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Generalisation and perceptual agility: how did teachers fare in a quadratic generalising problem?

Joubert, M. (ed.), Proceedings of the British Society for Research into Learning Mathematics (BSRLM). Vol. 29, No. 2. Proceedings of the day conference held at the University of Bristol, UK, June 20, 2009 and of the New Researchers' day conference held at the Bristol University, June 19, 2009. London: British Society for Research into Learning Mathematics (BSRLM). 13-18 (2009).

Summary: This study examines the perceptual agility and strategy use of 27 prospective secondary school teachers in Singapore when solving a quadratic generalising problem. The data showed that the teachers were very capable of employing a variety of strategies to visualise the same pattern in different ways, resulting in not only a diverse range of equivalent rules but also some creative visual representations of the pattern structure.

Classification: C49 D59

Keywords: preservice teacher education; educational research; tests; quadratic generalising task; pattern generalisation; perceptual agility; additive constructive generalisation; reconstructive generalisation; non-additive generalisation; deconstructive generalisation; different approaches; problem solution strategies; numerical strategy; figural strategy; pragmatic strategy; multiple representations; visualisation
<http://www.bsrlm.org.uk/IPs/ip29-2/BSRLM-IP-29-2-03.pdf>