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**A framework for analysis of teachers' geometric content knowledge and geometric knowledge for teaching.**

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Current reform-driven mathematics documents stress the need for teachers to provide learning environments in which students will be challenged to engage with mathematics concepts and extend their understandings in meaningful ways. The type of rich learning contexts that are envisaged by such reforms are predicated on a number of factors, not the least of which is the quality of teachers' experience and knowledge in the domain of mathematics. Although the study of teacher knowledge has received considerable attention, there is less information about the teachers' content knowledge that impacts on classroom practice. Ball (2000, *Journal of Teacher Education*, 51(3), 241-247) suggested that teachers' need to 'deconstruct' their content knowledge into more visible forms that would help children make connections with their previous understandings and experiences. The documenting of teachers' content knowledge for teaching has received little attention in debates about teacher knowledge. In particular, there is limited information about how we might go about systematically characterising the key dimensions of quality of teachers' mathematics knowledge for teaching and connections among these dimensions. In this paper we describe a framework for describing and analysing the quality of teachers' content knowledge for teaching in one area within the domain of geometry. An example of use of this framework is then developed for the case of two teachers' knowledge of the concept 'square'. (authors' abstract)

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