

Mathematics Teaching 2002 Conference Report

Mathematics Teaching 2002 took place on Saturday 2nd November at the David Hume Tower, University of Edinburgh. The conference was fully subscribed and a full complement of 150 delegates attended on the day. Our theme this year was 'Problem Solving and Enquiry', recently identified in the inspectorate report "Standards and Quality in Primary Schools: Mathematics 1998 - 2001" as an area of concern.

We were privileged to welcome Frans Moerlands of the Freudenthal Institute, University of Utrecht, as our keynote speaker. In his lecture entitled 'From Game to Model: Solving Problems in Mathematics Education', Frans set out a paradigm for the development of learning in the Realistic Mathematics Education (RME) style, currently being developed in the Netherlands. He described the development of a learning strand, making links between reality, mathematics, learners and the infrastructure we all operate within. A basic calculation of '47 + 28' was explored in a variety of contexts and the effectiveness of games was highlighted as a way of engaging learners. The starting point was a game called the 'Sun game', which utilised five and ten structure to good effect. A wide range of resources was considered by Frans, alerting the audience to the possibilities in the classroom and the valuable learning opportunities that might be accessed through such activities before he ended with the use of the 'empty number line'. The specific subject (calculating up to 100) provided an opportunity for reflection on pupil and teacher perspectives of the learning situation. His thoughtful and inspiring words set the tone for a day of reflection and exchange of ideas.

Conference participants were able to choose three from a selection of thirteen workshop / discussion sessions.

Problem Solving in the Primary Classroom	Anne McLanachan
Maths Challenge	Eric Brown & Diana Mackie
Enriching the curriculum for less able pupils	Tim Bateman
The Crystal Maze	Kate Aitchison and Lois Rollings
'PI-Club' (Extra-curricular Maths Club)	Gordon Johnston
Enterprising Maths	Mary Teresa Fyfe
Problem Solving and the Calculator-Based Ranger (CBR)	Callum Stewart & Tom Macintyre
Problem Solving - A Teaching Strategy for all?	Sue Pope
Enriching the curriculum for high achievers	Lynne McClure
Encouraging group work in the classroom	Ian Forbes
Making Sense of Number	David Thomson

Problem Solving and Investigation for
Upper Primary

Lesley Jones

Developing mathematical thinking through
pupil-generated examples

Christopher Bills

These sessions were led by classroom practitioners and teacher educators from across the country. As well as providing valuable learning opportunities they allowed teachers from the different sectors and from different areas of Scotland to meet and discuss issues of common concern.

Throughout the day delegates were challenged by a collection of puzzles appropriate to our theme. These decorated the walls of David Hume Tower and attracted considerable attention during coffee and lunch breaks. Two competitors were presented with a small reward for their puzzling prowess at the end of the day!

The closing address by Adam McBride of the University of Strathclyde described the 43rd International Mathematical Olympiad (IMO) held in Glasgow in July 2002. This event is the world's most prestigious mathematics competition for secondary school pupils. It has been hosted by the United Kingdom only once before in 1979 when the number of participating countries was 23; IMO 2002 had a record 84 countries represented with some 479 students participating in the gruelling challenges! Adam gave an entertaining and unique insight into the highly complex task of organising such an event and a flavour of the type of problem posed.

Conference participants were also able to visit an exhibition of books and teaching materials. Representatives of Sharp Electronics, Smile Mathematics, Heinemann, Nelson Thornes, Sumdials and NES Arnold attended and there were also displays of resources available from the Mathematical Association and the Association of Teachers of Mathematics.

Thanks go to the speakers and those who led workshops / discussion sessions. Their time and effort was clearly appreciated by those who attended the conference with many conference participants commenting on the value of these sessions for their teaching.

Particular thanks are due to sponsors of the conference: the University of Edinburgh, the Edinburgh Mathematical Society, the Scottish International Education Trust and Standard Life. Without their support this conference could not take place in its current form.

A full report of the conference proceedings containing details of each session will be published in due course.

Tom Macintyre

Ruth Forrester

www.education.ed.ac.uk/crd/events