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Neuroscientific studies of mathematical thinking and learning: a critical look from a mathematics education viewpoint.

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Summary: In this commentary we take a critical look at the various studies being reported in this issue about the relationship between cognitive neuroscience and mathematics, from a mathematics education viewpoint. After a discussion of the individual contributions, which we have grouped into three categories – namely neuroscientific studies of (a) children’s numerical magnitude representation, (b) arithmetical thinking, and (c) more advanced mathematical thinking – and which nicely document the scientific progression being made within the domain of educational neuroscience applied to the domain of mathematics education during the last 5 years, we point to some general caveats that should be considered in future research.

Classification: C80 C30

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