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Using digital technologies in mathematics teaching: developing an understanding of the landscape using three “grand challenge” themes.

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Summary: This paper develops an understanding of the issues, interests and concerns within the mathematics education community related to the use of computers and other digital technologies in the teaching and learning of mathematics. It begins by arguing for the importance of understanding this landscape of interests and concerns, and then turns to the theoretical and methodological choices made in this study, explaining how it has drawn on the approach developed by the STELLAR European Network of Excellence. Analysing the titles and abstracts of a conference chosen to represent the mathematics education community, it maps out the landscape framed by three “grand challenges”, finding that an understanding of orchestrating learning is at the heart of the interests of the community, and that the community is interested in exploring new and different contexts for the teaching and learning of mathematics. However, there is currently less interest in investigating and exploiting the increasing connectedness of learners within this community. Further, while the “grand challenges” framing is useful in mapping the landscape, it fails to take into account both the personal concerns of teachers and students, such as attitude and confidence, and issues related to doing research and understanding research concerns.

Classification: D20

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