Buyer Beware: What educators need to know about what neuroscience can’t tell them

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Do educators need to keep up with neuroscientific findings?

It is sometimes suggested that it is important for teachers to know and understand the latest neuroscientific developments – for example, research showing structural and functional changes in the adolescent brain – because these offer important implications for teaching practices.¹

In this presentation I will argue that there are a number of reasons why educators need to be very wary of promises that neuroscientific data can and should be used to improve teaching. As John Bruer has frequently noted,² neuroscience is not yet well enough advanced to support direct implications for education.

Moreover, I will argue that there are three reasons why educators should beware the premature application of neuroscience to educational practice. First, such proposed applications are rarely suggested by neuroscientists and examples of scientific inaccuracies and over- and mis-interpretations are far from rare. Second, the ‘seductive allure’ of neuroscientific explanations³ can make poor scientific explanations of psychological phenomena seem more satisfactory than they really are. Third, the premature and misapplication of neuroscientific findings to educational practice can encourage the over-privileging of ambiguous neuroscientific data, when behavioural data would be more relevant. These three factors – either individually or in combination – have the potential to lead the unwary educator astray, to possibly harmful effect.

¹ For example: Corbin, B 2008, Unleashing the potential of the teenage brain: 10 powerful ideas, Corwin Press, Thousand Oaks, CA.
Bruer, J 2002, ’Avoiding the pediatrician’s error: how neuroscientists can help educators (and themselves)’, Nature Neuroscience 5: 1031-1033.