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A grade 7 teacher's selection and use of contexts in the learning support materials in order to promote understanding of the concept of variable among learners

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Abstract

The new outcomes based education (OBE) in the form of the Revised National Curriculum Statements (RNCS, 2002) advocates for the use of contexts in the teaching and learning of mathematics. The motivation for this advocacy is the expectation of the promotion of understanding of the subject. Such expectations however cannot be achievable without consideration of factors such as what contexts are appropriate for use in the teaching and learning of mathematics, how the contexts have to be used in order to promote understanding and more importantly how are teachers involved in this process. The study explores the ways in which a Grade 7 teacher selects contexts in the learning support materials or in any other source for use in order to promote understanding of the concept of variable among learners. It draws on socio-cultural theories and is underpinned by the notion that understanding of a concept presupposes and is presupposed by the formation of the concept. The research method employed was a case study and data was mainly collected through interviews as well as materials that were availed by the teacher. The following three key issues emerged from the study and were taken up for discussion: a) what does it take to make the transition from context to mathematics in terms of the promotion of the understanding of the concept of variable? b) to what extent were the materials selected by the teacher adequate to deal with issues of transition from context to mathematics in terms of the promotion of the understanding of the concept of variable? and c) what possibilities were available for the teacher to use context in order to promote understanding of the concept of variable? This study further explores the extent to which the notions of mathematisation and transition from context to mathematics may be used as the means by which the selection and use of contexts in the learning and teaching of the concept of variable may facilitate the promotion of understanding of the concept variable.