

School Networks and Telematics Services: perspectives of international co-operation in the Mediterranean

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Introduction: School Networks in the 'Information Society'

The forthcoming 'Information Society' is expected to transform radically the way of communicating knowledge and expertise. The application of ICT for educational purposes should be aimed to improve the education process in terms of pedagogical methodologies, school infrastructure, human resources development and organisational restructuring, in order to efficiently absorb and utilise the technological developments. New learning paradigms have already emerged giving emphasis to the communication and collaborative aspects of the learning process. Self-supported and collaborative learning is expected to transform the traditional educational activities (teacher-centred model) and promote flexibility, reflection and group interaction.

The learning process will no longer depend solely or mainly on the knowledge transmitted by the teacher; on the contrary, knowledge acquisition will be based on network facilities allowing access to widespread 'digital information repositories' (digital libraries, databases, documentation centres, etc.). The notion of networking in education has already been applied by various national and European pilot projects. However, the extent of existing governmental initiatives and other concerted actions differ widely within the European countries. In any case, the technological advancement is giving the individual school the opportunity to have fast contact and interaction with other schools and institutions, thus providing strong motivation for communication and exchange of ideas and experiences.

Within the context of the 'information society', teachers are faced with emerging social needs and challenges and are called to respond to the new pedagogical, scientific and technological developments. The rapid evolution of new technologies in combination with the continuous societal/economic changes pose the need for on-going teachers' professional development and updating. In-service training, based on distance education methodology seems to be an effective training policy since it increases transfer likelihood. The incorporation of ICT in open and distance learning methodologies, may substantially affect the provision of in-service distance training, thus providing teachers with a flexible and efficient delivery mechanism of school-based training.

The TRENDS Network: Training Centers and Schools connected through the Internet

The TRENDS project aims at the in-service, school-based, distance training of school teachers of Secondary Education. The main objectives of TRENDS have been:

- The development of an in-service, school-based teachers training model, using multimedia telematics and thus being a flexible, distance learning environment, to support the continuous development of the school teachers in view of the emerging needs of the "information society".
- The development of clearly defined, cost efficient and viable distance training services, in the context of the above school-based, in-service model.

- The establishment of a *European Teachers Training Network* (network of *Training Centres* and schools connected to them), supporting the efficient development and delivery of the training services.
- The preparation of exploitation plans for extending the outcome of the project from the initial pilot phase to an open service throughout Europe, investigating its potential feasibility in other education user groups, independently of the content of the training material.

The project has been developed with the participation of educational organisations, technology providers and academic research institutes from seven EU member states and is coordinated by the Lambrakis Research Foundation (GR).

Functional Description of services

The *European Teachers Training Network* is aimed to support the following services,

- E-mail contact with other educators and trainers. This service, enhanced by multimedia support (mail messages containing images, voice annotations, file attachments, etc.) offers a fast path for the exchange of messages with other professionals.
- Access to multimedia information that exists in various sites in the Internet. This access will offer opportunities for acquisition of resources specific to subjects that concern the education process.
- Forums for the discussion and debate on educational subjects. These forums will exist in the form of electronic bulletin boards and newsgroups to which educators can participate. Also these forums can offer to the educators fast updates on new developments on educational subjects.
- Access to curriculum-related information for the educators.
- Teletraining via the provision of courses over the network

The services have been implemented as a set of software tools that abide by the client/server model. The use of the services is achieved through a common-look graphical user interface (GUI). The interface may be customised with respect to the different languages of its users.

Collaboration between the Training Centers

The existence of a *European Teachers Training Network* is justified by a number of reasons and benefits for both the training providers and the educational community in Europe:

- *Resources sharing*
 - Sharing of learning materials
 - Knowledge/expertise (provided by tutors and experts) sharing
 - Sharing of development effort/cost (courses, tutorials, manuals, etc.)
- *Application of common delivery procedures*
 - Registration and accreditation
 - Management and co-ordination (e.g. fora of discussion)
 - Models for the evaluation of the learning/training process (learner's progress, self-assessment, etc.)
 - Help desk
 - Quality assurance standards
 - IPR handling "good practice" and standardisation
- *Supply of courses of common interest*

Courses are developed commonly by more than one of the Training Centres, in order to address issues of common interest to the educational community, thus fostering the "European aspect" in the various curricula.

The TRENDS Network (ETTN) also provides fora (via electronic bulletin boards and newsgroups) for the discussion of educational matters on a European scale. An essential aspect of the pilot phase training will be the support of co-operative educational projects that can unite and utilise the abilities of trainees residing in various countries. This adds to the means for organising trainees in groups on a European scale. It will help the accumulation of experience in educational matters and will offer to the educators the means for sharing experiences in an open way, thus profiting from the interaction.

The six *Training Centres* have been established in the "**Pedagogical Institute**"-Greece, "**Biblioteca di Documentazione Pedagogica**"-Italy, "**Centre Regional de Documentation Pedagogique**"-Bretagne/France, "**Centro para la Innovacion y Desarrollo de la Educacion a Distancia**"- Ministry of Education /Spain, "**Centro de Formacao da Associacao de Escolas de Aveiro**"-Portugal and the "**British Education and Communication Technology Agency**"- United Kingdom.

Perspectives of international co-operation in the Mediterranean

The establishment of school networks to support the provision of educational services (distance learning activities, access to educational material / information repositories, school-based training of teachers, etc.) may be the basis for future collaboration between the Mediterranean countries. International co-operation should be aimed to transfer knowledge and expertise in order to enhance the operation of the education systems in the region. Mature network technologies and multimedia systems will allow educational organisations, cultural institutions and research centres to provide education and training services to the educational communities.

The TRENDS Network could be the model of introducing the use of ICT and particularly the telematics services for educational purposes. Furthermore, TRENDS can be the backbone to serve the scope of co-operation between the EU member states and the Mediterranean neighbour countries in the relevant field. Existing projects and initiatives at national, regional and local level aimed to promote school networking and co-operation between the educational communities and the technology providers, may contribute substantially to a bottom-up development of educational networks and advance the scope of their activities at the European level. Education and training services have been a favourable field of international co-operation. Nowadays, the development of information and communication technologies and mainly the expansion of Internet and the World Wide Web could be the spur to stimulate a dynamic process of continuous renovation of the education systems and the introduction of innovative educational services.