Summary: This study engaged fourth and fifth graders in solving a set of proportional tasks with focused discussion and concept development by the teacher. In order to understand the students’ ability to generalize the concept, they were asked to write problems that reflected the underlying concepts in the tasks and lessons. A qualitative analysis of the student generated problems show that the majority of the students were able to generalize the concepts. The analysis allowed for a discussion of problems solving approaches and a rich description of how students applied multiplicative reasoning in composing mathematics problems. These results are couched in a discussion of how the students solved the proportional reasoning tasks.

Classification: F82 F83

Keywords: proportion; ratio; concept formation; grade 4; grade 5; writing in mathematics classroom