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Coherence and consistency in South African primary mathematics lessons.

Tso, Tai-Yih (ed.), Proceedings of the 36th conference of the International Group for the Psychology of Mathematics Education “Opportunities to learn in mathematics education”, PME 36, Taipei, Taiwan, July 18–22, 2012, Vol. 2. Taipei: National Taiwan Normal University. 27-34 (2012).

Summary: This paper contributes to the body of research on the pedagogic content knowledge required for primary school teachers to teach mathematics effectively. The particular focus is on teachers from ten schools in South Africa engaged with a longitudinal research and development project: the Wits Maths Connect-Primary project (WMC-P). We report on a video of a lesson that on the surface ‘works’ in that the teacher provides mediating means (physical, verbal and symbolic) that allow most of the learners to successfully complete the tasks set in the whole-class setting, though not so successfully within individual work. Our analysis reveals, however, that there are mismatches in the coordination of tasks, mediating means and mathematical objects, with each co-varying as tasks unfold, resulting in the mathematical objects not emerging for many learners.

Classification: D39 D32 C72

Keywords: pedagogic content knowledge; primary school teachers; mediating means; mathematical objects