



# Scienc Educ



November 2004 – October 2006



## ● What is Scienceduc?

Scienceduc is a project focused on Renovation of science teaching in European primary education with inquiry-type methods

The main objective is to disseminate best methods, techniques and practices on science teaching on primary schools through the

establishment of a European network between 5 countries, in the frame of the formal education system.

Renovation of science education based on the principle of an inquiry-type teaching has been launched in the last decades in a number of countries (USA: *Hands-on*; France: *La main à la pâte*; Sweden: *NTA*; China: *Learning by doing...*). This is now a worldwide movement often strongly supported by the Academies of sciences as well as the scientific community. The inquiry based instruction has already given substantial results and requires in Europe a major effort in teacher's training, resource elaboration and educational research, the Scienceduc priorities.

Many primary schoolteachers have little training and experience in science teaching. In addition, municipalities often in charge of scholar matters are not well prepared for local school development challenge and/or to provide teachers' in service training. Thus there are often serious difficulties in meeting the goals of national curricula, in particular in Science and Technology.

## ● Why to promote science teaching on inquiry based methods?

Because this is a learning experience which enhances the children's ability to think critically by the way of making observations, posing questions, drawing up hypotheses, planning and carrying out investigations, and analysing data. They are able to propose answers, explanations, predictions as well as communicate their results, stimulating by this way written and oral expression. This method also encourages responsibility, learning and language development because of strong teamwork. It stimulates science and technology curiosity on children and on their teachers. Science and

Technology topics are usually linked to children's own reality.

The main goal of promoting science education is not only to increase the number of future scientists, engineers or technicians but also to develop moral qualities such as understanding and respect for the truth, the respect for others, the humility in face of facts and other people's points of view, key aspects on the inquiry based method. We have to keep in mind that some children will be scientists; all will be citizens.

## ● Working topics

The Scienceduc project is scheduled for a 2-year period during which some topics will be tackled:

- Teacher's training: A Summer School for science trainers will be organized in Sicily, on July 2005. It aims to define common basis for hands-on teaching and training at primary and kindergarten levels, to exchange good teaching practices, and to provide recommendations for organization of quality in-service trainings at European level.





an ongoing cooperation with the municipalities, conferences for local NTA coordinators, follows up, unit's assessment, evaluations of the program, unit development (complete material sets, teachers' and students' guide-books) and professional development programs. The Stockholm Institute of Education, Stockholm University and Linköping University have developed various university-level courses specifically aimed for teachers, trainers and coordinators in the NTA.

Contact: Sven-Olof Holmgren ([soh@physto.se](mailto:soh@physto.se))  
[www.nta.nu](http://www.nta.nu)



UNIVERSITY OF TARTU  
 TARTU ÜLIKOOL

**Tartu University** (*Estonia*), makes efforts in training teachers and keeping closer scientific community from school reality. In addition, it develops specific programs to learn Estonian by the mean of sciences in Russian speaking schools.

Contact: Toomas Tenno ([tenno@chem.ut.ee](mailto:tenno@chem.ut.ee))  
[www.ut.ee/english/](http://www.ut.ee/english/)



AGÊNCIA NACIONAL  
 PARA A CULTURA  
 CIENTÍFICA E TECNOLÓGICA

**Ciência Viva National Agency for Scientific and Technological Culture**

(*Portugal*) – is a member of an association whose other partners are 9 of the best public research laboratories in the countries.

Ciência Viva provides support to projects aimed at promoting scientific and technological culture in Portuguese society, with particular emphasis on young age groups. So far our agency has held five annual calls for projects in schools that have created the opportunity for more than 3 000

projects to be funded (400 projects have been implemented in primary education schools). Several of these projects take advantage of the partnership with research institutions, local authorities and scientific associations. Contact: Rosario Oliveira ([roliveira@cienciaviva.pt](mailto:roliveira@cienciaviva.pt))  
[www.cienciaviva.pt](http://www.cienciaviva.pt)



**Apor Vilmos Catholic College**

(*Hungary*): has a broad expertise on training teachers for special needs groups: They are working on 3 pilot regions were Roma minority is strongly present. The Roma integration to Hungarian society is seek via science education. Contact: Zsolt Balthazar ([balthazar@axelero.hu](mailto:balthazar@axelero.hu))  
<http://www.avkf.hu/>



Scienceduc Coordinator

**La main à la pâte** (Lamap) (*France*)

Program launched in 1996 by Georges Charpak, physics Nobel Prize in 1992 and managed by the French Academy of Sciences, the INRP (Institut National de la Recherche Pédagogique) and the Ecole Normale Supérieure. In 2000, the program became by French Ministry of Education decision “national plan of renovation of science teaching” at primary level and innovative pilot project, since then Lamap is engaged in the elaboration of new national standards on science, teacher resources and equipment for classroom. Lamap is focussed on teacher's achievements and networking, high quality resources, Information & communication

Technologies uses as well as the implication of the scientific community. A particular attention is given to the promotion of synergies between teachers, educational leaders, scientific community and parents. Today, *La main à la pâte* reaches 3 thousand primary school classes through a partnership with the Education Ministry and its action is spread to close to 50 % of primary teachers. A new pilot plan is implemented to extend the program to medium school.

Contact: Pamela LUCAS ([pamela.lucas@inrp.fr](mailto:pamela.lucas@inrp.fr))

[www.inrp.fr/lamap](http://www.inrp.fr/lamap)  
[www.mapmonde.org](http://www.mapmonde.org)



June/2005