

ZMATH 2014c.00851

Prodromou, Theodosia

Informal inferential reasoning using a modelling approach within a computer-based simulation.

Lindmeier, Anke M. (ed.) et al., Proceedings of the 37th conference of the International Group for the Psychology of Mathematics Education “Mathematics learning across the life span”, PME 37, Kiel, Germany, July 28–August 2, 2013. Vol. 4. Kiel: IPN–Leibniz Institute for Science and Mathematics Education at the University of Kiel (ISBN 978-3-89088-290-1). 57-64 (2013).

Summary: The article investigates how 14- to 15- year-olds build informal conceptions of inferential statistics as they engage in a modelling process and build their own computer simulations with dynamic statistical software. This study proposes four primary phases of informal inferential reasoning for the students in the statistical modelling and simulation process. Findings show shifts in the conceptual structures across the four phases and point to the potential of all of these phases for fostering the development of students’ robust knowledge of the logic of inference when using computer based simulations to model and investigate statistical questions.

Classification: K70 K90 U70

Keywords: inferential statistics; informal reasoning; statistical modelling; simulation