ZMATH 2015d.00126

Eichler, Andreas; Erens, Ralf

Domain-specific belief systems of secondary mathematics teachers.

Pepin, Birgit (ed.) et al., From beliefs to dynamic affect systems in mathematics education. Exploring a mosaic of relationships and interactions. Cham: Springer (ISBN 978-3-319-06807-7/hbk; 978-3-319-06808-4/ebook). Advances in Mathematics Education, 179-200 (2015).

Summary: This chapter focuses on belief systems of secondary mathematics teachers as part of teachers' mathematics-related affect. Our particular interest concerns teachers' belief systems that represent the teachers' instructional planning. Further we focus briefly on the impact of the teachers' belief systems on their classroom practice and their professional development. In this paper we discuss our theoretical approach in relation to the international discussion on mathematics-related affect. After a brief outline of methodological considerations, the structure of calculus teachers' belief systems is analyzed with regard to the issue of central and peripheral beliefs and the relationships of belief clusters. Secondly we comment on patterns found in the belief systems of teachers thinking about different mathematical domains. An identification of distinctive features of beliefs regarding different mathematical domains is followed by an analysis of the impact of teachers' beliefs on their classroom practice and their professional development.

Classification: C29
Keywords: teachers' beliefs; teachers' goals; belief systems; central and peripheral beliefs
doi:10.1007/978-3-319-06808-4_9