How do 7th Grade Students Solve Proportion Problems?

Gábor Torma

University of Szeged, Szeged, Hungary

Proportionality thinking and solving problems related to proportionality are not only important in the school curriculum, but also in everyday tasks. At all levels of education, but especially in primary schools, it is an important developmental task that pupils should be able to recognise proportionality in concrete, everyday situations by the end of the school phase.

In my presentation, I would like to report on some of the results of our classroom experiment conducted in the school year 2023/2024. At the beginning and at the end of the unit, the students took a test. The tests mostly consisted of text tasks. The student responses at the pre- and post-tests were used to assess the success of the tasks and the strategies used by the students to solve the problems. For this purpose, we used the classifications of proportional reasoning strategies previously described in the mathematics didactics literature.

We sought to answer the following questions: How successfully do seventh grade students solve proportionality problems? What strategies do students use to solve each type of problem? Do the strategies used in pre-testing change by the end of the unit?

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