Continuous and discrete knowledge: analysing trainee teachers’ mathematical content knowledge change through ‘knowledge maps’.

Summary: Shulman is renowned for shifting the focus of teacher knowledge research onto content knowledge for teaching with the introduction of his categories of content knowledge. Following Shulman, many researchers have defined further categories of knowledge for teaching or refined his ideas. Many accept that there is a specialised knowledge of mathematics for teaching. However, others argue that teaching is simply utilising mathematical content and processes within a different (teaching) context, rendering categories of knowledge types unnecessary. Both points of view are taken into account in the introduction of ‘continuous’ and ‘discrete’ knowledge – a proposed metaphor for how mathematical content knowledge is held within teachers’ minds. Not only do these terms aim to reconcile these seemingly opposing perspectives, but they take into account the dynamic nature of knowledge, allowing it to be represented in the form of ‘knowledge maps’ for comparison over time. This paper introduces the proposed metaphor and representation as a means to research trainee teachers’ mathematical content knowledge change.

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