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European Development for the Use of Mathematics Technology in Classrooms

EdUmatics

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Recent studies in Mathematics education show that, despite many national and institutional actions within the EU aiming to integrate ICT into mathematics classrooms, such integration in secondary schools remains weak. The rate of this integration increases slowly when compared to the evolution of the technology. The huge diversity of ICT resources leaves teachers often unsure of which to use, and when and how to use them. Studies also reveal that the reasons for the slow integration of ICT in mathematics into classroom practice are deeply linked to the training strategies used. Approaches to training are sometimes unrelated to teachers' current classroom practices, being essentially based on the transmission of technological rather than pedagogical skills. Thus, there has been little impact on supporting teachers to make best use of new opportunities created by digital educational content and services.

The EdUmatics project brings a group of leading mathematics education researchers who work actively in this domain together with partner schools to design, trial, evaluate and disseminate a teacher development course, which aims to improve classroom practices with ICT. Whilst some of the partners of this project have already collaborated on research on the use of ICT in mathematics education and on the development of technological tools, this project will extend such collaboration by focusing on a European approach to teacher development in this area. The project will develop a research based course which aims to educate in-service and pre-service teachers to use new technologies in their mathematics classroom to maximise students' learning.

The proposed course will consist of 5 modules.

1: Starting to work with ICT;

2: From static to dynamic representations

3: Constructing functions and models;

4: Using ICT in the classroom: Teaching approaches;

5: Interrelationships between software.

The course resources will become available through a multilingual European collaborative internet-based platform to include both video of classroom case studies, interactive applets, teaching materials, etc. This course also integrates face-to-face meetings (within each country), online-work, individual tasks and practical work in the classroom. A primary

outcome of this project will be high quality teaching material that exemplifies the best use of ICT in mathematics, underpinned by the current research in this area: dynamic experience of mathematics, working with different representations, seeing the relationship between algebra and geometry, etc .Each University will work closely with their national decision makers to seek accreditation/certification for participating teachers in line with national standards. This could support the development of criteria for a European quality mark for ICT training specific to mathematics teaching at secondary school level. The final project reports and associated research papers will be published in wide range of journals and websites for both teachers and the mathematics education research community. Also, as most of the teachers involved in the project are themselves training teachers in diverse institutions and through government initiatives, they will be able to incorporate project outcomes, hence disseminating the results of the project to a large group of teachers who will themselves disseminate to their colleagues through established national networks. Students from the classes of the teachers above mentioned are certainly another important long term target group. The results of this project will be directly reflected on the quality of lessons and students practices.

EU Project reference 503254-LLP-1-2009-1-UK-COMENIUS-CMP

EU Project webpage
http://ec.europa.eu/dgs/education_culture/eve/alfresco/n/browse/workspace/SpacesStore/1fe0b2bc-d45d-11de-b89b-09f36ec598be