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Developing one-to-one teacher-student interaction in post-16 mathematics instruction.

Lindmeier, Anke M. (ed.) et al., Proceedings of the 37th conference of the International Group for the Psychology of Mathematics Education “Mathematics learning across the life span”, PME 37, Kiel, Germany, July 28–August 2, 2013. Vol. 2. Kiel: IPN–Leibniz Institute for Science and Mathematics Education at the University of Kiel (ISBN 978-3-89088-288-8). 385-392 (2013).

Summary: Recent developments in mathematics education emphasise the role of teacher-student interaction in developing students’ conceptual understanding and knowledge construction, with a corresponding de-emphasis on the use of ‘telling’: the stating of facts and demonstration of procedures. This action research study investigated teacher-student dialogue during one-to-one interactions in one teacher’s post-16 mathematics classroom. Four students volunteered to participate. Data sources included clinical interviews, student feedback interviews and an analytical log. The findings indicate that, although the teacher utilised more ‘telling’ than ‘questioning’ interventions, often these ‘telling’ actions served useful and necessary functions. Findings also indicate that the teacher’s scaffolding skills developed during the project.

Classification: C74 C34

Keywords: teacher-student interaction; conceptual understanding; telling; questionnaire