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**On the role of inconceivable magnitude estimation problems to improve critical thinking.**

Gellert, Uwe (ed.) et al., Educational paths to mathematics. A C.I.E.A.E.M. sourcebook. Collected papers based on the presentations at the 63rd and 64th conference, Barcelona, Spain, summer 2011 and Rhodes, Greece, summer 2012. Cham: Springer (ISBN 978-3-319-15409-1/hbk; 978-3-319-15410-7/ebook). *Advances in Mathematics Education*, 263-277 (2015).

Summary: In this chapter, we introduce inconceivable magnitude estimation problems as a subgroup of Fermi problems. The problems we use in our study require counting the amount of people in different situations. Based on the experience of a classroom activity carried out with 15-year-old students, we describe the process they went through to solve the problems, and discuss in which ways these problems provide knowledge to critically analyse the information that appears in the media.

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