

# National Teaching Fellowship update

Developing an open and flexible networked learning community at doctoral level across Europe

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## Post script

The published proceedings of the MATHED 2003 IP and the MATHED 2004 event in Slovenia have been dedicated to the memory of my friend, fellow adventurer, colleague and research student John Gardiner, PhD (Sheffield Hallam, 2003) who was tragically killed in a climbing accident in Snowdonia in 2004.

The award of a National Teaching Fellowship (NTF) by the Higher Education Academy in 2004, has enabled additional support for a project that aims to develop an open and flexible networked learning community at doctoral level across Europe. My major contribution, from a subject perspective, has been as co-ordinator of developments in the field of mathematics education and in particular of the Intensive Programme (IP) MATHED “*Researching the Teaching and Learning of Mathematics*”. From a generic perspective, my contribution has been as a joint co-ordinator on the theme of e-learning in higher education and of the IP ELHE “*E-Learning in Higher Education*”.

## Wider Background Context

My NTF project is set within the wider context of the Advanced Curriculum Development project EUDORA: “*Europäisches Doktorat Lehrerbildung*” or “*European Doctorate in Teaching and Teacher Education*” which is co-ordinated by Pädagogische Hochschule, Linz, Austria. This project has been funded by the European Commission, from 2003 to date, under the Erasmus Action (Higher Education) of the Socrates Programme. The project builds on the earlier related project EDIL “*Europeisk Doktorat en Lärarutbildning*” that was co-ordinated by the University of Umeå, Sweden (2000-03) and which arose directly from the activities of the Thematic Network for Teacher Education in Europe (TNTEE). The current participating institutions in the EUDORA project are Karl-Franzens University of Graz, Austria; Pädagogische Hochschule, Linz, Austria (Co-ordinator); University of Helsinki, Finland; University of Oldenburg, Germany; University of Riga, Latvia; University of Ljubljana, Slovenia; University of Lodz, Poland; University of Umeå, Sweden; Tallinn Pedagogical University, Estonia; University of Antalya, Turkey and Sheffield Hallam University. At this time a pre-proposal under the Erasmus 3 Action of the Socrates Programme *Teacher Education Network towards 2010* (TEN-10) is being evaluated by the European Commission.

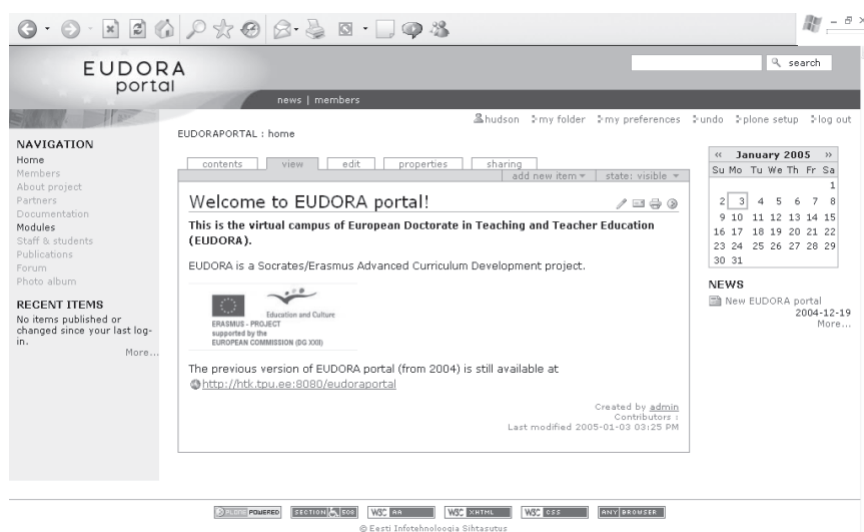


Fig 1 The EUDORA project portal for 2005

### *The Intensive Programmes in general*

As part of a strategy of complementary actions, a number of applications for Intensive Programmes (IP) under the Socrates programme have been successful over the period 2000 to 2005. Each IP brings together doctoral and masters students with staff from an even wider network of universities for at least 10 days to work on a specific subject. These IPs have been vehicles for the development of modules involving studies in the fields of education policy analysis, mother tongue education, social inclusion in education and active learning in higher education as well as mathematics education and e-learning, whilst further module development is planned.

During the past 4 years intensive programmes have been held at a variety of locations across Europe as part of these developments. The first MATHED IP was held at Pädagogische Hochschule, Linz, Austria, in July 2003, the second as part of the EUDORA Summer School in Tolmin, Slovenia, hosted by the University of Ljubljana during August 2004, whilst the third is planned for July 2005 to be hosted by Tallinn Pedagogical University in Vijlandi, Estonia. Meetings of the ELHE group have taken place in Linz, Riga and Viljandi since 2002 and the meeting in 2005 will be held jointly with that of the MATHED IP. The IPs have been supported by the use of virtual learning environments, which have facilitated student contributions in the form of draft papers that have been published online and subsequently in hard copy.

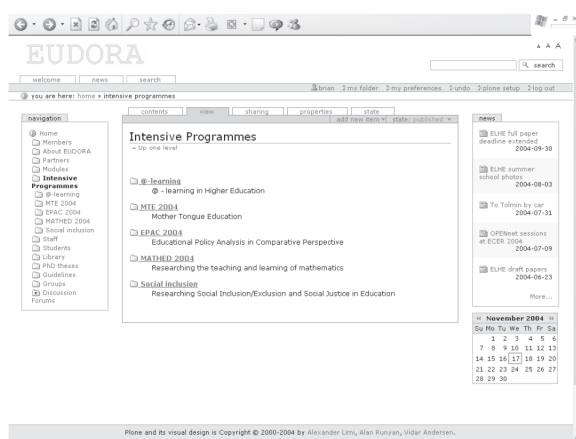


Fig 2 Links to the IP web sites in 2004

### *The MATHED Intensive Programmes*

The first MATHED IP was held at Pädagogische Hochschule, Linz, Austria between 2<sup>nd</sup> and 12<sup>th</sup> July 2003. This brought together mathematics education

doctoral students with tutors from eight universities across Europe for 10 days of intensive study on aspects of the current research in the field of mathematics education. The excitement involved in making new connections – social, pedagogical and mathematical – was an almost tangible aspect of the experience. The institutions taking part were Sheffield Hallam University (co-ordinator), Pädagogische Akademie des Bundes in Oberösterreich, Charles University, Prague, University of Helsinki, University of Riga, Oslo University College, Oxford Brookes University and Aristotle University of Thessaloniki.



Photograph 1: Members of the MATHED 2003 IP

The intensive programme enabled participants to examine issues of policy and practice relevant to their work in mathematics education within an international context. The programme aimed to develop a critical focus on the nature of research into the teaching and learning of mathematics in an international context, and to develop theoretical approaches and methods appropriate to comparative research. This was intended to support the further development, on the part of the participants, of their understandings of the methodological complexities of research in mathematics education, to identify current themes in mathematics education and critically analyse their significance, and to relate these outcomes to their own contexts.



Photograph 2: Workshop on dynamic geometry



and international conferences, e.g. the Higher Education Academy Conference and the European Conference on Educational Research (ECER) in 2005.

This EUDORA project and related developments can be considered within the context of the “Bologna process”, which followed the Bologna Declaration of 19 June 1999 by the European Ministers of Education. The declaration emphasised the creation of the European area of higher education as a key way to promote citizens’ mobility and employability and the overall development of the continent of Europe as a whole. It also affirmed support for the promotion of the mobility of students and teachers, and for the promotion of the European dimensions in higher education, particularly with regard to curricular development, inter-institutional co-operation, mobility schemes and integrated programmes of study, training and research. The pre-proposal *Teacher Education Network towards 2010* (TEN-10), referred to earlier, has been submitted by the University of Umeå, Sweden and involves approximately 100 participating institutions from across Europe. It currently includes partners from the European Union member states and more widely, e.g. Bulgaria, Moldavia, Albania, Romania, Croatia, Montenegro and Turkey. The partnership also includes several institutions from across the UK, together with the University Council for the Education of Teachers (UCET), and is estimated to grow to approximately 150 participants at the final submission stage, if approval is given to proceed.

The combined effects of these related developments are intended to draw together all participants across the EUDORA project into an open and flexible networked learning community; to better support the process of dissemination; to support broader and deeper evaluation through practice-based action research; to improve practice through networking and sharing of best practice and to improve the student learning experience and outcomes.

### **Final reflections**

Having recently completed a NTF survey on creativity, I reflected on the introduction I had just written for the volume of papers from the first MATHED IP. In this I have quoted Tom Romburg and Jim Kaput who are cited by Leone Burton, in her British Education Research Journal (BERJ) paper in 2001, about her own research on research mathematicians as learners. Tom and Jim outline a view of mathematics, to which I subscribe, that is primarily integrative and which stresses the acquisition of understanding by all, rather than the selection and promotion of an elite. In their words “*It is a philosophy that simultaneously stresses erudition*

*and common sense, integration through application, and innovation through creativity. Most important, it stresses the creation of knowledge. Against this ambitious view of mathematics, traditional school mathematics appears thin, lifeless and isolated.*” Leone stresses the consistency between these views of learning and of research, and highlights the way in which educators and mathematicians in her study stressed the need to site learning into a connected context, where the fuel for the search is provided by the challenge and excitement of making new connections. For me, this process captures the essence of what being creative in mathematics involves. I would add that the climate of high stakes testing and league tables in the school system, together with the culture of “new managerialism” in the British higher education system, are combining to work against the creation of the conditions needed to provide the fuel that is so necessary at this time. The inspiration for individual learners to find this fuel within themselves is what is at the very heart of good teaching. Reflecting on the experience of the MATHED IPs to date, I think it is fair to say that all participants tasted the challenge and excitement of making new connections, in several senses of the word – social, pedagogical, didactical and mathematical.

**Brian Hudson** is a Principal Lecturer, Professor of Education and Co-ordinator of Learning, Teaching and Assessment in the Division of Education and Humanities, Faculty of Development and Society at Sheffield Hallam University. He graduated from UMIST in 1973 with a degree in Engineering, completed a PGCE in secondary mathematics teaching in 1974, studied for an Advanced Diploma in Applied Educational Studies at the University of York in 1984-85 and was awarded a PhD in Mathematics Education by Sheffield Hallam University in 1995. Before joining the university, he was a teacher of mathematics in secondary comprehensive schools for fifteen years, including five years as head of department. He has long-standing research interests in the use of information and communications technology in teaching and learning. He is a Chartered Mathematician and Fellow of the Institute of Mathematics and Its Applications (FIMA) and he was awarded a National Teaching Fellowship in 2004 by the Higher Education Academy. From 2000 to 2005 he was Programme Leader for the International MSc in e-Learning Multimedia and Consultancy that is run jointly between Sheffield Hallam University and Arnhem-Nijmegen University of Professional Education in The Netherlands. Currently he is co-ordinator of the Pedagogy and New Technologies Research Group (PENTEC); convenor of Network 6: Open Learning Contexts, Cultural Diversity, Democracy (OPENnet) of the European Educational Research Association (EERA); Advisory Member of the European Experts’ Network for Education and Technology (EENet) and University representative on the Socrates-Erasmus Project EUDORA: European Doctorate in Teaching and Teacher Education. His current particular research interests include the development of learning communities in open and flexible international learning environments. He was recently elected as a registered practitioner to the Council of the Higher Education Academy for a period of 3 years.