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Absolute and relational representations: the challenge of Caleb Gattegno and Bob Davis.

Barmby, P. (ed.), Proceedings of the British Society for Research into Learning Mathematics (BSRLM). Vol. 34, No. 1. Proceedings of the day conference, King's College, London, UK, March 1, 2014. London: British Society for Research into Learning Mathematics (BSRLM). 37-42 (2014).

Summary: How do we learn mathematical concepts? How can we learn them fast? In this paper, I offer a lighting on the work of Gattegno and Davis and suggest that one common feature was a linking of mathematical concepts and symbols to relations (e.g., relations between physical objects, or actions performed on the objects). Visible and tangible resources are used to support the awareness of relationships between symbols, rather than offer a meaning for symbols. I suggest a distinction between an 'absolute' and a 'relational' representation of mathematical concepts (I am endebeeted to Tim Rowland for suggesting these labels at a BSRLM conference).

Classification: C30 E40 D20

Keywords: teaching; learning; concept formation; absolute representations; relational representations; symbols; fluency; understanding of mathematical concepts; cognitive psychology; mathematics and philosophy
<http://www.bsrlm.org.uk/IPs/ip34-1/BSRLM-IP-34-1-07.pdf>