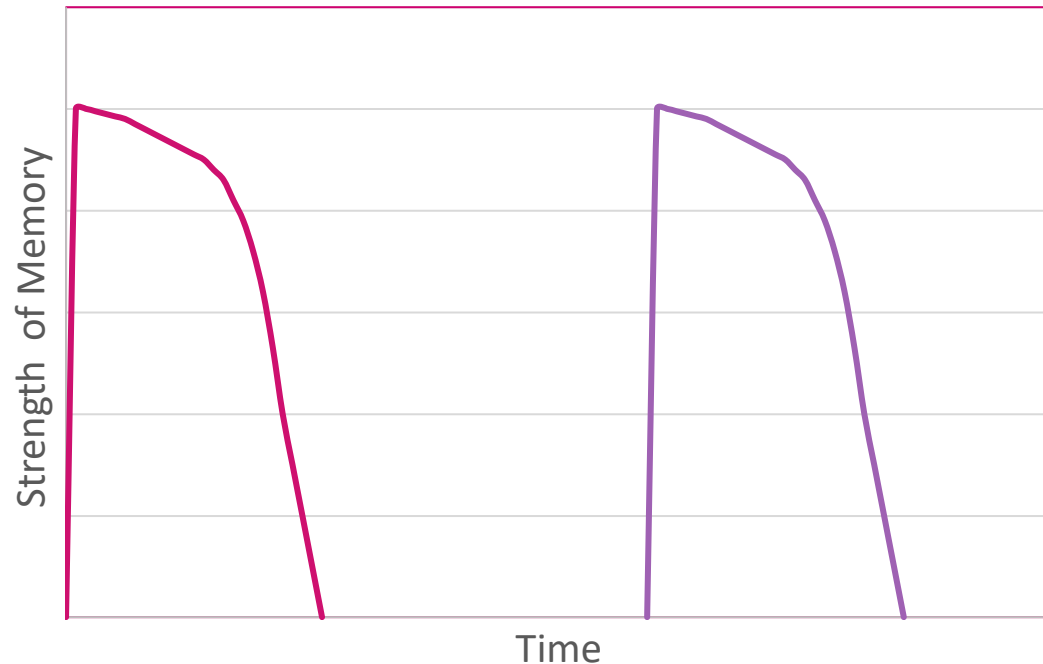
Recall Memories as partial
recollection of coded event

Encode, Consolidate and Retrieve:

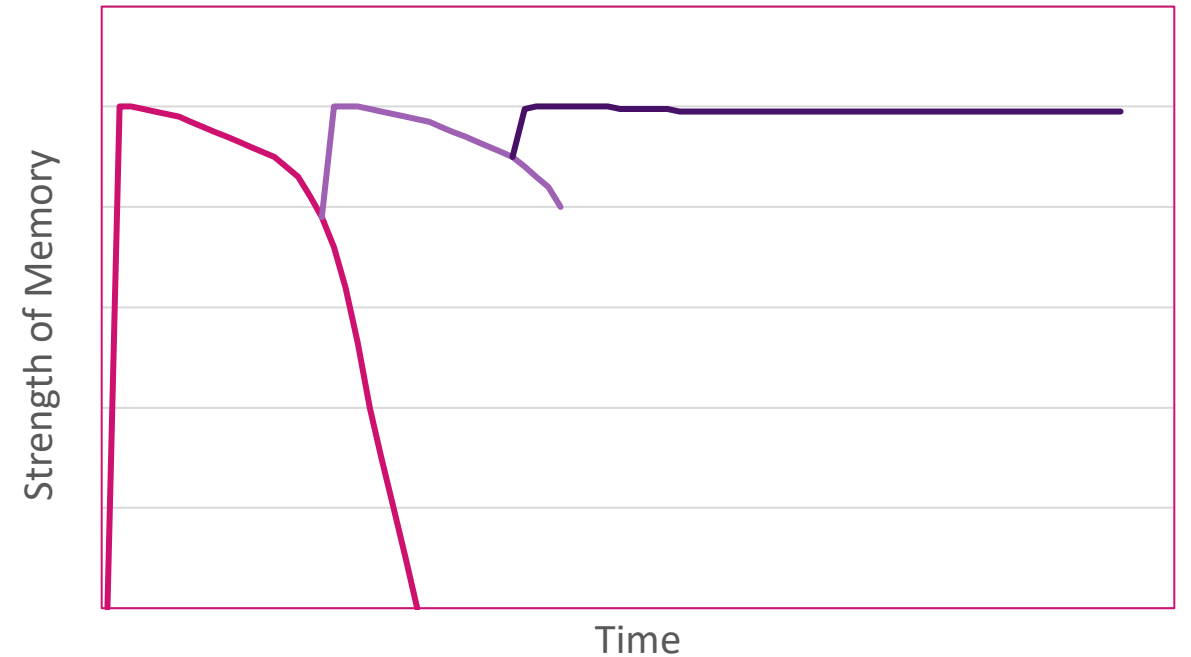
Remind learners to review learning before sleeping



Spaced Learning



— Creating Memory — Activating Memory



— Creating Memory — Activating Memory — Reactivating Memory

Spaced Learning:

Reactivate learning before it is forgotten

Self-Referencing Effect



We remember events or facts that are related to ourselves better than those that are not

Self-Referencing Effects:

Encourage learners to relate new information to their own experience

People will remember better when ...

Believe that they can remember

Learning states are varied

Encode, consolidate and retrieve thoroughly

Spaced learning used to build memory

Self referencing effect

... they are **BLESS**ed with better strategies!

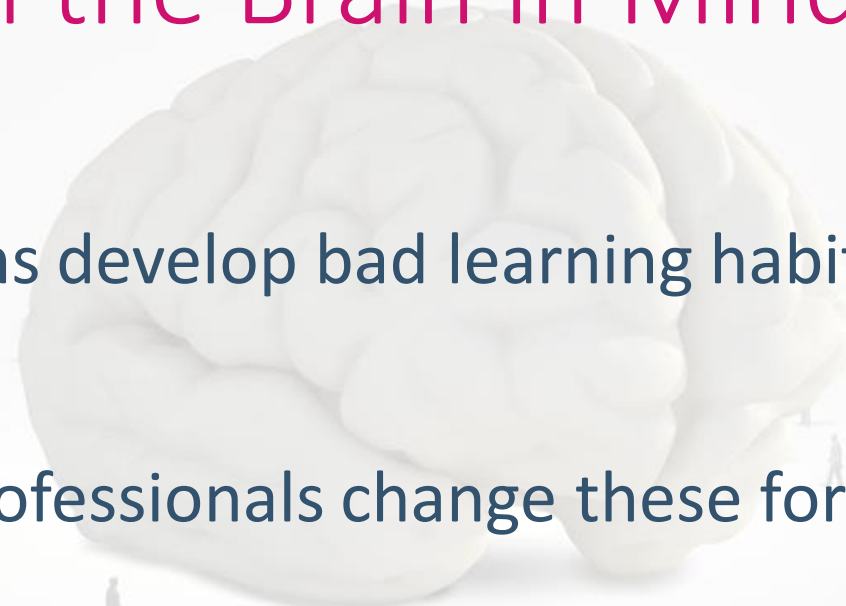
Question

What might you add to your toolbox to help improve learning?

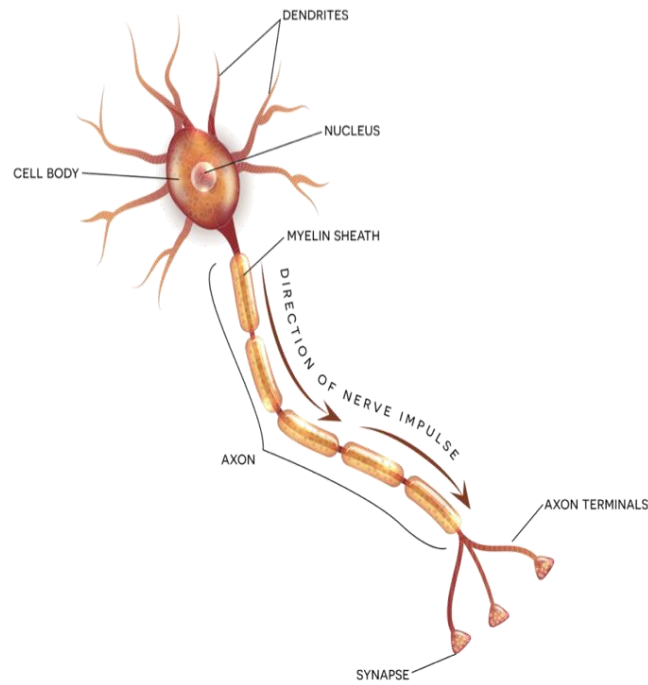
Learning with the Brain in Mind 2

How do organisations develop bad learning habits?

How can learning professionals change these for the better?

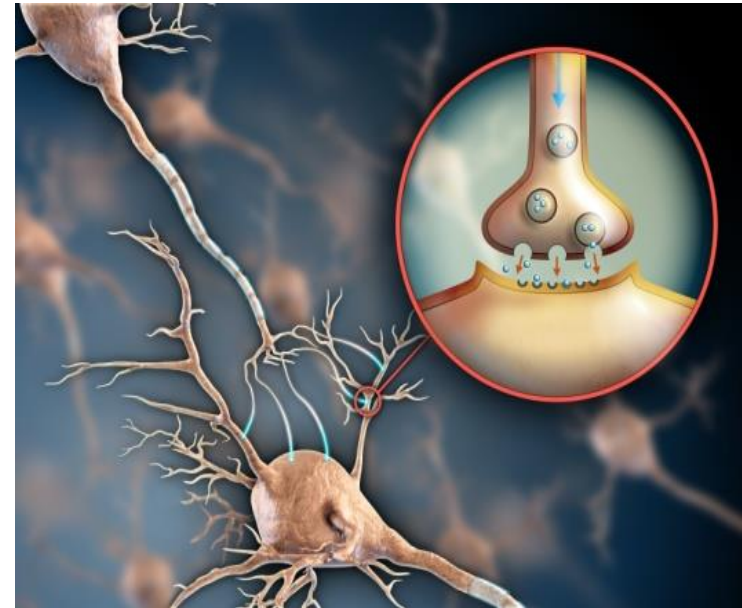


Neuroplasticity

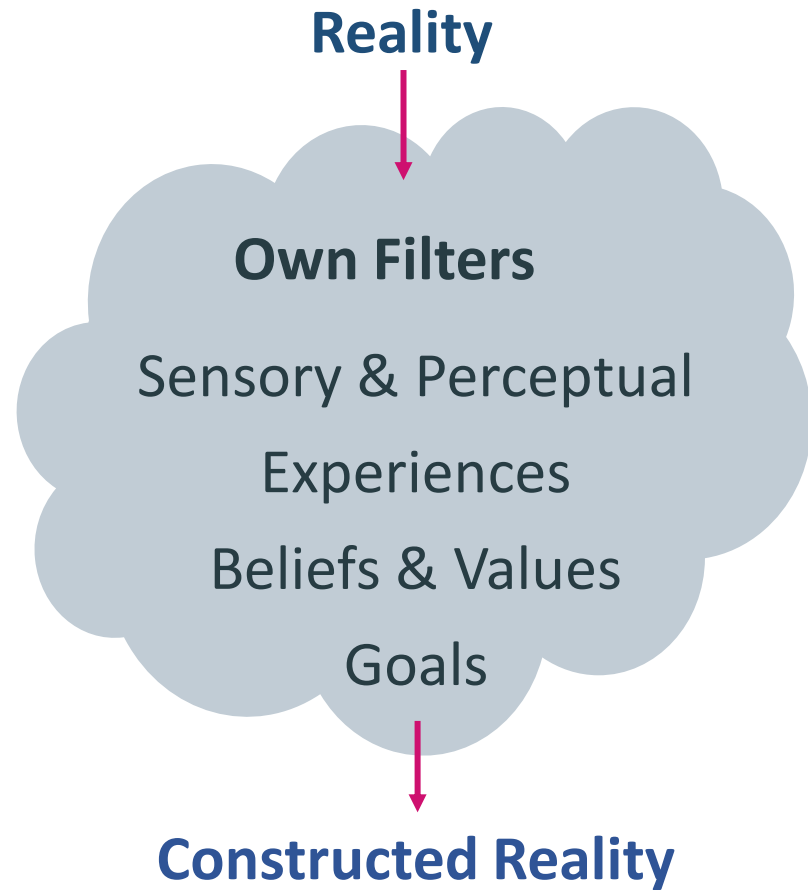


We can create new neurones in the hippocampus (learning & memory).
We create more new neurones when we are in stimulating environments.

We can make new connections between neurones (synapses) anywhere in the brain.
We make more new synapses than we need every day because we have evolved to be ready to learn.



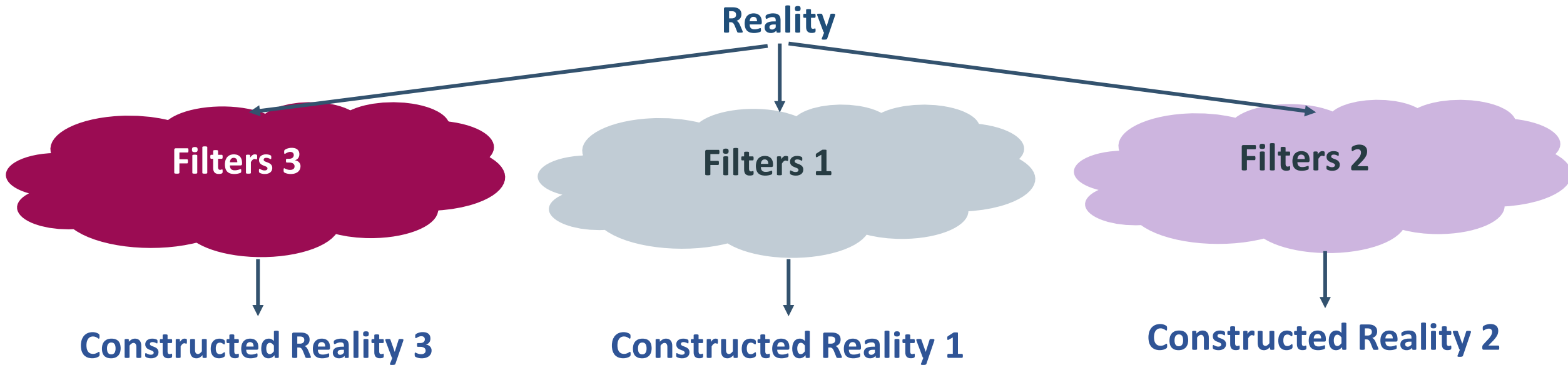
Noticing the Unexpected: Perceiving Reality



Consequences

1. Can miss important features of a situation that are filtered out
2. Can simplify cause and effect
3. Decisions are made despite missing information

Noticing the Unexpected: Perceiving Reality



$\text{Best Reality} = (x * \text{Constructed Reality 1}) + (y * \text{Constructed Reality 2}) + (z * \text{Constructed Reality 3}) + (m * \text{Constructed Reality n})$

Organisations will learn better when ...

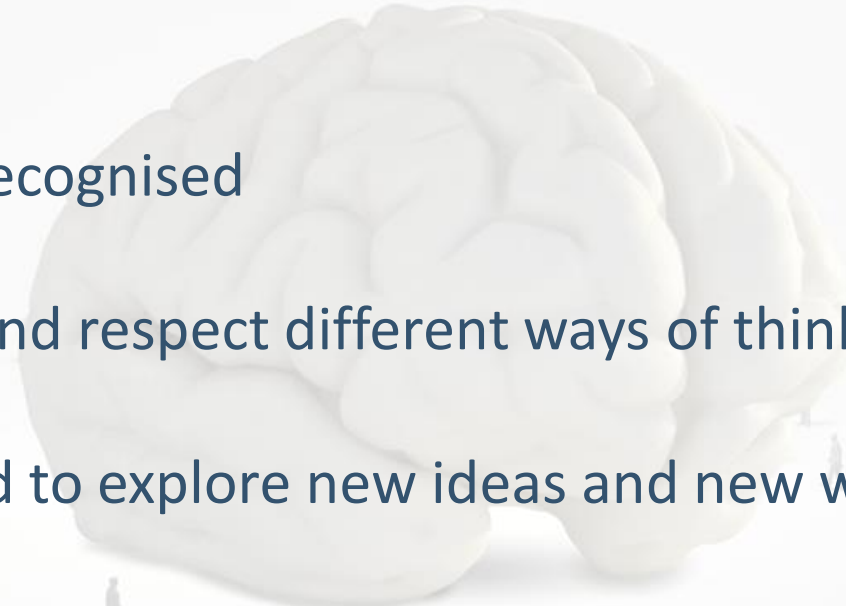
The power of diversity is recognised

Employees acknowledge and respect different ways of thinking

Employees are encouraged to explore new ideas and new ways to do things

Employees notice and respond to the unexpected

Employees feel safe to, and are rewarded for, sharing new ideas



Question

To what extent do organisations you work with encourage:

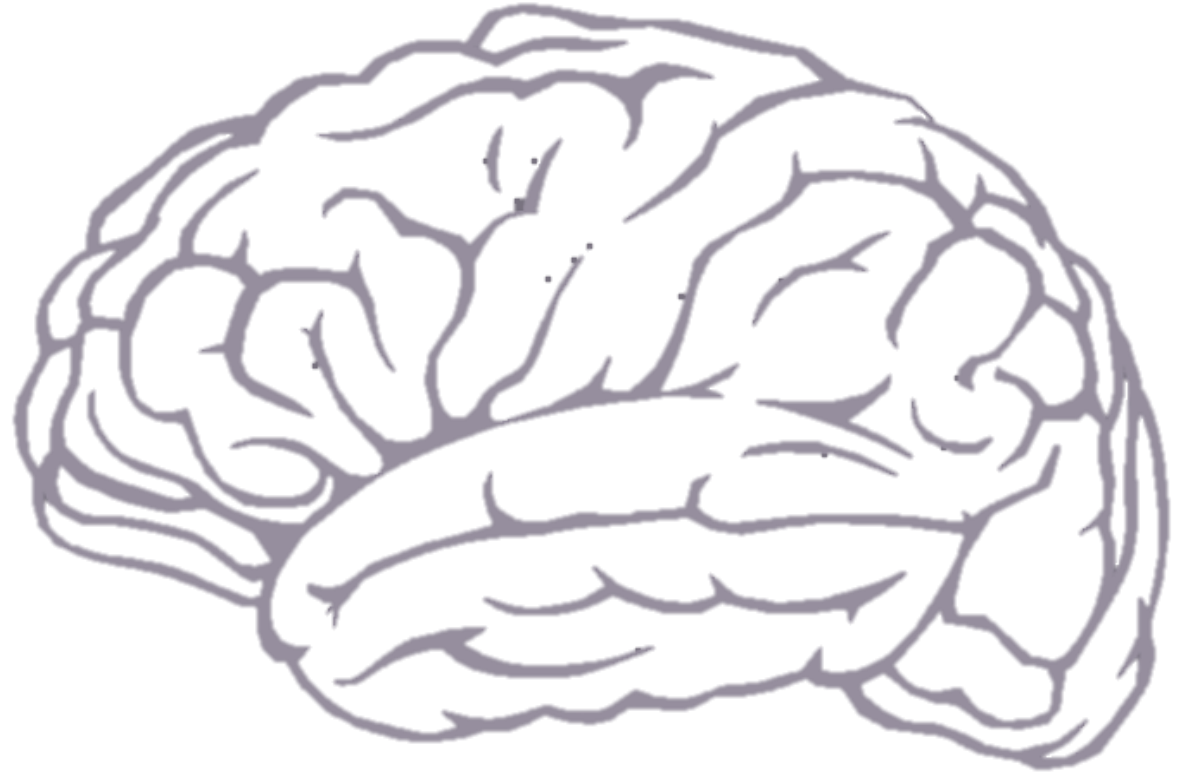
- Diversity
- Respecting different ways of thinking
- Exploring new ideas
- Noticing the unexpected
- Creating a safe environment and incentives for proposing new ideas

Thanks for Listening

Any Questions?



Scan Me



If you are interested in further applications of neuroscience, visit www.itsnlp.com, or scan the QR code, for information on our 10-Day Applied Neuroscience Programme (online workshops)