

Task Influences on Students' Collaboration in Mathematics Teaching

Joakim Samuelsson

Linköping University, Sweden
joakim.samuelsson@liu.se

Karin Forslund Frykedal

Linköping University, Sweden
Karin.Forslund.frukedal@liu.se

Abstract

The aim of this article was to investigate students' experience of a given mathematical problem and the types of group interaction and communication that occur when students experience a task as (a) too difficult, (b) reasonable difficult or (c) too simple. Collaborative work with mathematical problems is a commonly used teaching method but one of the difficulties for teachers is to observe the learning processes of children who are working collaboratively. Earlier research has demonstrated that the task has an influence on the group processes and the group members' interaction. In this study we were interested in *how* tasks with different degree of difficulty influenced the students' when they work in a group with mathematical problem solving tasks. Four group work sessions were documented with a video camera and we found that students' different ways of experience a mathematical task affect the interactions processes, quality talk and certain social modes of thinking. The results show that teachers' settings of the problem and how the students manage the interaction processes in the group were important to what competencies students were exposed to and what they thereby were able to learn.

Keywords: *Communication; Group interaction; Group work; Mathematical competencies; Task.*