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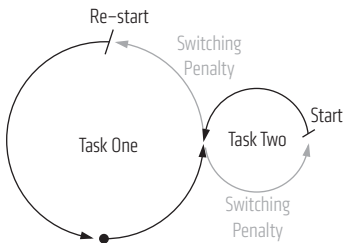
## PEOPLE CAN MULTITASK

### Definition of multitasking:

Two or more conscious thought or information processes at the same time, with no loss of speed or accuracy.

### What actually happens:

When you think you experience, or witness multitasking, you are actually seeing is task switching.



### Effects from attempting multitasking

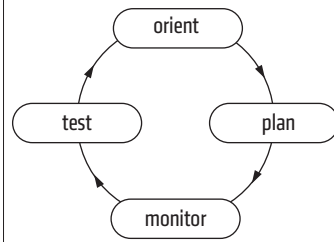
- Reading or studying to mastery:
  - ❖ Lower scores, less learned
- Social media and academic success
- ❖ Longer study time to achieve mastery.



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## LEARNERS CAN SELF-REGULATE

### Definition of self-regulated learning:



### When applied by experts:

- Many relevant schema at disposal
- Skills available without the need to actively remember them
- Many automated processes that can also be transferred
- Works forward.

### When applied by novices:

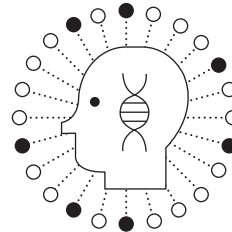
- Few relevant schema available
- Individual elements must be consciously remembered and processed
- Little cognitive capacity for inefficient problems-solving
- Works backwards (means-ends analysis).

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## WE LEARN ACCORDING TO LEARNING STYLES

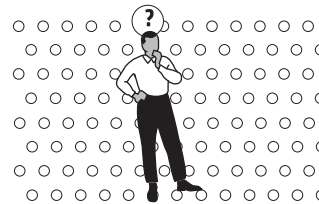
### The claim:

- There is a best way to teach that accords with how learners' learn best
- Teaching that complies with learning styles helps learning
- Teaching that conflicts with students' learning styles impedes learning.



### The problems of this theory:

- It measures preferences not styles
- It's based on poor research
- It provides a rich source of excuses for both students and parents
- It's mathemathantic — ie where teaching *kills* learning
- 72 such styles are identified and, so, impossible to apply to all individuals.

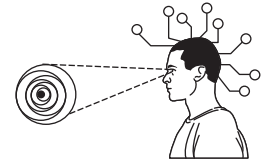


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## BRAIN GAMES MAKE US SMARTER

### The problems:

- The muscle metaphor is a fallacy
- It works only for what is practised
- It doesn't work for far transfer, memory, dementia, Alzheimer...
- Any positive evidence is flawed by sampling bias, belief, placebo effect.



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## WE ONLY USE 10% OF OUR BRAINS



### The problems:

- There are areas with specific functions —but we use all our brains
- It is disproved by fMRI and PET scans
- Natural selection would have, then, led to our having smaller brains
- Synaptic pruning, as a result, would create a loss of the remaining 90%.



## EDUCATIONAL MYTHS:

WHAT'S BRAINS GOT TO DO WITH IT?

### Educational myths are very persistent,

as well as ubiquitous. Whether classroom teacher, leader or even neuroscientist, you are likely to hold a number of inaccurate yet plausible beliefs about teaching and learning. Which of these still fool you?



Paul A. Kirschner

Made a presentation on this topic at researchED Malmö 2018

**OLICAV** Captured on the day and later designed  
Oliver Caviglioli | @olicav | olicav.com

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## KNOWLEDGE IS AS PERISHABLE AS FRESH FISH



While there has been an enormous increase in available information and its sources, this hasn't made *old* information suddenly *wrong*. So called old information is essential to evaluate and choose new information.

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## IT'S ALL ON THE INTERNET



What you already know determines:

- What you search for
- How much you understand
- What you see
- How much you can absorb.

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## KIDS ARE MEDIA-WISE DIGITAL NATIVES



### The belief:

There is a generation of children who learn independently, playfully to:

- Discover facts and rules
- Learn in networks and collaborate
- Solve their learning problems.

### The reality:

Children:

- Know little of tools for knowledge creation and sharing
- Use tools for passive consumption
- Haven't improved their info skills.

### Trainees in neuroscience believe:

- 78% — it's better to receive information in one's learning style
- 32% — hemispheric brain dominance explains individual differences



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