
Mathematical explanation: What is it?

Mathematical explanation: What is it?

Tim Rowland (University of Cambridge, UK, and Norges teknisk-naturvitenskapelige universitet, Norway)

Some years ago, with colleagues in Cambridge, I developed a framework for identifying and analysing the role of mathematics teacher knowledge in the classroom. This framework, the Knowledge Quartet, was built on a number of things that teachers were seen to do in the course of instruction. Some time later, we realised that 'explanation' was not explicit in any of the codes that captured these instructional choices and actions. Yet Gaea Leinhardt has observed that "Instructional explanations are recognizable as being a part of the instructional landscape by teachers, students and observers". In this talk I will be trying to make sense of the absence of 'explanation' as an explicit component of the Knowledge Quartet, mainly by unpicking what it is that we do when we explain in mathematics classes.