

FACULTY OF EDUCATION, UNIVERSITY OF CAMBRIDGE

LENT TERM 2009

CAMBRIDGE COLLOQUIA IN MATHEMATICS EDUCATION

Monday 26th January 2009 at 5.00 p.m., Room 119, Mary Allan Building, Hills Road

Dr Gabriel Stylianides, University of Pittsburgh, USA and Dr Andreas Stylianides, Faculty of Education, University of Cambridge

THE 'COGNITIVE CONFLICT' APPROACH TO MATHEMATICS TEACHING

A major idea of the 'cognitive conflict' approach to mathematics teaching is that, by creating situations where students' current understandings do not hold, students will feel the need to resolve the emerging contradictions in their understandings. Yet, students tend to treat contradictions as exceptions and thus do not experience a cognitive conflict. We will present a theoretical framework that aims to cast light on conditions that increase the potential of contradictions to generate a cognitive conflict for students. Also, we will use findings from a four-year design experiment to support the proposed framework and exemplify its application in the domain of proof.

Monday 23rd February 2009 at 5.00 p.m., Room G10, Mary Allan Building, Hills Road

Dr Dolores Corcoran, St Patrick's College, Dublin City University and Faculty of Education, University of Cambridge

LEARNING TO TEACH MATHEMATICS USING LESSON STUDY

I will talk about a teacher development intervention offered during the third year of an undergraduate teacher education programme in Dublin. Six students participated in an elective course seeking to learn about mathematics teaching. A Japanese lesson study protocol was followed to prepare lessons collaboratively. Three cycles of lesson study were completed and the Knowledge Quartet was used to reflect on mathematical aspects of the lessons. The elective course involved 'doing mathematics', 'doing lesson study' and 'being in the lesson study elective group.' I draw on the Community of Practice heuristic developed by Wenger (1998) to describe instances of how each of these aspects contributed to student participants' learning to teach mathematics and learning mathematics in teaching.

Tea and coffee will be available before each meeting. All are very welcome.

For directions to the Mary Allan Building and any other information, contact Tim Rowland at tr202@cam.ac.uk