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Survey team on: conceptualisation of the role of competencies, knowing and knowledge in
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Summary: This paper presents the outcomes of the work of the ICME 13 Survey Team on 'Conceptualisation and the role of competencies, knowing and knowledge in mathematics education research'. It surveys a variety of historical and contemporary views and conceptualisations of what it means to master mathematics, focusing on notions such as mathematical competence and competencies, mathematical proficiency, and mathematical practices, amongst others. The paper provides theoretical analyses of these notions – under the generic heading of mathematical competencies – and gives an overview of selected research on and by means of them. Furthermore, an account of the introduction and implementation of competency notions in the curricula in various countries and regions is given, and pertinent issues are reviewed. The paper is concluded with a set of reflections on current trends and challenges concerning mathematical competencies.

Classification: C30 C40

Keywords: mathematical competence; mathematical competency; mastering mathematics; mathematical proficiency; mathematical literacy; educational standards

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