Centre for Educational Neuroscience

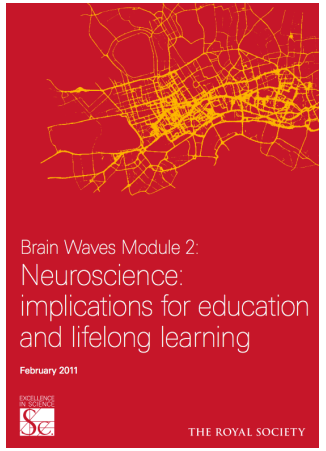
Bloomsbury Doctoral Training Centre for the Social Sciences

UCL

Workshop on Educational Neuroscience

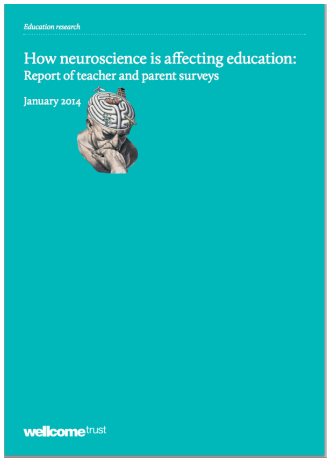
14 March 2014

Birkbeck College



"There is common ground between neuroscience and education that suggests a future in which educational practice can be transformed by science, just as medical practice was transformed by science about a century ago"

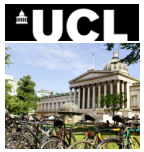
– Royal Society Report 'Neuroscience: implications for education and lifelong learning' (2011).



"Teachers' desire to implement interventions based upon neuroscience is evident, but it is running ahead of the evidence base."

– Wellcome Trust Report 'How neuroscience is affecting education: Report of teacher and parent surveys' (2014)

London

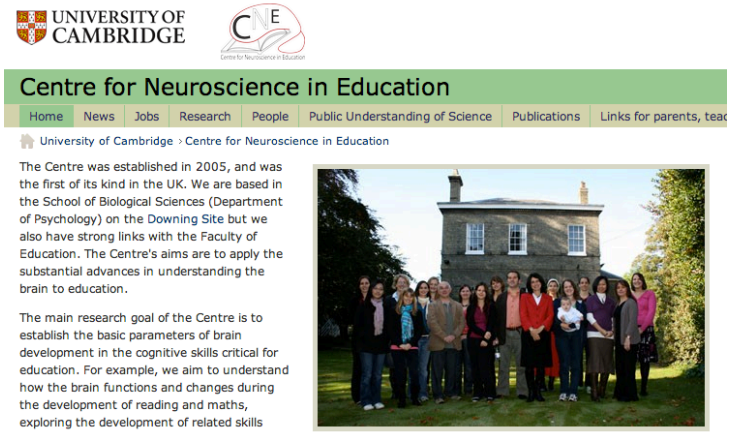


Neuroscience

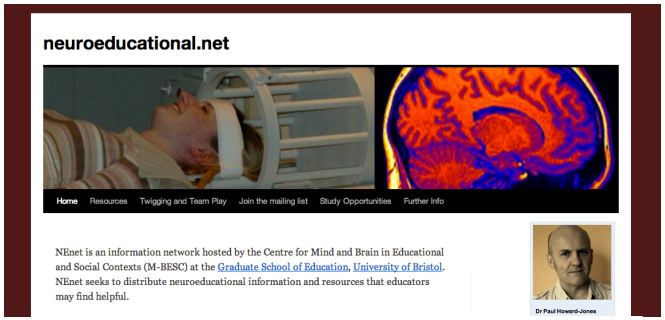
Education

Child development

Cambridge



Bristol



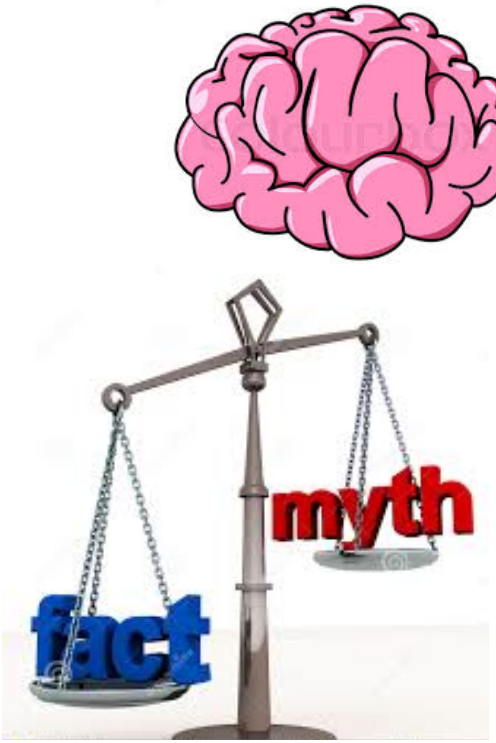
Oxford

Roi Cohen-Kadosh

"Numbers rule the universe"
Pythagoras of Samos

Challenges

Neuromyths

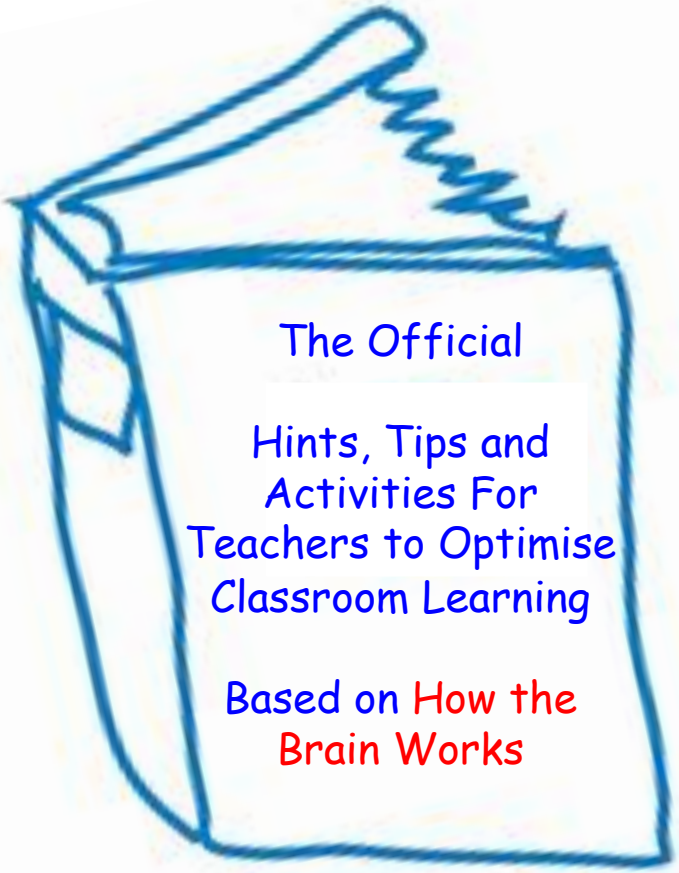


Promises that can't be delivered (yet)

How to translate neural data into educational implications?

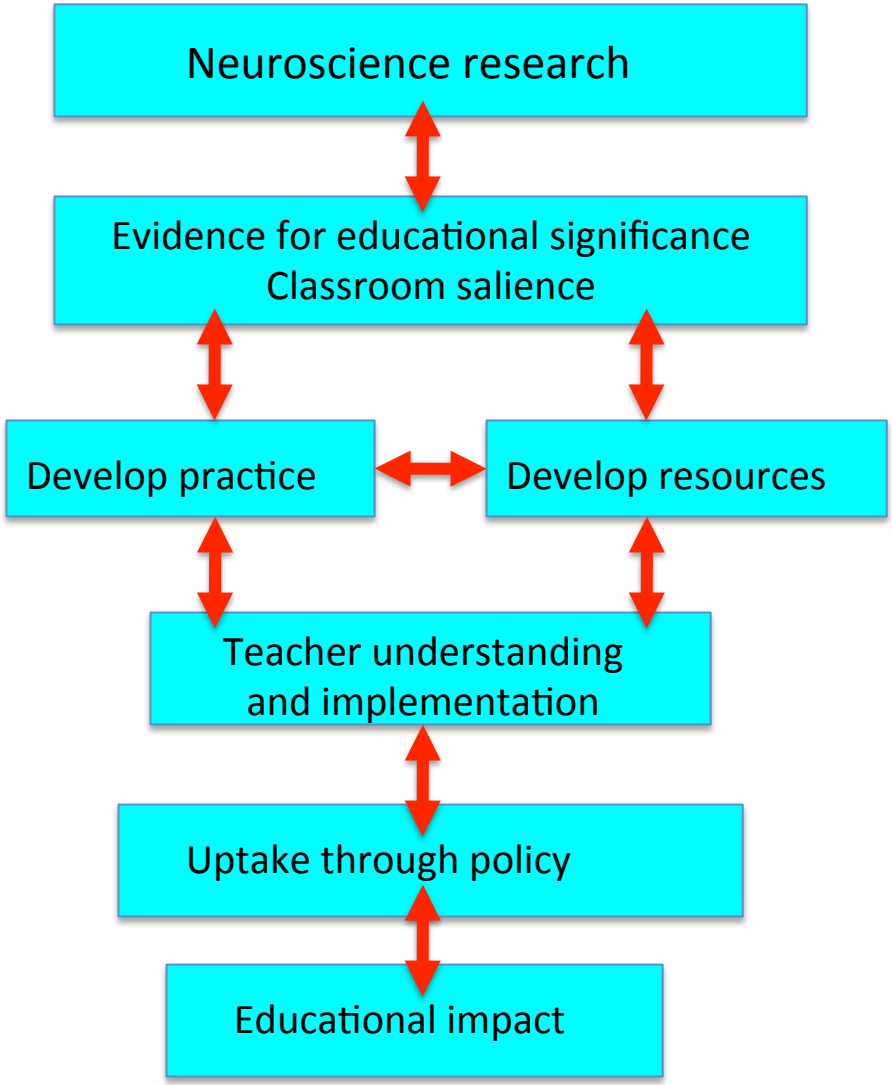
What do (some) teachers want?

- Some hints and tips on what <u>actually</u> works



Educational neuroscience is an inherently translational field

How neuroscience and education might interact – Paul Howard-Jones



Scientific studies

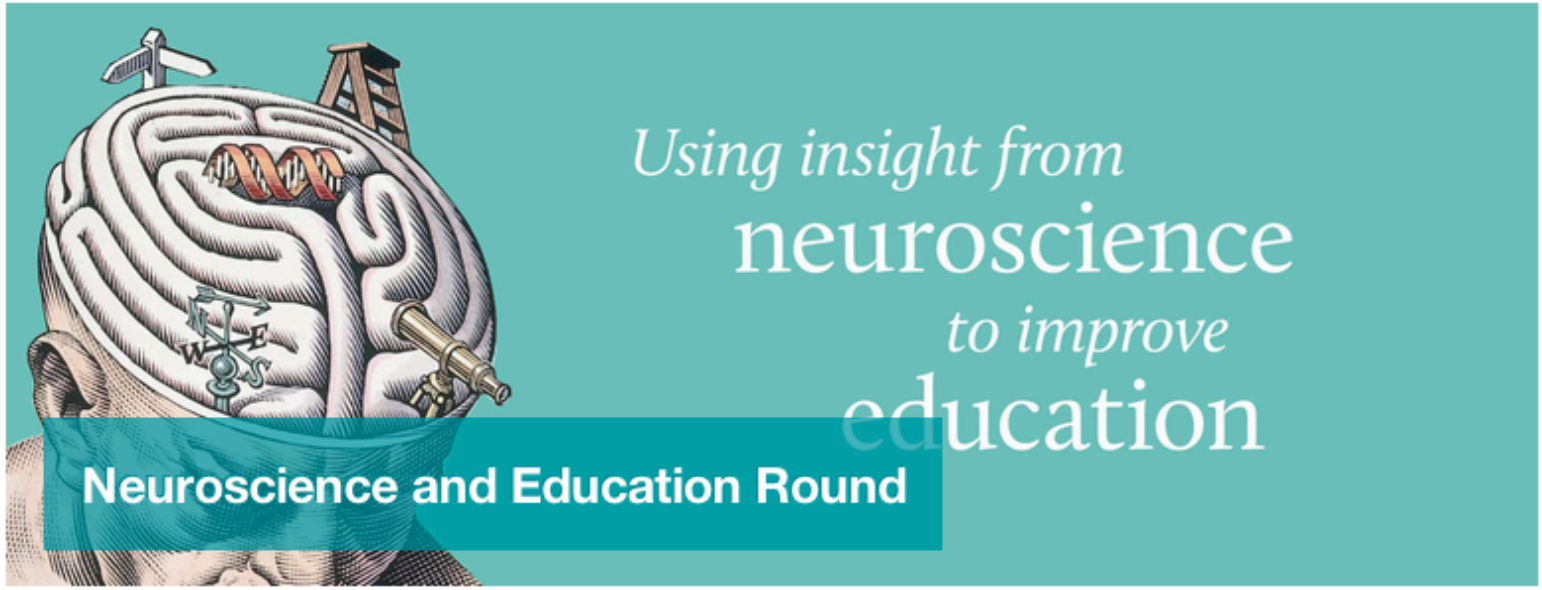
Bridging studies

Practice-based studies

↓ Communication →

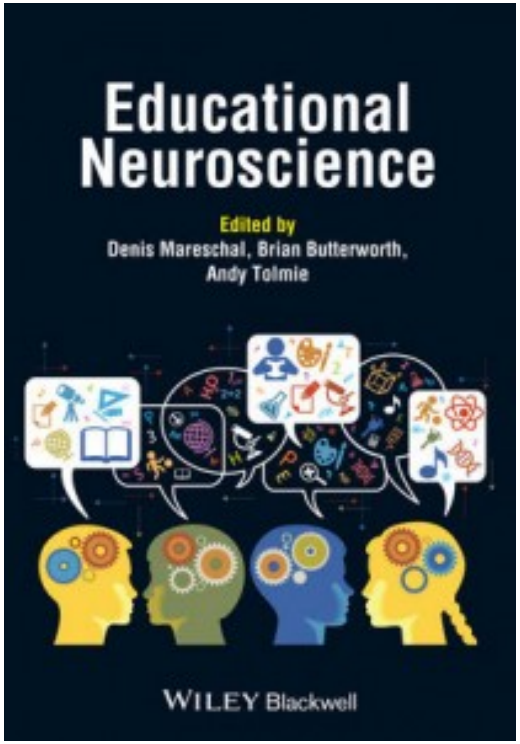
wellcome trust

Education Endowment Foundation



Neurocognitive processes and their potential education application (Howard-Jones, 2014)

Topic	Evidence	Distance to application
Mathematics – non-symbolic and symbolic representation of number	Medium	Moderate
Mathematics – finger gnosis	Medium	Near
Mathematics – mental rotation skills	Low	Distant
Mathematics – maths anxiety	Medium	Near
Reading	Medium	Near
Exercise	Medium	Near
Sleep, nutrition, hydration	Low	Near
Genetics	Medium	Distant
Embodied cognition	Medium	Moderate
“Brain training” of executive function	Medium	Moderate
Spaced learning	High	Near
Interleaving	Medium	Moderate
Testing	High	Moderate
Learning games	Medium	Moderate
Creativity	Low	Moderate
Personalisation	Low	Moderate
Neurofeedback	Medium	Moderate
Transcranial electrical stimulation (TES)	Medium	Distant


Educational
Neuroscience
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