

Perception of Secondary School Teachers towards the Use of Concrete Materials in Constructing Mathematical Meaning

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ABSTRACT This work presents a research carried out in schools around Sekhukhune district, Limpopo, South Africa, investigating mathematics teachers' perceptions on the use of concrete materials in constructing mathematical meaning. The sample for the study consisted of 30 purposively selected mathematics teachers. A self-constructed questionnaire was administered to solicit teachers' perceptions towards the use of concrete materials in constructing mathematical meaning. Six constructs of teachers' perceptions for using or not using concrete materials were investigated: to teacher qualities, time and cost, learners' academic background, the motivational effects of concrete materials, nature of concrete materials and students' retention of knowledge. Descriptive and inferential statistics were applied to analyse the data. The results displayed that teachers hold different perceptions towards the use of concrete materials as teaching and learning aids. The main highlights of the study revealed that 86.7% of the participants agreed that teachers' experience and expertise determine the use of concrete materials as teaching and learning aids. The majority (96.7%) of the participants also subscribed to the notion that concrete material enhances teachers and students to bridge the gap that separates how mathematics is taught and how mathematics is learned. t-test results confirmed significant differences in the way males and females perceive the use of concrete materials. The results from ANOVA test indicate that teacher's experience has no significant effect on perceptions of the use of concrete materials.