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Lerman's perspectives on information and communication technology.

Gates, Peter (ed.) et al., Shifts in the field of mathematics education. Stephen Lerman and the turn to the social. Singapore: Springer (ISBN 978-981-287-178-7/hbk; 978-981-287-179-4/ebook). 215-230 (2015).

Summary: In many of his recent publications, Lerman discusses the use of information and communication technology (ICT) in mathematics teaching and learning, addressing several issues such as numeracy, classroom interactions, scaffolding, teacher education, pedagogy, online education, the use of whiteboards, and so forth. In our research, we have addressed sociocultural perspectives to conceptualize the role of ICT as cultural artifacts in mathematical learning and activity. We have built on the notion of humans-with-media to emphasize mathematical knowledge production as a social, collective, and object-directed undertaking. In this chapter, we present (a) the way Lerman dealt with ICT in different publications and (b) potential links between his perspective and part of the work of our research group GPIMEM at Sao Paulo State University, in Brazil. We also discuss potential theoretical insights to our current interest on the use of digital technology and the performance arts for multimodal mathematical communication.

Classification: U70 C60 D20 A30

Keywords: research in mathematics education; use of technology; Stephen Lerman's work; information and communication technology; sociocultural perspectives; role of ICT

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