NeuroScience and Learning

• In our brain ~ 100 billion neurons

• Experience dependent neuroplasticity: is the continuing process of the creation and organization of neuron connections that occurs as a result of a person’s life experiences

• Changes in London taxi drivers’ brains driven by acquiring ‘the Knowledge’ about all the maps and streets of London: their hippocampus is 2x bigger!

>> LEARNING IS PHYSICAL <<

• Our attention and working memory capacity are limited
• Negative bias: we encode negative learning experiences deeper than positive
• We have to reset our learners brain EVERY 10 MINUTES

We can remember 4 things for 10-20 seconds unless we do something else.

How to improve information retention?
• Chunking
• Illustrating
• Elaboration
• Asking questions
• Reflection
• Practicing
Creating Learning Experiences

1. **Create stories!**

   - Speak to people, because it engages them!
   - “I could be that” >> this is how the learner is connected
   - When creating a story, subject matter experts can give some concrete examples
   - “Hero’s Journey”: to illustrate values with real life scenarios

2. **Enhance experience!**

   - Let the learners take part, taste, and see
     - There are some really great commercial examples!

3. **Develop communities!**

   - They all have a common goal
   - This is the key of motivation
   - Check out Nike Run or Starbucks blog

4. **Improve interactions!**

   - Bring personality
   - With a Learning agent: either avatar or real person
     - Tone of language: informal
   - Narration can enhance information retention