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Emergence of tables as first-graders cope with modelling tasks.

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Summary: In this action research, first-graders were challenged to cope with a sequence of modelling tasks involving an analysis of given situations and choices of mathematical tools. In the course of the sequence, they underwent a change in the nature of their problem-solving processes and developed modelling competencies. Moreover, during the task sequence, the first-graders spontaneously discovered the power of organizing problem data in a table. They did not merely use their existing mathematical knowledge, but also ‘reinvented’ tables as a new mathematical tool. This paper describes the gradual development of this tool as the children moved along the task sequence. Notably, the first-graders exhibited this progress in spite of having relatively little mathematical knowledge.

Classification: M92 D52

Keywords: modelling tasks; tables; reinvention; realistic mathematics education

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