

ZMATH 2016f.00453

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Planning for active participation in mathematics: promoting democratic practices in mathematics classrooms.

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). 131-136 (2014).

Summary: We believe students' participation in school activities should be democratic and that this can best be achieved by planning for 'authentic' mathematical activity, which is characterised by the way in which students and their teachers work together mathematically. Students have the opportunity 'to pose their own problems, make their own conjectures and discoveries, to be wrong, to be creatively frustrated, to have an inspiration, and to cobble together their own explanations and proofs' and to engage in mathematics as 'art of explanation'. We make use of 'Big Ideas' as a tool for shifting the object of activity in the mathematics classroom to participation in authentic mathematical activity. This report draws on data from an EU sponsored research project, 'Awareness of Big Ideas in Mathematics Classrooms', and a small scale follow-up project with Secondary Mathematics PCGE students at London South Bank University.

Classification: D30 D40 C60

Keywords: authentic mathematical activity; democratic participation; student activities; teaching methods; problem posing; educational research; citizenship education; values education; mathematics and society; educational objectives; goals of mathematics education; learning objectives; mathematics and politics; big ideas

<http://www.bsrlm.org.uk/IPs/ip34-1/BSRLM-IP-34-1-23.pdf>