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## Teaching Problem Solving in Foundation Phase Mathematics

### Abstract

The South African Curriculum for mathematics in the Foundation Phase promotes problem solving as both a curriculum outcome and as a means to develop the mathematics proficiency of young pupils. A three-way approach is recommended that includes developing a strong sense of number; using meaningful problems; and discussing ideas and approaches. This qualitative research, which is grounded in a situated approach to learning, investigated how a small group of Foundation Phase educators in two independent schools in Johannesburg, taught mathematical proficiency and how they integrated problem solving into their pedagogy. Data was gathered through lesson observations, initial and reflective interviews and a focus group discussions with the Foundation Phase educators in each school. Drawing on a selected set of concepts from Sfard's (2008) operationalisation of what it means to *do* mathematics, and Bernstein's (2000) language of description for pedagogic practices the study described and analysed the 'what' and 'how' of their practices, focusing on how they *do* mathematics in their classrooms. The aim was to describe what the educators *actually* do, not to focus on absences. The study found that although the educators promote *some* form of mathematical proficiency, there were variations in the ways and extent to which they integrated problem solving into their practices and afford their pupils opportunities to *do* mathematics and acquire mathematical discourse. Given that teacher development programmes must work in the gap between educators' actual practices and desired practices, the descriptions of variations in the form and content of educators' *actual* practices may inform the design of teacher development- programmes intended to strengthen their competencies to work with problem solving in their classrooms.

**Key words:** problem solving, Foundation Phase, mathematising, problematising, situated learning.