

Corso di formazione

“Brain-based learning: understand how students really learn”



Europass Teacher Academy
10-15 marzo 2025
San Cristobal de La Laguna

Perchè partecipare a questo corso? Cosa mi ha spinto a farlo? La **curiosità** di approfondire un discorso spesso affrontato con superficialità o per luoghi comuni. Proprio per questo motivo gli obiettivi del corso mi sono parsi interessanti:

Learning outcomes:

- *recognize the **practical implications** of the latest research in how the brain learns;*
- *understanding when and how learning takes place;*
- *design activities and lessons based on principles derived from **science**;*
- *create motivating and **engaging student experiences**;*
- *provide students with the experience of success and mastery;*
- *support students with effective, creative and fun **learning techniques**;*
- *use better learning techniques themselves.*

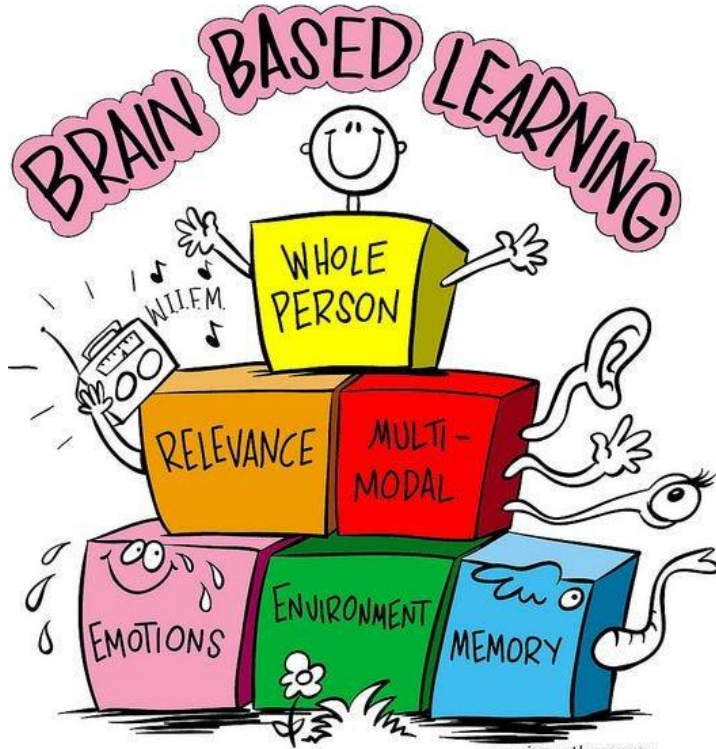
Course Schedule

Brain-Based Learning

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
9:30 - 10:45	9:30 - 10:45	9:30 - 10:45	9:30 - 10:45	9:30 - 10:45
Introduction to the course, the school and the external week activities. Icebreakers	Brain Architecture - the Basics	Pre-testing and Curiosity	The Role of Emotions & Stress	Strategies for Learning: What Science Tells Us
Break				
11:00 - 12:15	11:00 - 12:15	11:00 - 12:15	11:00 - 12:15	11:00 - 12:15
Introduction to Brain-Based Learning: key concepts and theory	Neuroplasticity and Brain Development Perception and Sensory Learning	Dopamine, Motivation & the Reward System	Practical Activities	Course evaluation, round up of acquired competencies and feedback.
Break				
12:30-14:00	12:30-14:00	12:30-14:00	12:30-14:00	12:30-14:00
What does my classroom look like - an example from my context	Staying Focused: How Attention Works	Memory	Practical Activities	Awarding of the course Certificate of Attendance

Day 1

BUILDING BLOCKS OF



Learning outcome/s: introduction to the course and its goals

Topic/s: introduction to brain based learning: key concept and theory

Methodology: active workshops and frontal lesson

Activities: participants' presentation, a test on **false myths about brain** activities, building blocks of brain based learning, game of coordination between movements and verbal instructions, **realize that a teacher maybe already use a brain based methodology but in an unconscious way**, get conscious of **how emotion** affects learning, importance of giving **skills** and not just notions.

Day 2



Learning outcome/s: have an idea of **how brain works**

Topic/s: brain structure, neuroplasticity and brain development, perception and sensory learning, stay focused (how attention works)

Methodology: active workshop (brainstorming, small group discussion, theatrical activities)

Activities:

- use a puzzle to understand the anatomy of brain;
- **scientific evidences of how brain works** (neurotransmission, how different areas of the brain work together, synesthesia);
- an activity on balance to understand embodied cognition and spatial memory,
- video to show the importance of **multisensory integration**,
- keeping attention (video showing the use of AI in China to control pupils' attention during lessons);
- the **importance of brain breaks**,
- pomodoro technique.

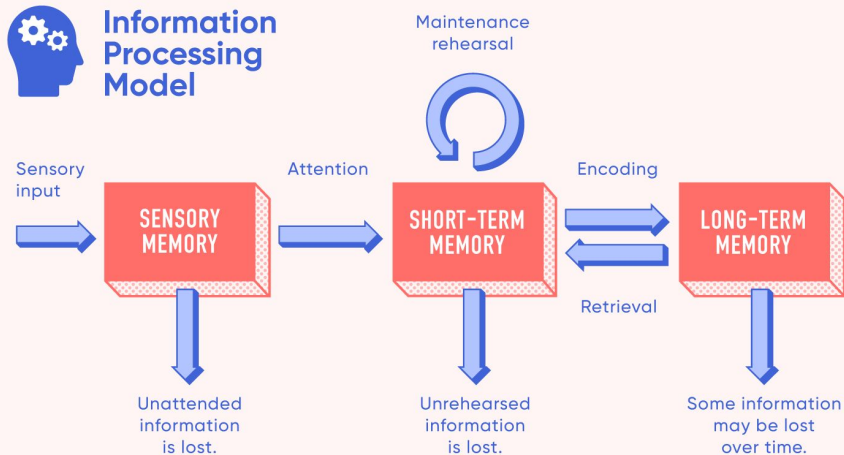
Materials: brain's puzzle, a sort of Bingo to revise our name and features, game of finding similarities among participants: use of a thread to mimic brain's connections; slides and videos

Notes: useful confrontation with teachers of different disciplines, cultures, and school contexts.

Day 3

“The important thing is not to stop questioning.
Curiosity has its own reason for existing”

Albert Einstein



Learning outcome/s: improve students' ability to learn more efficiently

Topic/s: pre-testing and curiosity; dopamine, motivation and the reward system; memory

Methodology: active workshop and frontal lesson

Activities:

- game: multiple choice with foreign language words and their meaning (how to create **curiosity**),
- what scientists have discovered about curiosity and learning,
- **extrinsic vs. intrinsic motivation**,
- how important is **rewarding** (dopamine) for motivation and **memory** (engagement and retention),
- the importance of **human interaction** (collaborative learning), examples of activities that improve collaborative learning,
- the importance of positive reinforcement (examples of activities that can be used with students),
- “reporting a story”: a game/group activity to understand **how memory works** (levelling, sharpening, semantic encode),
- the information processing model (**short and long memory**),
- tips to improve your memory,

Materials: written texts and videos

Day 4



Fight



Flight



Freeze



Faint

Learning outcome/s: how emotions affects the ability of learning

Topic/s: the role of **emotions and stress**

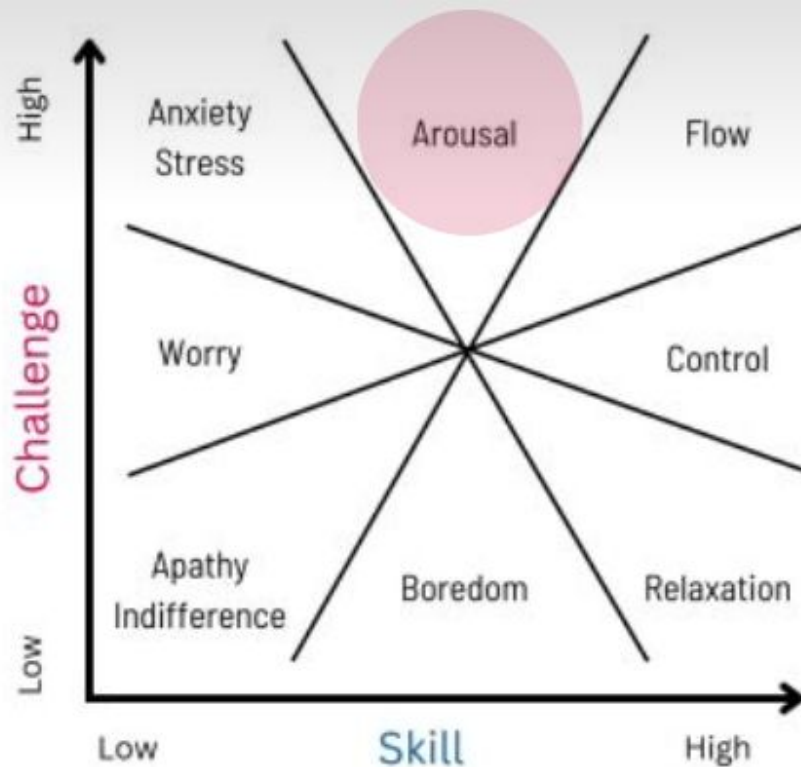
Methodology: practical activities

Activities:

- experience how emotions affect us (a game about our personal space),
- the polyvagal theory (sympathetic and parasympathetic: fly, fight, freeze response) ,
- importance of movement to release stress,
- theatrical activity about how to read a student (manage the emotional reactions of students)
- small exercises of breathing to activate parasympathetic system and reduce stress

Materials: slides and videos, (courtyard for open air activities), role play activity

ed infine... Day 5



Learning outcome/s: setting goals (the SMART structure)

Topic/s: strategies of learning: what science tells us, course evaluation, round up of competencies and feedback

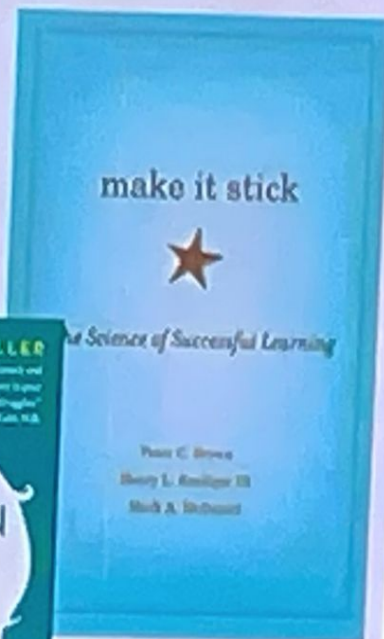
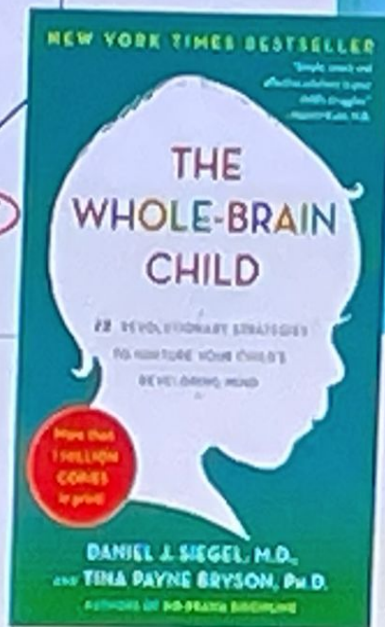
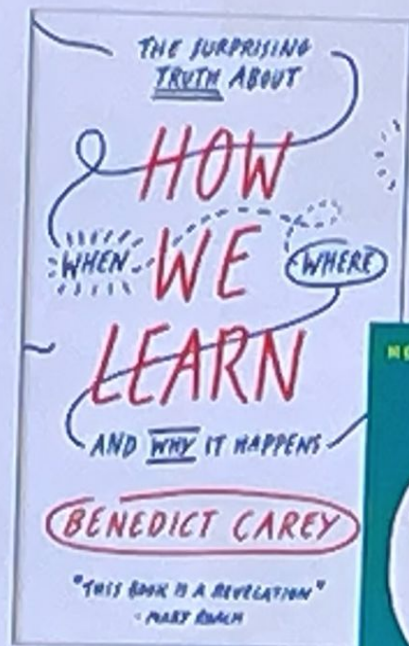
Methodology: active workshop, frontal lesson, group activities

Activities:

- how to create a useful mind map (video + group activity),
- group activity in the courtyard (read a list of 43 suggestions to improve students learning and discuss in small groups about your favourite ones then each group choose the six best and compare with the other groups),
- active learning (the learning pyramid),
- the right **balance between skills and challenge** (*desirable difficulties*)
- the importance of directing students' energy towards **productive goals** (process goals, milestone goals, long term goals),
- connections among meaning, relevance, attention and memory (**relevance** is key),
- **plan your goal: get S.M.A.R.T.** (specific, measurable, attainable, relevant, timebound)
- think about an action plan after this course and share ideas with the other participants.

Further Reading and Resources for Teachers

- BrainU.org
- *How We Learn and WHY it Happens*, Benedict Carey
- *Make it Stick: The Science of Successful Learning*, Peter C Brown
- *The Whole-Brain Child*, Daniel J. Siegel and Tina Bryson





E quindi? Cosa mi ha lasciato questo corso?

La consapevolezza che non c'è “un” modo giusto per insegnare, ma che **l'insegnamento è varietà e sperimentazione** di tante tecniche, **ascolto e sostegno** verso gli studenti e **perseveranza**.

Ho messo a fuoco nuove idee e strategie da utilizzare in classe, idee nate non solo dal corso, ma anche dal confronto con gli altri insegnanti di diversa nazionalità e questo in fin dei conti è il grande valore aggiunto dei corsi Erasmus.

Prof.ssa Raffaella Benatti (docente di Scienze naturali)