



## Using technology for maths teaching and learning: instructional design, digital books and automated feedback

**Abstract:** In this talk I will give an overview of research on the affordances of using technology in teaching and learning mathematics. In particular I will:

- Give an overview of specific affordances of technology and its role in instructional designs for teaching and learning maths.
- Describe how technology is more and more integrated in instructional materials, allowing for digital maths books. I will show what affordances technology can have in the design of these books, through examples from the MC-squared and enGasia projects.
- Emphasise some features of these digital maths books, for example the feature to provide customised automatic feedback, check geometric constructions and store student data.

Attendees can bring their own technology to try out some of the software.



**Short bio:** Dr Christian Bokhove is Lecturer in Mathematics Education within Southampton Education School at the University of Southampton. He is a specialist on the use of technology in mathematics education. He was a teacher of mathematics and computer science, and head of ICT at a secondary school from 1998 to 2012 in Zaandam, the Netherlands. During these years he participated in and led projects on maths and ICT (wisweb, Galois, Sage). In 2011 he obtained his PhD at Utrecht University with his thesis 'Use of ICT for acquiring, practicing and assessing algebraic expertise'. From August 2012 he is appointed lecturer in mathematics education at the University of Southampton. Christian is interested in procedural fluency and conceptual understanding, use of technology for maths and large-scale assessments like TIMMS and PISA. By combining theory and practice, quantitative and qualitative methods, he feels that bridging the gap between them benefits us all.

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