

ZMATH 2008b.00313

Ilany, Bat-Sheva; Keret, Yaffa; Ben-Chaim, David

Implementation of a model using authentic investigative activities for teaching ratio and proportion in pre-service teacher education.

Johnsen Høines, Marit (ed.) et al., Proceedings of the 28th international conference of the International Group for the Psychology of Mathematics Education, PME 28, Bergen, Norway, July 14–18, 2004. Bergen: Bergen University College. Part III, 81-88 (2004).

Summary: In this research we examined and assessed the impact of implementation of a model using authentic investigative activities for teaching ratio and proportion in pre-service teacher education. The model was developed following pilot studies investigating the change in mathematical and pedagogical knowledge of pre- and in- service mathematics teachers due to experience in authentic proportional reasoning activities. The conclusion of the study is that application of the model, incorporating theory and practice leads to a dramatic positive change in the pre-service teachers' content and pedagogical knowledge. In addition, an improvement occurred in their attitudes and beliefs towards learning and teaching mathematics in general, and ratio & proportion in particular.

Classification: F89 F99 D49 B52 B53 C38 A68

Keywords: proportionality; proportional thinking; word problems; pedagogical content knowledge; preservice teacher education; student teacher attitudes
emis:proceedings/PME28/RR/RR032_Ilany.pdf