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Evidence of reformulation of situation models: modelling tests before and after a modelling class for lower secondary school students.

Stillman, Gloria Ann (ed.) et al., Mathematical modelling in education research and practice. Cultural, social and cognitive influences. Cham: Springer (ISBN 978-3-319-18271-1/hbk; 978-3-319-18272-8/ebook). International Perspectives on the Teaching and Learning of Mathematical Modelling, 487-498 (2015).

Summary: In this chapter we discuss the reformulation of situation models. In previous modelling teaching and tests, the modelling tasks related to a real situation were reported for elementary school students. Here we administer a test before and after a modelling class for lower secondary school students. The original situation at the pre-test and the post-test were not changed. The students were required to set up a problem from a real situation, and draw pictures to explain how they setup the problem. We focus on pictures to explain the problems as evidence of situation models. As results, we can confirm that the reformulation of situation models occurred when simplifying the task, clearly explaining the task for others, or structuring the task mathematically.

Classification: M13 D63

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