

FACULTY OF EDUCATION, UNIVERSITY OF CAMBRIDGE

LENT TERM 2012

CAMBRIDGE COLLOQUIA IN MATHEMATICS EDUCATION

Monday 30th January 2012 at 5.00 p.m., Room 205, Mary Allan Building, Hills Road

Professor Dave Pratt, Institute of Education, University of London

THE MICRO-EVOLUTION OF MATHEMATICAL KNOWLEDGE: THINKING ABOUT RANDOMNESS

I focus on individual student's mathematical thinking-in-change over relatively short periods of time with a particular interest in the nature and evolution of knowledge. My perspective seeks to infer the relationship between technological design and thinking-in-change. I will present evidence on student's thinking about randomness, and a case for describing the emerging knowledge in terms of heuristics that appear to be highly situated, yet capable of sense-making and that project across situations. I will conclude that mathematical knowledge can be described as evolving through the broadening of a contextual neighbourhood, and that we can offer carefully designed settings that intentionally seek to shape that evolution.

Monday 5th March 2012 at 5.00 p.m., Room 205, Mary Allan Building, Hills Road

Dr Kai-Lin Yang, National Taiwan Normal University and University of Cambridge

ANALYSING ABSTRACTION IN ENGLISH AND TAIWANESE SECONDARY MATHEMATICS TEXTBOOKS

In this talk I will outline an emergent analytical framework, an adaptation of Orit Hazzan's three perspectives on abstraction, for use in analysing textbooks. The three perspectives are described as familiarity, operationality and simplifiability. Familiarity refers to the extent to which didactic materials reflect that which is already understood by the learner; operationality refers to the extent to which didactic materials provide scaffolding support; and simplifiability refers to the extent to which the didactic materials exploit transformations. The framework has been used on English and Taiwanese textbooks to examine the extent to which abstraction, as a mathematical process, is supported.

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

For further other information, contact Tim Rowland at tr202@cam.ac.uk