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Meta-emotion and mathematical modeling processes in computerized environments.

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, 201-226 (2015).

Summary: Integrating technology into teaching mathematics is a complex issue whose inter-related components must be addressed holistically. The research on the interaction between affect and cognition proposed in this chapter focuses on a number of understudied areas in problem-solving: visualization, affect, meta-emotion and the identification of students' affective pathways. The two studies described revealed the existence of several emotional phenomena associated with technology-assisted learning: (a) an initially positive attitude toward computer-aided mathematics learning and a preference for visual reasoning; (b) instrumental genesis associated with social and contextual dimensions of emotion and cognition; and (c) the effect of meta-emotion on task performance and the development of visual processes.

Classification: C20 U70 M10

Keywords: visual thinking; teacher training; geometry; technology; beliefs; meta-emotion; mathematical modeling

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