

Title: Preschool Children's Perspectives in Mathematical Learning

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Research topic/Aim: The aim of this paper is to give an introduction to the research theme, i.e. to present and discuss preschool teachers work with children's mathematical learning when children's perspectives and expressions are the overall focus. One of my most important research questions is: How can preschool teachers' work with children's mathematical learning about a specific object and focus on children's perspective in preschool context?

Theoretical framework: The study covers how the preschool teachers, with a theory as a base, strive to take children's perspective (Sommer et al. 2010) and interpret how an experienced phenomenon appears to the children. In the Variation theory (Marton et al., 2004, Runesson, 2006) necessary conditions for learning are the experience of discernment, simultaneity and variation. Learning to discern different dimensions of a phenomenon can be the first step towards creating an understanding. In order to discern a difference, children must experienced a variation from earlier experiences. It is important that teachers' have knowledge of children's earlier experiences. Simultaneity implies that children experiences how a phenomenon can have different simultaneous meanings depending on the taken perspective.

Methodology: Participants are 28 four year old children and four preschool teachers from three multicultural preschools in Sweden. The study includes video recordings and recorded interviews. Video recordings were applied to make sure that children's expressions and teachers' variation work should be visible.

Research design:

The research approach is to explore how preschool teachers, with variation theory as a base, work with mathematics in the everyday life in multicultural preschool environment. The present study is carried out using video observations of teachers work with the variation theory. They strive to get knowledge of children's earlier experiences and take children's perspective when they work with mathematical learning in natural settings.

(Expected) findings/conclusions

The results so far show that when teachers use variation to make it possible for the children to discern a specific phenomenon in spontaneous situations, they sometimes found it hard to rich the children's perspective. When teachers are included in children's activities they can help children to identify critical aspects of a phenomenon with the help of variation but it is of importance that children are interested and that they have the same focus as the teacher.

Key words: Preschool children's perspective, mathematics, teaching, variation