

Learning How To Learn:
Powerful Mental tools to help you master
tough subjects

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Introduction to Focused and Diffuse Modes

• Week 1: What is Learning?

Diffuse Mode

Focused Mode

→ Getting in deep
concentration to
grasp a particular thing

→ Opening our mind
to grasp new things

* Both things are necessary

(Using the Focused and Diffuse Modes (Or a Little
of Both) will do you)

• When learning something new, our mind needs
to go back and forth between these two modes

What is learning?

Our brain and neural connections are dynamic.
* There are so many links formed and so many links cut off in one single day that we sleep with a brain and wake up with another.
When we learn something, new connections are formed and there are still many things unknown about how brain works.

Procrastination:

Reason: when are doing something, we are not doing a lot of other things.

- ① Feeling unhappy for some painful work
- ② Funnel attention onto a more pleasant task
- ③ Feel happy (temporarily)

Pomodoro: (Francesco Cirillo, early 1980s)
(Italian for tomato)

Pomodoro technique:

- 25 minutes
- no interruption
- focus
- reward (after 25 mins) [5 mins]

Practice makes Permanent

The more we practice the abstract things the more permanent connections they make in our brain. We need to learn little by little and let the learnt things sink in and form connections for a long lasting effect.

Memory:

Long-term memory → like a storage warehouse
Working memory (immediate and consciously processing)
[pre-frontal cortex]
• something like an inefficient mental blackboard
→ we need to revisit the long term memory portions so that we can find them easily when needed

To set something in a long-term memory we need to perform spaced repetition. We should plan to do spaced repetition without repeating ~~at same~~ ~~time~~ at the same time for a long-term effect.

Importance of Sleep:

- Sleeping removes the toxins from the brain by relaxing our neurons
- While sleeping the neural connection of our learning task gets strengthened.
- Sleeping allows our brain a chance to rehearse difficult material - going over and over the tougher aspects of what we are trying to learn
- There is a high possibility that we will dream about the things we are learning if we read about them just before sleep.

Dr. Terrence Sejnowski: (leading father figure of modern neuroscience)
build linking principles, from brain to behavior using computational models

- learning by doing and learning by osmosis from people who are experts
- ask questions (active learning)
- ~~get~~ multitasking is context switching so that we can think and explore different things at different times.
- exercise is important for generation of neurons and getting into diffuse mode.
- Don't give up, be persistent

Benny about Learning languages

- Worst reason for learning language is showing off.
- make mistakes while learning languages
- "Whether you think you can, or you think you can't, you're right." - Henry Ford
- mnemonics, spaced repetitions

(U. of California)

Interview with Dr. Robert Bilder on Creativity and Problem Solving:

"No pain, no gain."

Five personality traits [OCEAN]

- i) Openness
- ii) Conscientiousness
- iii) Extraversion
- iv) Agreeableness
- v) Neuroticism

* Openness to new experience is associated with great achievement
* People with lower agreeableness tend to show higher achievement [science]

* Finding the fine line between agreeableness and being disagreeable is hard
• try to go back and forth between word and images (graphs, flows, etc.)

Interview with Daphne Gray Grant: [Writing Coach]

publicationcoach.com

- writing ← diffuse →
- editing ← focused
- don't edit while writing

Mindmapping: Take a page and vomit the ideas (horizontal view) [link the events]

• Memorizing helps understand thing deeply