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Multi-representation based objectification of the fundamental theorem of calculus.

Amado, Nélia (ed.) et al., Proceedings of the 12th international conference on technology in mathematics teaching, ICTMT 12. Faro: University of Algarve (ISBN 978-989-8472-68-7). 86-94 (2015).

Summary: This study was designed to elaborate learning trajectory for the fundamental theorem of calculus. The learning trajectory is based on the structural decomposition of the fundamental theorem of calculus, and on tasks to be learned with multiple representational technology-based artifacts. The study was guided by the objectification theory, which considers learning as a matter of actively endowing the conceptual objects made available by the artifact with meaning. The analysis of the data identifies the focuses involved in the elaborated learning trajectory.

Classification: U75 I45 I55

Keywords: learning trajectory; multiple representational technology; objectification; calculus; integral