



Reappraising Learning Technologies from the Viewpoint of the Learning of Mathematics

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Abstract. Within the context of secondary and tertiary mathematics education, most so-called learning technologies, such as virtual learning environments, bear little relation to the kinds of technologies contemporary learners use in their free time. Thus they appear alien to them and unlikely to stimulate them toward informal learning. By considering learning technologies from the perspective of the learner, through the analysis of case studies and a literature review, this article asserts that the expectation of these media might have been over-romanticised. This leads to the recommendation of five attributes for mathematical learning technologies to be more relevant to contemporary learners' needs: promoting heuristic activities derived from human history; facilitating the shift from instrumentation to instrumentalisation; facilitating learners' construction of conceptual knowledge that promotes procedural knowledge; providing appropriate scaffolding and assessment; and reappraising the curriculum.

Key words and phrases: conceptual knowledge, informal learning, instrumental genesis, learning technology, procedural knowledge.

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