

Einladung zum wissenschaftlichen Kolloquium des IDMI

Wim van Dooren
(KU, Leuven)

**Mathematical reasoning and its various obstacles – the case of
proportionality**

Looking back at two decades of involvement in mathematics education research, I noticed one clear Leitmotiv: Nearly always I ended up investigating students of various ages blatantly making mistakes to problems for which they – in principle – possess all required domain specific knowledge to come to a correct answer. In this talk, I will focus on proportional reasoning as a case, and more specifically the phenomenon that learners over-use proportionality. Based on a range of studies in various domains (word problems, geometry, probability, physics) I will illustrate how various scientific disciplines can shed light on the obstacles that learners of various ages (from Kindergarten to university) encounter. Complementing this, I will show how very young learners already possess specific abilities that are largely neglected in the first years of education, and point out recent insights showing the importance children's language abilities in this.

Bio

Wim Van Dooren (1977) is a full professor at the Centre for Instructional Psychology and Technology at the University of Leuven, Belgium. He was the president of the International Group for the Psychology of Mathematics Education (PME) until 2025, and he is currently editor-in-chief of the journal Educational Studies in Mathematics. He has (co-)authored over 150 international journal publications as well as various books and book chapters. His research is mostly about mathematical teaching and learning, in a broad age range (from Kindergartners over primary and secondary school students to mathematical experts), and addresses various mathematical topics: word problems, algebra, proportions, fractions, geometry, spatial thinking, probability, ... He also conducts research on statistical reasoning, the link between physics and mathematics, as well as learners' understanding of astronomical concepts. His research is usually situated at the intersection of the content-specific domain, educational psychology and cognitive psychology.

Dienstag, den 26. Januar, um 17 Uhr c.t.
Henriette-Son-Str. 19, 48149 Münster

Vorgespräch bei Kaffee und Tee um 16:30 Uhr im Raum 14,
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