

## TEACHERS' THINKING ON INCORPORATING GRAPHING CALCULATORS INTO MATHEMATICS TEACHING

Sit Yuen Lee

University of Cambridge Faculty of Education

Research on graphing calculators has focussed predominantly on students with the teacher's role being largely neglected. This study examines graphing calculator use from the perspectives of advanced-level mathematics teachers working in English schools; adding to recent research on teacher's beliefs (Doerr & Zangor, 1999) and teachers' perceptions (Simonsen & Dick, 1997) in relation to graphing calculator use.

Since the intention of the study is to elicit in-depth accounts of teachers' perceptions and experiences of graphing calculator use in their classrooms, an interpretative framework has been adopted. Semi-structured interviews and lesson observations with six teachers from two institutions form the data corpus.

Findings from the study indicate a set of interrelated considerations and motivations for use. Moreover, the process of incorporating graphing calculators into their classroom practice involved several forms of *teaching* (technical, functional and conceptual), *guidance* (indirect and direct), and *support*. Teachers were found to develop knowledge of a range of pitfalls students were likely to encounter when using the graphing calculator, and from this a repertoire of troubleshooting techniques appeared to evolve.

### References:

- Doerr, H. M. & Zangor, R. (1999). Creating A Tool: An Analysis Of The Role Of The Graphing Calculator In A Pre-Calculus Classroom. In Zaslavsky, O. (Ed.) *Proceedings of the International Group for the Psychology of Mathematics Education*, Vol. 2. Haifa, Israel. pp. 265 – 272
- Simonsen, L. M. & Dick, T. P. (1997). Teachers' Perceptions Of The Impact Of Graphing Calculators In The Mathematics Classroom. *Journal of Computers in Mathematics and Science Teaching*, Vol. 16. pp. 239 - 268