



Professional Development Webinar

(Term 1, 2016)

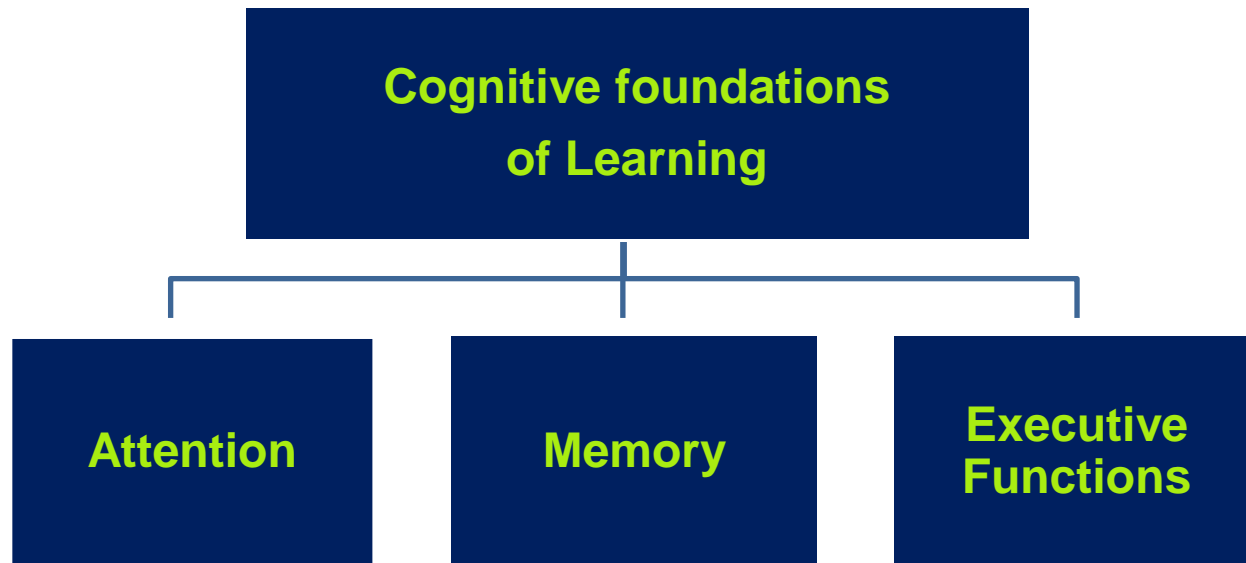
Executive Functions In Students
What Are They?

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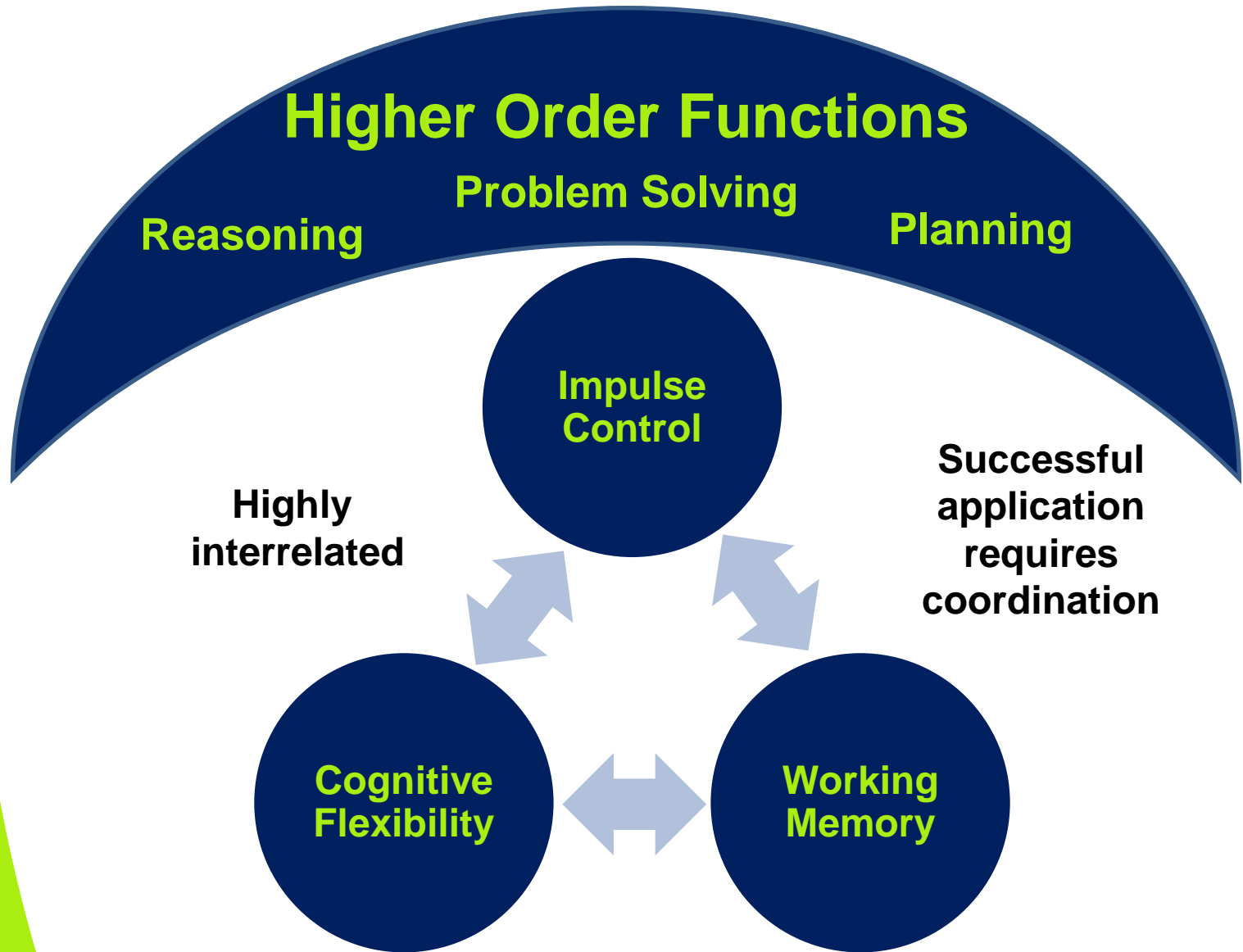
passion for psychology

Executive Functions

Foundations



Executive Functions



Executive Functions

Importance

Life Area	Importance of Executive Functions
School readiness	More than IQ or entry-level reading or math
School success	Predicts math, reading and writing competence
Quality of life	Better quality of life
Job success	Productivity, finding and keeping a job
Marital harmony	Harmony, dependability and reliability
Physical health	Healthy weight, eating and following medications
Public safety	Reduced social problems
Mental Health	Attention deficit hyperactivity (ADHD), Depression, Obsessive compulsive disorder (OCD)

Executive Functions

Self-Control

Self-Regulation

Emotional,
Motivational &
Cognitive
Arousal

Self-directed

Willpower

Executive Functions

Cognitive
Ability

Thoughts

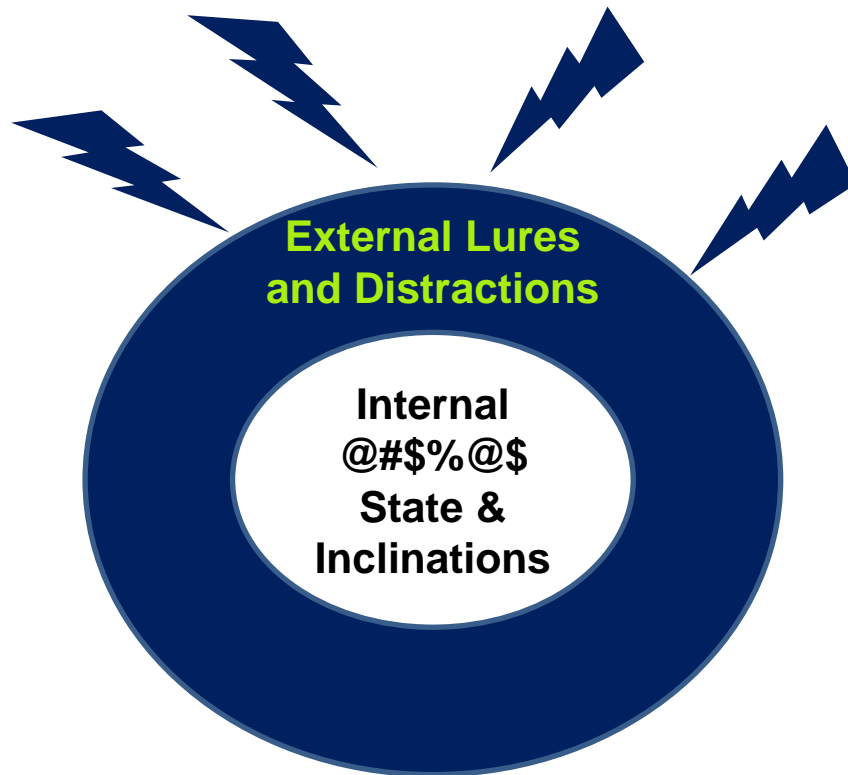
Attention

Action

Inhibition

Control

Attention - Thoughts - Behaviour



Learning

Change

Choice

Inhibition

Control Over Interferences

Inhibition over attentional Interferences and distractions

Suppression of unwanted thoughts ideas and memories

Delaying Gratification

Control over Responses

Control over behaviour

Resisting temptations

Not acting impulsively

Inhibition

What happens with poor inhibition control?

Students become **very impulsive** in themselves, their minds and their behaviour. High levels of learning interference occur, both at the perceptual level and cognitive (thoughts) level. Responses become uncontrolled and thinking appears “thoughtless”.



Learning Clutter

Learning Guide Posts



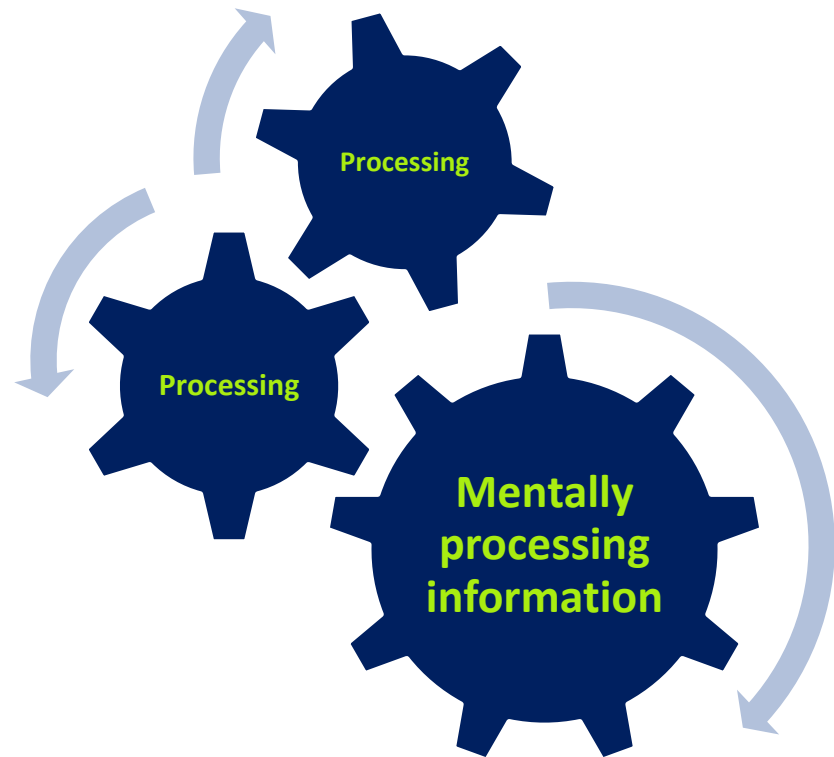
Be Wary of Rewards

Working Memory



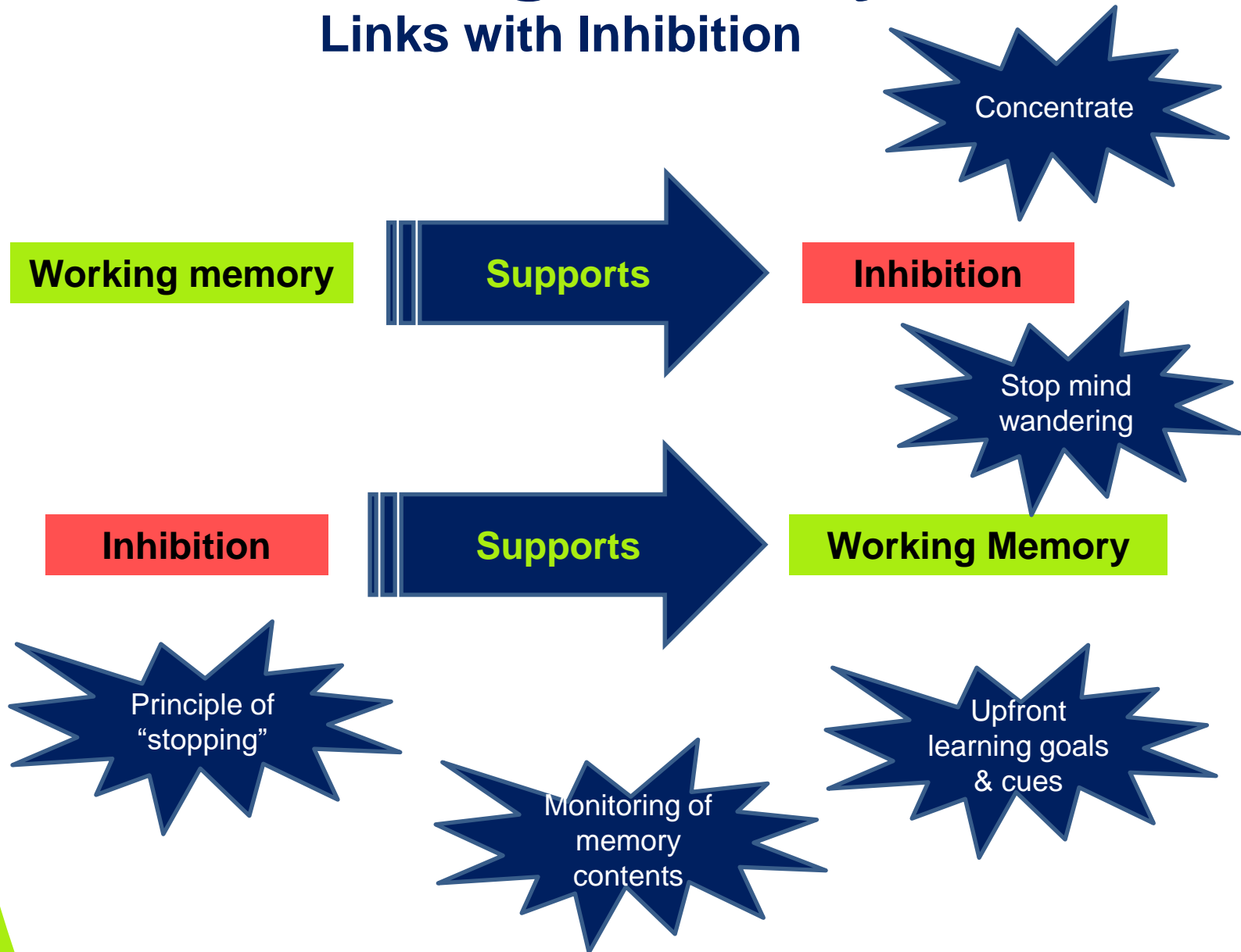
Verbal working memory

Nonverbal (or visual-spatial)
working memory

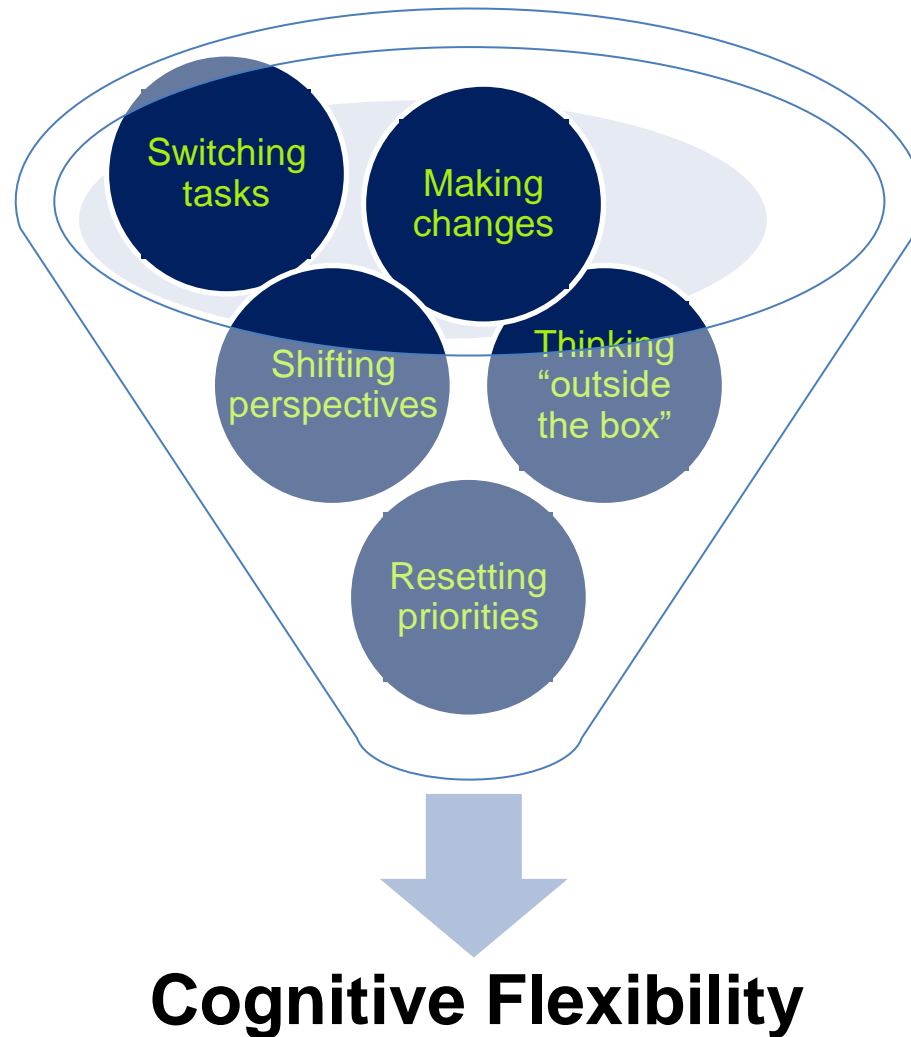


Working Memory

Links with Inhibition

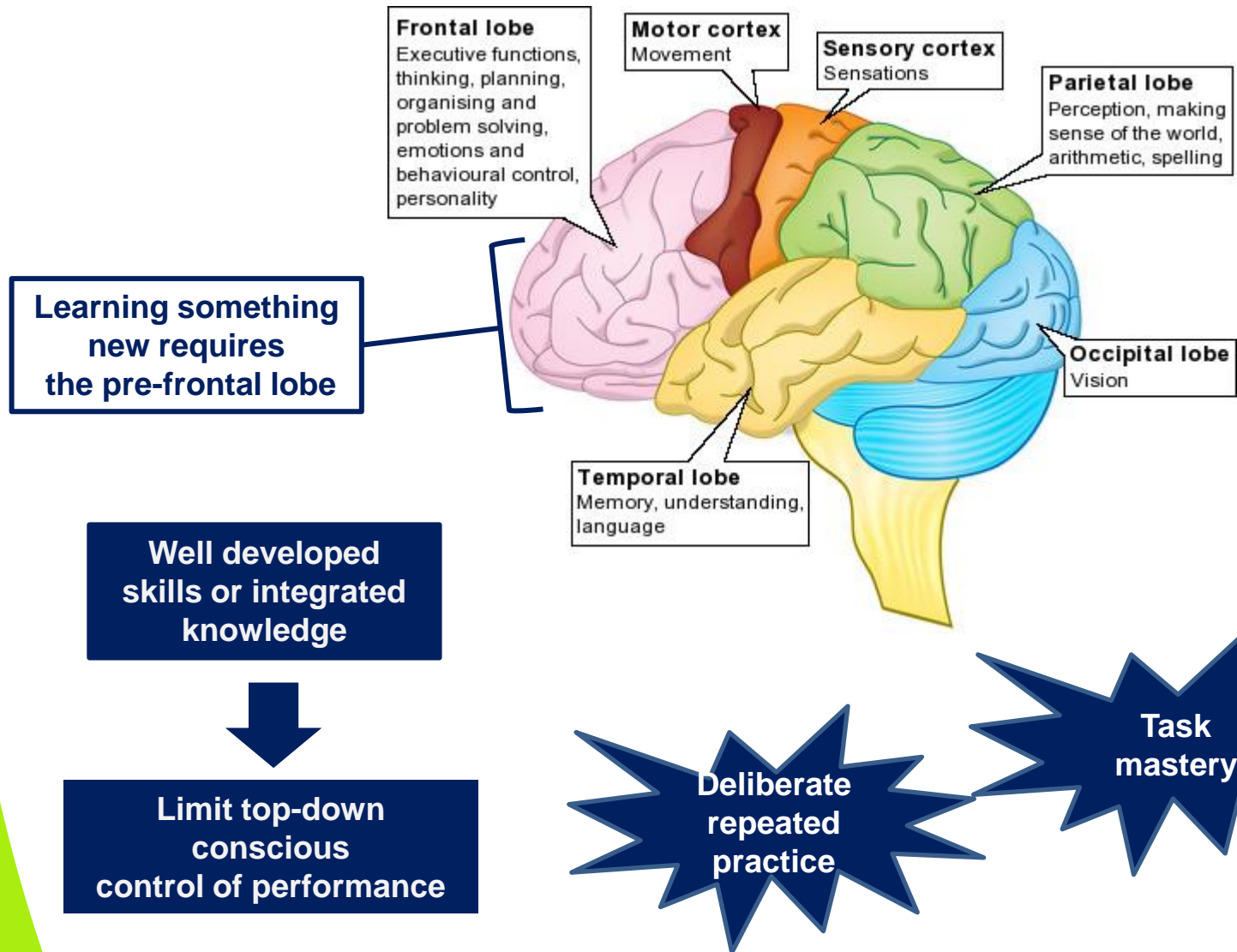


Cognitive Flexibility



Executive Functions

Getting More Out Of Executive Functions



Executive Functions

What hinders executive functions?

Stressed

Experiencing
strong emotions



Executive functions
suffer **FIRST** and
MOST!

Not physically fit

Sleep deprived



Training and Practice:

Improving Executive Functions

- **Strongest evidence:** cognitive training, thinking strategies, exercise, mindfulness, yoga, early childhood development.
- Children with **poor executive functioning** improve the most.
- Early executive function **diagnosis** and **training** important.
- Computerised **cognitive development can work**, but transfer is narrow. But hope for better designed programs.

- Executive function development needs to be **continuous** and **incremental**.
- **Repeat practice** is the key, but needs to be embedded in classes.
- The largest differences observed when executive function tasks are **demanding** and occur over **longer periods** of time.
- Executive functions can be improved at **any age**.

Summary

Executive functions: 3 key areas

- Self-control and inhibition are critical for learning
- Working memory makes it possible engage thinking and consolidate learning
- Cognitive flexibility is essential for adaptability

Executive functions support academic achievement

- Know the level of executive functioning capability of students
- Monitor for loss of executive functions
- Adapt teaching methods

Executive functions are trainable

- Can be improved at any age - probably by many different approaches
- Help young children have good executive functioning for lifelong benefits

Executive functions are dynamic

- Executive functions suffer first and quickly if students stressed, tired or unfit
- Repeated practice is key
- It is not always beneficial to consciously control executive functions for well developed skills

Free Resources

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- School Resource Centre online
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