

# NEUROPLASTICITY

BRAIN'S SUPERPOWER



GROWTHMINDS



## Did you know?

**Neuroplasticity** is the **capacity of the brain** to **shape** and **reform new neural connections** throughout life in response to experiences and changes in the environment (Kania et al., 2017).

Up until the 1960s, researchers believed that changes in the brain could only take place during infancy and childhood. As the study of modern neuroscience flourished, a body of research has demonstrated that **people are not limited to the mental abilities** they are born with. Brain continues to create new neural pathways and alter existing ones during the whole life (Demarin et al., 2014).



## Ask yourself this...

1. Do I act like I'm in a hurry, during lectures?
2. Do I let students know that they can change their brains by studying?
3. Do I give students a sense of trust in them?
4. Am I sure my explanation is understandable?



## Fun facts

1. MRI imaging of London taxi drivers revealed increased brain volume in the area responsible for memory (Maguire et al., 2000).
2. Research identify important functional and structural changes in the pianists brains (Pascual-Leone, 2001).
3. Teaching neuroplasticity has a positive overall effect on motivation, achievement, and brain activity (Sarrasin et al., 2018)



## What can you actually do in the classroom?

- **Use revision constantly.** At the beginning of the lesson, have students briefly repeat the material from the previous lesson. Allow them to engage on their own, either in the form of complementarity brainstorming or individually, whatever they feel like. Remember, you are the one who guides them through memory. Resolve any problems vaguely along the way. Recalling a memory and going over material again helps the brain form stronger connections.
- **Don't be in a hurry.** Provide additional help to students with problems or just questions. When a student begins to get extra help and exercise more often, this causes literal changes in neural pathways and strengthens their abilities, and consequently also their faith and self-confidence.
- **Put new information into context.** When teaching new information, we encourage them to find a connection with the previous substance of the connection between the concepts. Whenever new content is given in such a way that students recognize relationships between concepts, they create higher brain cell activity and accomplish more successful long-term memory storage.
- **Pay attention to the student's statements:** »I can't« Remind them to use the words »yet« or »currently« instead of »can't«. When lecturing on topics they are not yet familiar with, include this words into your vocabulary as much as possible.



## References

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