

# *e* Learning

Better eLearning for Europe



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**Innovative Actions**

[http://europa.eu.int/comm/regional\\_policy/innovation/index\\_en.htm](http://europa.eu.int/comm/regional_policy/innovation/index_en.htm)

**Interreg Initiative**

[http://europa.eu.int/comm/regional\\_policy/interreg3/index\\_en.htm](http://europa.eu.int/comm/regional_policy/interreg3/index_en.htm)

**European Investment Bank**

<http://www.bei.org>

**European Centre for the Development of Vocational Training (CEDEFOP)**

[http://europa.eu.int/agencies/cedefop/index\\_en.htm](http://europa.eu.int/agencies/cedefop/index_en.htm)

**Eurydice**

<http://europa.eu.int/comm/education/eurydice.html>

**Eurostat**

<http://europa.eu.int/comm/eurostat/Public/datashop/print-catalogue/EN?catalogue=Eurostat>

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Education and Culture

EN

NC-52-03-207-EN-C

A great deal of additional information on the European Union is available on the Internet.  
It can be accessed through the Europa server (<http://europa.eu.int>)

Luxembourg: Office for Official Publications of the European Communities, 2003

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*Printed in Belgium*

PRINTED ON WHITE CHLORINE-FREE PAPER



**Publications Office**

*Publications.eu.int*

ISBN 92-894-5559-4



9 789289 455596 >

**At the European Council** in Lisbon in March 2000, Heads of State and Government of the EU set the ambitious target for Europe to become by 2010 *"the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion"*. Consequently, they called for education and training systems to be adapted to meet this challenge, putting this demand at the top of the political agenda.

The world of education and training is experiencing a period of fundamental change as we move towards the knowledge society – a society where lifelong learning plays a central role.

The appropriate use of information and communication technologies (ICT) and the Internet in education and training helps us to face the new challenges by providing an opportunity for increased quality, convenience, diversity and effectiveness. This is now generally accepted and has been repeatedly demonstrated in practise.

Full development of the Internet's potential to improve access to education and training, and to enhance the quality of learning, is central to the building of the European knowledge society. Social cohesion and the competitiveness of Europe depend more and more on our ability to adapt our education and training systems in order to realise this potential.

Technology and connectivity are not our main concerns any longer. The focus is now on how and when we may best use e-learning in our schools, in our universities, in our training colleges and in the work place. Our attention is moving towards the practice, the pedagogy, and the content. We are now concerned with issues of context, effectiveness, efficiency, standards and quality. We are also examining the wider implications for curricula, for training and technical support, and for organisational change within the educational establishments.

The European Commission has been very active in promoting the effective and efficient use of ICT for education and training and has gained considerable experience in fostering co-operation, networking and exchange of good practice at European level. However, the story is far from over and much remains to be done. For that reason, the European Commission has presented a proposal for an eLearning programme to run from 2004 to 2006.

The modernisation of Europe's education and training systems is our goal, and through our proposed eLearning programme we believe we can help to create a society of life-long learning and education for all.



# Foreword

A handwritten signature in black ink, consisting of a large, sweeping loop followed by a horizontal line.

**Viviane Reding,**  
Member of the European Commission  
responsible for Education and Culture



## e-learning for Europe



Over the last ten years, the spread of the Internet and new information and communication technologies (ICT) has brought about unprecedented access to information and resources. It has transformed the way people communicate, the way industries operate, the way governments interact with their citizens, and, significantly, the way people learn.

From the very beginning, the European Union has identified the potential of e-learning for improving education and training systems. As early as 1983, the Council set general objectives for European co-operation on the use of ICT.

The Heads of State or Government of the European Union have fully recognised the important role that ICT can play for improving education and training systems: in the Lisbon, Stockholm and Barcelona European Councils they called for sustained action to integrate ICT into education and training systems. In particular the Lisbon European Council on 23 and 24 March 2000 called for the adaptation of education and training systems to the knowledge society. The subsequent Spring Councils of Stockholm (2001) and Barcelona (2002) have further developed the Lisbon conclusions, and have confirmed the importance of improved and effective use of ICT for the European knowledge society.

The **eEurope 2002** and **eEurope 2005** Action Plans adopted by these Councils identify e-learning as a top priority and fix ambitious objectives for the infrastructure equipment and basic training, which are pre-requisites for its integration into our education and training systems.



### From the eLearning Initiative to the eLearning programme

Effective integration of ICT into education and training systems was recognised as a top priority of the overall eEurope strategy. Soon after the Lisbon Summit, the European Commission launched the **eLearning Initiative**. Four action lines, vital to the implementation of the initiative, were identified. These have formed the foundation of the **eLearning Action Plan** <sup>(1)</sup> (2001-2004) and are as follows:

- Infrastructures and equipment
- Training at all levels, and in particular, training of teachers and trainers
- Quality contents and services
- European co-operation and networking

Most of the resources mobilised to address the priorities are at a national level, often involving support for local programmes at all levels of education and training. These national efforts are backed by a set of EU instruments and by the development of partnerships between public authorities and industry.

<sup>(1)</sup>

The Action Plan was endorsed by the Council by a resolution adopted on 13 July 2001

Although substantial progress has been made, much remains to be done before education and training systems can fully meet the “knowledge age” requirements. Subsequently, new priorities have emerged from the experience of implementing the eLearning Initiative.

In order to capitalise on what has been achieved so far, and to adjust the e-learning strategy in light of the new priorities, the European Commission has proposed an **eLearning programme** for the years 2004–2006. It will focus on four priorities:

- promoting digital literacy
- helping the deployment of European virtual campuses
- twinning schools via the Internet
- promoting and monitoring of the eLearning Action Plan

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## Focus

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### What is eEurope?

*eEurope is a political initiative of the European Commission to ensure that the European Union fully benefits from the opportunities offered by the Information Society technologies.*

*The initiative has three main objectives:*

- *To bring every citizen, home and school, and every business and administration online and into the digital age*
- *To create a digitally literate Europe, supported by an entrepreneurial culture ready to finance and develop new ideas*
- *To ensure the process includes everybody in society, builds consumer trust and strengthens social cohesion*

*To achieve these objectives, the European Commission proposes joint actions with the Member States, the industry and the citizens of Europe on a series of priorities.*

*The specific goals of eEurope 2005 are to have by 2005:*

- *modern online public services connected to broadband*
  - e-government*
  - e-learning services*
  - e-health services*
- *a dynamic e-business environment*

*and, as an enabler for these*

- *widespread availability of broadband access at competitive prices*
- *a secure information infrastructure*

*[http://europa.eu.int/information\\_society/eeurope/index\\_en.htm](http://europa.eu.int/information_society/eeurope/index_en.htm)*

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## Focus

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### What is e-learning?

*The eLearning Action Plan defines e-learning as “the use of new multi-media technologies and the Internet to improve the quality of learning by facilitating access to resources and services as well as remote exchange and collaboration”.*

*The use of the information and communication technology (ICT) is not in itself the goal of e-learning; e-learning has become shorthand for a vision in which ICT-mediated learning is an integral component of education processes and systems. In this scenario, the ability to use ICT and the Internet becomes a new form of literacy – “digital literacy”. Digital literacy is fast becoming a prerequisite for creativity, innovation and entrepreneurship and without it citizens can neither participate fully in society nor acquire the skills and knowledge necessary to live in the 21<sup>st</sup> century*

## Preparing the infrastructure



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To become a knowledge-based society with ICT playing an important role, Europe had first to make sure it could rely on a sound infrastructure. The provision of infrastructure and equipment was the first action line of the eLearning Action Plan, and much work has been done in this area. Although objectives for improving connectivity in education might have seemed ambitious to begin with, the results are impressive.

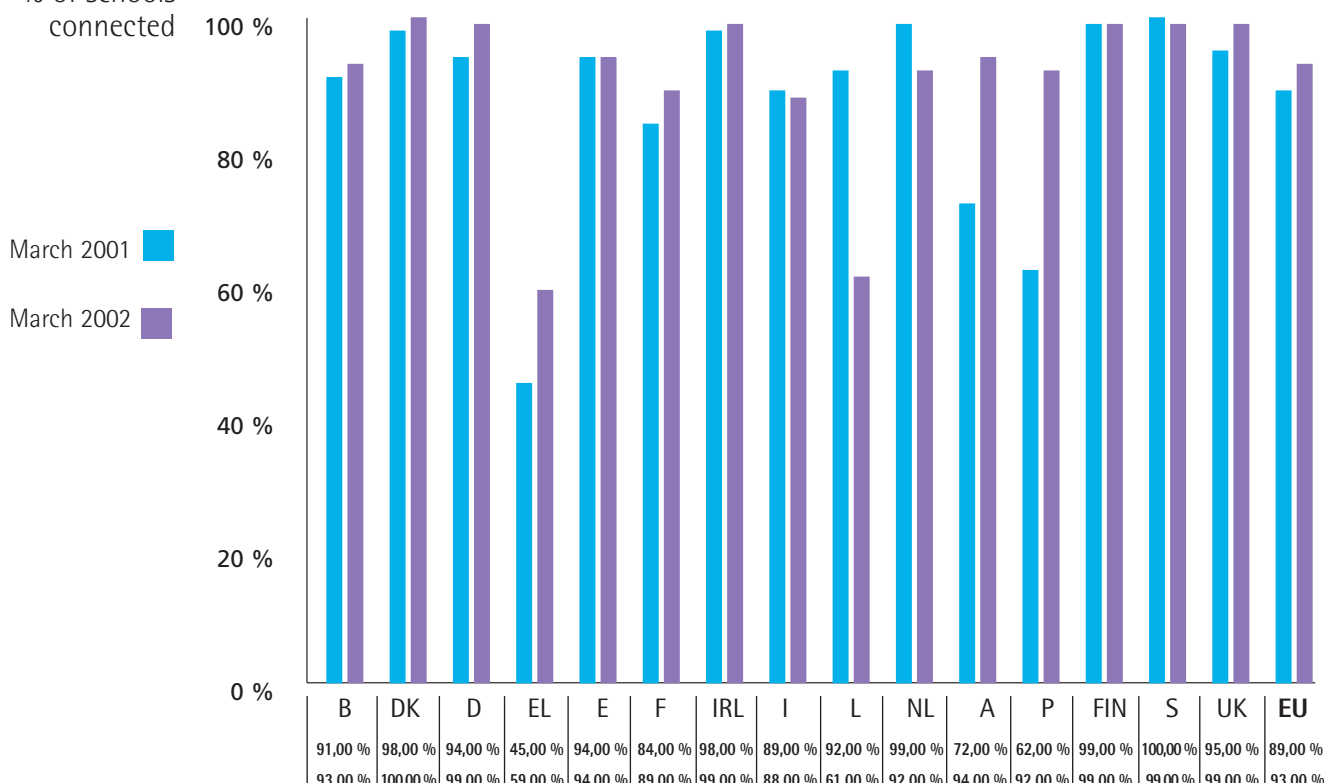
As of March 2002, 93% of EU schools were connected to the Internet – up from 80% in May 2001. The number of Internet connected computers per 100 pupils increased by 50% between 2001 and 2002, and over half of Europe’s teachers have been trained in the use of computers and/or the Internet.

The European Commission has co-financed the interconnection of the high-speed backbones for universities and research institutes. This European research network is now the fastest in the world and has coverage in 32 countries.

A critical mass has been reached in rolling out an educational IT infrastructure, but new challenges have emerged. The extension of broadband connections to schools and homes stands out as one of the most salient of these challenges.

### Internet in schools

% of schools connected



Source: European Commission (Eurobarometer)



### EU instruments supporting the use of e-learning

*The key EU programmes for education and training, Socrates and Leonardo da Vinci, are both in their second generation and take full account of new technologies.*

*The education programme Socrates has a specific line, Minerva, for Open and Distance Learning (ODL) and the educational use of ICT. This has had a decisive influence in the creation and interconnectivity of European networks for co-operation at all educational levels.*

*Both Erasmus and Comenius, the Socrates actions for Higher Education and Schools, make extensive use of ICT, and it also plays an important role in Grundtvig, the Socrates action for adult education and lifelong learning.*

*The vocational training programme Leonardo da Vinci has been innovation-led from the outset and is at the source of a growing number of products, services and networks for enhanced training at all levels and for lifelong learning. It supports a number of projects applying e-learning in the workplace, providing greater cost-effectiveness, flexibility and relevance for learning at work.*

*The Directorate-General for Employment and Social Affairs is also active in the field of e-learning. Their activities cover five different themes: e-inclusion, digital literacy, economy and work, quality of life, local development and the knowledge society. An important body is ESDIS - the High level Group focusing on the Employment and Social Dimension of the Information Society - that was established in 1999. It supports the European Commission in the analysis of the impact of the information society on employment and on social cohesion.*

*The 6th Framework Programme for Community research continues to invest in state-of-the-art projects to help improve learning technologies, develop standards, and to help us to better understand the impact of technology on education and training. This important work, under the IST priority on technology enhanced learning, builds upon a number of valuable research projects launched under the 5th Framework Programme.*

*The eCONTENT Programme supports the production, use and distribution of European digital content and the promotion of linguistic and cultural diversity on the global networks. Amongst its activities, it supports innovative projects addressing e-learning content*

*The eTEN Programme aims to help the roll-out of e-services across Europe. It promotes public interest services, which give every citizen, enterprise and administration full opportunity to gain from the e-Society, including e-learning.*

*The Directorate-General for Enterprise has recognised that the development of e-business applications is an important condition for the competitiveness of enterprises in the e-economy. It first established the eEurope GoDigital initiative (2001-2003) and has since launched the eSkills forum, which sees e-learning as an important tool for lifelong learning for work.*

*The eLearning Initiative itself has launched several projects to further enhance our understanding of the strengths and weaknesses of e-learning, and to provide good examples and relevant information to European education systems.*

*For further details on the EU instruments supporting the use of e-learning, please refer to the section "European Programmes and Initiatives" on the eLearning Portal: <http://elearningeuropa.info>*

## Striving for quality contents and services



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ICT offers significant potential for the improvement of education and training but it is only a tool, and can only be effective if the educational goals for which it is used are clearly defined. ICT is not a solution in itself and as this has become increasingly clear the issue of quality has come to the top of the e-learning agenda.

Many early attempts at e-learning were unsuccessful, as they did not adequately consider either the needs of the user or the nature of what was to be learnt. They often isolated the learner and provided little or no opportunity for social interaction. In many cases they dictated the learning process offering little flexibility and no possibility of individual adaptation. The early days of e-learning were characterised by a lack of adequate content and services – both in the field of educational software, and in the larger field of cultural and media resources

However, as the understanding of its role for enhancing learning processes increases, e-learning is starting to show real benefits. There are increased opportunities for learner interaction – both face-to-face and at a distance – by combining traditional education with innovative educational pathways. This 'blended', flexible approach to the provision of e-learning must be complemented by a similar flexibility in content and services.

Our understanding of the contribution that ICT and the Internet can make to learning is improving with its use in practice. However, technology continues to advance and there is a need for further research from the technological, pedagogical and socio-economic perspectives. Such research is being supported through the **6th Framework Programme** for Community research.

### Understanding and promoting quality content

Although the Commission cannot get directly involved in either the production of content or the implementation of new services, it can do much to create the right conditions for sustainable markets and public investments. In particular, it must take into account the issues that are related to intellectual property rights, copyright agreements, new distribution methods and the promotion of open standards.

Another crucial field of action for the EU is support for the development of global standards and quality benchmarks.

### Setting priorities

Given the scope and complexity of defining quality, it is imperative that the Commission proceeds in a strategic manner. The **eLearning Action Plan** does just that, identifying three priority areas to be dealt with: modern languages; science, technology and society; and culture and citizenship. Calls for proposals under the **eLearning Initiative** encouraged pilot projects in these important areas, and the Socrates Leonardo da Vinci, IST and eContent programmes have additionally supported several relevant projects. They also encouraged the launch of strategic projects addressing key issues for quality in e-learning.

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## Focus

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### e-learning addresses the issue of quality

Four projects were recently launched under the eLearning Initiative (EQO, QUAL-E-LEARNING, SEEL and SEEQUEL) addressing the issue of quality in e-learning.

#### EQO – European Quality Observatory

The main objective of EQO is to provide a central facility enabling developers, managers, administrators, decision-makers and end-users to find an approach that suits their organisation's needs. In particular, national, regional, and local needs and requirements are included in the observatory, resulting in a European Quality Community.

#### QUAL-E-LEARNING – Quality of e-learning

This project aims to:

- conduct a survey sampling the e-learning activity in order to identify "good practices" for assessing training efficiency;
- study the link between the quality of training and main pedagogical and organisational decisions;
- organising on line ODL activities with and without tutors.

#### SEEL – Supporting Excellence in e-learning

SEEL is a consortium dedicated to studying the impact of quality policies in eLearning at local and regional levels in order to measure their influence on local and regional development, providing recommendations on quality assurance policies to the different stakeholders, and particularly to policy makers.

#### SEEQUEL – Sustainable Environment for the Evaluation of Quality in e-learning

This project aims to establish a European e-learning Quality forum, bringing together users, industry and expert organisations and agencies, in order to address the following issues:

- Quality assessment, evaluation and conformance practice
- Cases of "good practice" and design guidelines
- Quality assurance frameworks (with criteria and standards)

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## Focus

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### e-learning pilot projects

Several pilot projects have been launched through the eLearning Initiative that has been designated its own special budget for that purpose. Some of them are listed below with a short description of their objectives.

**eEVU** – Collaborative European Virtual University. Seeks to broaden and strengthen links between European Universities as well as support the development of models for the European Virtual University.

**ELDA** – e-learning Disability Access. Seeks to enable disabled students to overcome existing access barriers and optimise their potential through tele-training and tele-communication. It will also provide support for students via the establishment and continual development of a Virtual Community.

**LIVIUS** – Learning in a Virtual Integrated University. Primarily a forum for academic exchange and learning, but also founded upon principles which differ from the typical European University structure this project seeks to harness new organisational and psychopedagogical methods for teaching whilst drawing its membership from typically traditional institutions.

**MENU** – Model for a European Networked University for e-learning. The organisational structure and practices that MENU advocates are based upon experience of cross-border academic co-operation. It is the task of MENU to propose an organisational system for the Virtual University.

**ICETEL** – Improving continuing Education and Training through e-learning. Seeks to improve managers', teachers' and trainers' capabilities to apply distance learning and e-learning in University Continuing Education (UCE) through the traditional 'face-to-face' principle.

**DELPHI** – European Observatory for Emergent e-learning. Attempts to cluster, synthesise and analyse ICT-based findings with a view to setting up an Internet Based Observatory on e-Learning and Innovation. Based at University of Barcelona.

**EL4EI** – e-learning for e-inclusion. Concerned with promoting eInclusion for less-favoured groups, and narrowing the 'digital divide'.

**E.L.I.Fo** – e-learning intercultural Forum. Provides a virtual forum for teachers and trainers of intercultural programmes that offer disadvantaged people training in social and professional integration.

**EUDOXOS** – Teaching Science with Robotic Telescope. Uses a remote controlled telescope to take advantage of the current popularity in the study of astronomy by bringing live footage into the classroom.

**LEIPS** – Learning about e-learning Innovation process in Schools. Will monitor the e-learning innovation area and identify best practice, disseminate various training materials as well as create a network to transfer the best practice results.

Details of other pilot projects and studies can be found at <http://elearningeuropa.info>





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## Focus

### Ongoing research and development

*The 6th Framework Programme for research and development continues to support research into the innovative use of advanced ICT for education and training (technology enhanced learning), through its Information Society Technologies priority. The focus is now on personalised access and advanced learning environments at schools, university and in the workplace that take advantage of the development of ambient intelligence.*

*The aim is to improve the efficiency and cost-effectiveness of learning, for individuals and organisations, independent of time, place and pace, through the development of open systems and services in support of ubiquitous, experiential and contextualised learning and virtual collaborative learning communities.*

*Further information is available from <http://www.cordis.lu/ist/>*

## Training at all levels

Since publication of the eLearning Action Plan there has been a growing awareness of the need to train teachers in the pedagogical use of ICT. Initial efforts tended to concentrate in the areas of IT equipment and manipulation of software packages, but emphasis has since shifted to a more pedagogical and management skills approach.

There is considerable openness on the part of European teachers to new technologies and to the changes they will bring about. The Eurobarometer survey "Benchmarking eEurope: European youth into the digital age", published in spring 2002, gives grounds for optimism. Most teachers use a computer with an Internet connection at home and are convinced that the Internet has already or will soon change their teaching methods.

However, the scope of the challenges ahead is broad. Both the public and private sectors require employees across a range of positions to be computer literate. Teaching students the skills they will need in the workplace is an essential part of modern academic and vocational education. Face-to-face learning techniques have been supplemented by new pedagogical techniques and the rapid take-up of computer technology.

Teachers must adapt to their significantly changing role in the ICT-enabled learning environment. In certain cases students have now assumed some of the roles previously reserved for teachers. They are developing skills such as peer-teaching, ICT familiarisation and communication skills, and are taking a greater responsibility for their own education. Teachers, in contrast, are no longer the main repositories of knowledge; they are increasingly becoming guides and mentors to help the students navigate through the vast amounts of information made available by ICT and the Internet.



Several EU Member States are working successfully in this area through teacher training schemes. In addition, the European Commission funds numerous projects under the education and research programmes as well as under the eLearning Initiative (see boxes).

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## Focus

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### eTtnet, training of trainers network for e-learning

*Established in 1998 by CEDEFOP, Ttnet is a network dedicated to improve understanding of the concrete contribution of ICTs to trainers' training and to foster exchange of good practice.*

*Since its creation it has brought together key players and decision makers in vocational training from the various Member States. Its aim is to spark debate, create a community, and produce recommendations and tools for professionals. Ttnet's objective is not to train trainers, but rather to mobilise players and organisations at national and Community level with responsibility for issues relating to training and the professionalisation of trainers.*

*At a national level, Ttnet provides key players with a forum for dialogue and a place to observe best and innovative practice. At a community level Ttnet acts as a guide and co-ordinator for the multinational aspects of the network through a number of specific activities.*

*Ttnet's main working areas are as follows:*

- e-learning for teachers and trainers;
- professionalisation of Electronic Training Village teachers;
- validation of non formal learning for teachers; and quality in training for teachers and trainers.

*Ttnet activities are reinforced by the existence of eTTnet, a virtual community hosting the Community-funded e-learning project promoted by ISFOL (Italy) on behalf of Cedefop's Ttnet network*

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## Focus

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### iLAB, an Internet laboratory

*One of the projects supported by the European Commission is iLAB. The initial focus of this Internet laboratory is to develop knowledge and distribute this information to the wider community. It is intended to be an exemplar and case study in the use of e-learning and ICT for European collaboration. Previous attempts to improve this field have concentrated on web-based information; iLAB's methodology includes web-based information with activity and participation.*

*The laboratory will bring together experts, policy makers and practitioners from different sectors of education and training. iLAB will develop recommendations for national policy makers and guidelines for teacher training institutions in two key areas: training in pedagogies for the use of ICT, and evaluation of e-learning and associated materials. The project will ultimately be of benefit to learners in the form of more effective and efficient practice in e-learning and the development of richer learning environments.*

## European co-operation and networking



Improving co-operation and networking in Europe's education and training systems are core principles of the eLearning Action Plan, and have been re-emphasised in the Commission's proposed programme for 2004-2006. The benefits of co-operation are multifaceted and of relevance to all of the educational stakeholders: pupils, teachers, trainers, researchers, schools, universities, industry and society in general.

Under the eLearning Action Plan, close co-operation has been initiated with Member States in several fields, such as teacher education, science education, new learning environments, and virtual universities. This co-operation should be followed up in the context of the new eLearning programme, aiming at the joint analysis and exploitation of experience, and at the identification of good practice and different approaches to issues of common interest.

The funding by the Commission of European-level pilot projects is part of a twofold logic. Some projects give priority to undertaking similar experiences in the use of ICT in different countries, enabling comparative analyses and evaluation of the progress made. Other projects undertake specifically European experiments based on collaborative work to develop methods, information and knowledge by teams from different countries.

Some relevant examples of work in this field are:

- The strengthening and improvement of co-operation with EUN – the European Schoolnet (see Focus on following page).
- The improvement of co-operation with the Open Distance Learning (ODL) Liaison Committee – an open and flexible structure bringing together the main European University and ODL associations (EUA, EADTU, Coimbra Group, EUROPACE, EFECOT, EDEN, etc.)

The objective is to allow co-operation between experts in the field, public authorities, schools, companies and the universities with regard to the use of learning-orientated technologies.



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## Focus

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### An eLearning portal for Europe

The existence of a 'virtual infrastructure' is vital for the effective collaboration and exchange of ideas and the dissemination of good practice in the context of e-learning. The eLearning portal was launched by the European Commission in February 2003 in order to lay the foundations for such an infrastructure. The portal aims to:

- Provide a single point of reference for players at all levels in the field of e-learning.
- Empower users in schools, universities, at work and at home through the provision of vital information and resources in the area of e-learning.

The site offers the following features:

- Articles and interviews about e-learning.
- The possibility to tailor the site to the specific needs and areas of interest of the user (school, higher education, vocational training, lifelong learning).
- Interactive forums debating topics related to e-learning.
- Diary of forthcoming events on the educational use of ICT.
- Directory of resources.
- Information about projects financed by the different European Commission instruments and on those instruments.
- Information about good practice throughout Europe.
- Newsletter for registered users.

See: <http://elearningeuropa.info>

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## Focus

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### European Schoolnet

The European Schoolnet is an all-encompassing network bringing together 23 Ministries of Education throughout Europe and linking schools, teachers and schools managers. It provides a valuable insight and resource for the incorporation of ICT into educational use for policy makers and education professionals.

The European Schoolnet's main missions are:

- To offer quality, synergy and European added value in a networked world
- To run a leading education portal for teaching, learning, collaboration, and innovation
- To provide information on policy, strategy and school practice for policy-makers and ICT advisors
- To foster technical innovation, and interoperability through common standards to enable closer collaboration between European educational systems and improve efficiency and cost-effectiveness.
- To be Europe's premier education portal for schools. ([www.eun.org](http://www.eun.org)).
- To offer teachers outstanding resources, discussions, news, classroom activities, collaborative tools, practice examples and training opportunities via the portal.

The European Schoolnet's unique community environment enables anyone to create online communities via a set of tools including chat rooms, bulletin boards, file-sharing and web-publishing. It also provides frequently updated news and reports on national policies, studies, analyses, resources, summaries and examples of practice in schools through multiple knowledge centres.

Some of the projects and initiatives under the European Schoolnet Project:

- 'Virtual School' provides online learning resources, tips and activities in curriculum subjects.
- 'myEUROPE' organises regular activities for schools with an interest in European citizenship, mobility, cultural diversity, and trans-European collaboration.
- The School Managers Centre encourages the sharing of experience in school leadership.
- The European Network of Innovative Schools links front-running establishments to share practice and test new learning technologies.
- eSchola, a very successful annual event that consists of a week for e-learning in schools throughout Europe.

See: <http://www.eun.org/portal/index-en.cfm>

### Industry views on e-learning

*Supporting the need for lifelong education and training opportunities requires new models for the provision and funding of learning resources. The Lisbon Council called on the social responsibility of industry, asking enterprises to collaborate in the fulfilment of these demands, which will lead to the development of a key mutual asset: a well-educated work force.*

*Co-operation between public authorities and ICT, e-learning and media companies was the subject of the eLearning Summit on 10-11 May 2001. As a result, in April 2002, the eLearning Industry Group (eLIG), an autonomous working group, was created by industry leaders in the field of e-learning.*

*The group works with the European Commission, national governments and academia to undertake innovative projects to promoting the deployment of e-learning in Europe. It also provides advice in areas such as ICT infrastructure, open standards that facilitate the exchange of e-learning content, development of a sustainable market for e-learning content and development of crucial professional and personal skills.*

*Mikko Laine, Vice Chairman of eLIG and Senior V.P. of the Werner Söderström Corporation of the SanomaWSOY Group outlines his views on the importance of e-learning and the new direction it should be going in.*

#### What is left to be done in the field of connectivity?

*"Technology, Internet access and connectivity are crucial to e-learning deployment. We have several technologies currently available providing foundation to e-learning anywhere, anytime and on any device.*

*Yet even with the current technologies and devices, coverage is not available in all places, and some of these technologies are still too expensive for schools or universities. But I am confident that in the following years the cost of connectivity and terminals will fall to a level affordable to all sectors."*

#### But e-learning is not only a question of infrastructure and technology...

*"What is crucial for e-learning now is content. Developing good-quality content is a major effort, and assessing quality is especially difficult with e-learning content. But good quality content will facilitate the move of e-learning to mainstream.*

#### What is the definition of good-quality content for e-learning?

*"The key message is that e-learning is not simply a new word for electronic reading. It is a host of tool and applications available across the Internet to bring creative ways of improving the learning experience."*

*For further information on eLig: <http://www.elig.org>*

## Monitoring the change

If it is true that education is primarily a national prerogative where Member States and key players in the education field hold responsibility for the implementation of e-learning, the European Union has a major role in aggregating Europe's experiences and defining guidelines for a common strategy. In order to be able to do this, the EU must have good instruments for monitoring and observation. Several projects are now being implemented at European level to forge such instruments. Here are three good examples.



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## Focus

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### eWatch

*eWatch is an observation platform designed to support the understanding of innovation and change in European education. The project is focused on:*

- *Monitoring public policies at national, regional and local level;*
- *Harvesting field and innovation intelligence in e-learning, including school markets and indicators;*
- *Cataloguing innovative practices in schools and higher education;*
- *Promoting the dissemination of research findings, knowledge and experiences.*

*eWatch forms part of the Minerva Action under the Socrates programme.*

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## Focus

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### L-Change

*The L-Change observatory monitors and analyses changes affecting education, training and lifelong learning, as a result of the widespread diffusion of ICT. It provides a constantly updated information service on the state-of-the-art and the development trends of the European education and training market that is useful for the research community as well as suppliers active in the market.*

*L-Change also monitors industry development, policy, research and innovative practice of ICT applied to education and training, with the final aim to produce reliable estimations and forecasts of market development.*

*The main activities and products of L-Change are:*

- *Prospective studies on future scenarios for learning systems, and forecast updates on a yearly basis;*
- *Updates and press reviews on ICT in education and training;*
- *Research on industrial strategies in this market and on innovative practice in advanced learning environments;*
- *Annual reports on ICT-related changes in education and training systems.*

*L-Change was supported by the Information Society Technologies Programme (Key Action III, dedicated to education and training).*

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## Focus

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### DELOS

*The DELOS Project aims to establish a sustainable Observation System to accompany the eLearning Action Plan as it develops. It intends to facilitate the coordination of existing efforts to:*

- *monitor and forecast developments in e-learning practice and policy, in particular, those of international organisations, various EU services and agencies and of European Commission programmes such as SOCRATES, LEONARDO DA VINCI and IST*
- *research and subsequently market a comprehensive, efficient and relevant Observation System, capable of permanently supporting decision making of policy makers and others in charge of education and training institutions, as well as in research and industry.*

*The main goals of the project are to:*

- *Identify relevant quantitative and qualitative indicators of ICT in Education and Training, from the perspective of a "lifelong learning oriented" integration of these systems.*
- *Define collaborative strategies for data capturing (collection and analysis) in which each relevant actor might contribute to data collection, analysis and distribution.*
- *Establish a solid partnership among the actors involved.*
- *Establish the economic and organisational conditions for long term sustainability of the observation capacity, to be built through the project by means of long term commitment of the relevant actors, to be represented in the Steering Group (Strategic Advisory Committee) of the project.*

*The Delos project is one of the projects supported by the eLearning Initiative.*



## New competencies for the knowledge society



**W**ith the rise of the era of information and communication technologies, new competencies are becoming vital. Digital literacy, the ability to effectively use ICT, is one of the most critical. In fact, those without this new life skill may find themselves as disadvantaged as those who were illiterate at the turn of the 19<sup>th</sup> century. Equally critical is media literacy, the ability to communicate in all new and old media while exercising informed inquiry.

For people to acquire these skills, Europe's education and training programmes must be able to meet the challenges ahead. Education will open the door to digital inclusion by responding to the major challenges of the 21<sup>st</sup> century: to promote lifelong learning, encourage universal access to education and help people, particularly youth, acquire the qualifications and skills they need to realise the benefits of the knowledge society.

### The high risk of exclusion

ICT and the Internet are powerful catalysts for growth and change. They impact on all aspects of our every day lives, particularly in education, work and civic engagement. At the same time, developing the knowledge society carries a risk of a new kind of social exclusion: the digital divide.

Inability to access the Internet or use ICT tools confidently is becoming a barrier to social integration and personal development. This also applies to education and training, where digital illiteracy can create a barrier to learning as well as to people's ability to participate fully in society.

For example, the majority of jobs in industry and services already require ICT capabilities for creativity, innovation and entrepreneurship. Additionally, in just a few years, people without these skills may be excluded from the benefits of participating in e-government and e-health services.

### The pace of change is accelerating

We have moved very quickly from asking whether ICT, the Internet and e-learning can help improve the quality of education and training, to exploring the best use of e-learning and new technologies in schools, universities, training colleges, and work places.

Attention is now shifting away from technology and its delivery to issues of context, effectiveness, efficiency, standards and quality. Currently, 93% of European schools are connected to the Internet, with an average of 17 pupils per PC. With the rapid uptake of broadband, e-learning is becoming mainstream.

However, there is much work to be done to bridge the digital divide and move towards digital inclusion for all Europeans.



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## Focus

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### What is media literacy?

*Media literacy helps citizens, particularly youth, develop the critical thinking and production skills they need to live in the 21st century media culture. It is the ability to communicate fluently in all old and new media, as well as to access, analyse and evaluate the powerful images, words and sounds that confront us in our daily lives.*

*This empowering life skill allows us to understand the images and messages of our global culture. Widespread criticism persists about mass produced images and entertainment, but because informed inquiry lies at the heart of media literacy, the evolution of media technologies and the internet enables people to participate fully in a democratic society. It offers them the opportunity to understand the differences between information and advertising, fiction and reality, "virtual" and "real". Media literacy offers young people the skills they need to benefit from new media and to develop creative content.*

*16 projects have been recently launched under the eLearning Initiative with the following objectives in mind:*

- *to analyse media representation and media values in a multimedia context;*
- *to encourage the production and distribution of Media Literacy related content;*
- *to stimulate the use of media in order to improve participation in social and community life;*
- *to intensify networking in media education related issues;*
- *to concentrate on the implementation of media literacy initiatives, using a "hands-on" approach to linking the media industry with the education world.*

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## Focus

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### Structural Funds to promote digital literacy

*Following up on the Lisbon European Council Conclusions and recognising the importance of the growing digital divide, subsequent Councils called for action to integrate ICT into education and training systems, taking account of the need to ensure economic and social cohesion.*

*Community action in this area is supported by the Structural Funds programme, which promotes the development and structural adjustment of regions, combats unemployment, facilitates the adaptation of workers, and rural development. Many of the projects promote digital literacy through e-learning and ICT initiatives.*

*The European Regional Development Fund finances Regional Information Society Initiatives aimed at integrating the information society into regional development and employment policies.*

*The European Social Fund, targeted at the unemployed or those living in isolated regions or deprived areas, promotes the use of IT tools in the framework of social dialogue and social inclusion.*

*For further details on the use of structural funds to promote digital literacy, please refer to the section "European Programmes and Initiatives" on the eLearning Portal: <http://elearningeuropa.info>*



## The challenge of new literacies and e-learning competencies



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An interview with **Tapio Varis**, Professor and Chair of Media Education, University of Tampere, Finland, and UNESCO Chair in Global e-learning

### How has the definition of literacy evolved?

Most contemporary definitions portray literacy in relative rather than absolute terms and assume that there is no single level of skill or knowledge that qualifies someone as literate, but rather that there are multiple levels and kinds of literacy.

Teachers, students, employees and citizens must acquire these new literacies to enhance their knowledge and critical thinking skills.

### What are the new literacies?

*Technology literacy* is the ability to use new media such as the Internet to access and communicate information effectively. *Information literacy* is the ability to gather, organise and evaluate information, and to form valid opinions based on the results. *Media creativity* relates to the capacity to produce and distribute content to various audiences. *Global literacy* is about understanding the interdependence among people and nations and having the ability to interact and collaborate across cultures. *Literacy with responsibility* is the ability to consider the social consequences of media from the standpoint of safety, privacy and other issues.

### What challenges do they pose?

Formidable challenges exist in key areas of our lives – education, workplace skills and civic engagement. Schools must adapt to help students develop the necessary skills, but most educational efforts still fall short. Many businesses do not understand the need to train their employees and the implications of failing to do so.

Because governments have begun delivering services electronically, they must find ways to make such services user-friendly. The public sector and non-profit organisations must also help citizens use the tools of the Internet to engage in public policy and community activity.



### e-learning 4 e-inclusion

*The e-learning 4 e-inclusion project aims to bridge the digital divide through reaching out to various groups such as the homeless, the unemployed, refugees, people with disabilities, the elderly and excluded youngsters, enabling them to participate in the information society on an equal basis.*

*The e-learning 4 e-inclusion project focuses on finding best practices to assure that e-learning systems are best used to create active links among people, enabling them to distribute their own culture and lifestyle through digital media. Five observatories are being set up to target professionals charged with building e-inclusion, such as social workers, professors, inclusion experts, web designers, pedagogues, local authorities and administrators.*

*Examples of how e-inclusion can be fostered through the Internet are :*

- *Virtual forums and classrooms*
- *Linking institutions through an intranet*
- *e-health and e-government*

### How best ensure that Europeans won't be left out of the knowledge society?

To benefit from e-learning, we need to answer some questions: What are the learning approaches in the virtual environment? How best to combine traditional and new ways of life-long learning? How effective are self-directed or facilitated web-based learning, virtual classrooms and discussion formats? What is the stage of development of experiential and interactive learning models?

The new learning culture is learner rather than teacher centred and combines technology with humanities, art and religion. New models and styles include discovery and investigative learning, problem- and community-based learning, and self-management. New technologies and e-learning are additional tools to face-to-face traditions. New, blended approaches can be developed to improve the quality and content of learning.

The goals of achieving an e-Europe and social justice while avoiding the digital divide demand that we work to ensure all sectors of society are able to benefit from the employment, educational and development opportunities offered by ICT.



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## Changing school environment



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**E**-learning is introducing a new dimension to primary and secondary education. The focus has moved away from technology and connectivity to content, new ways of learning, teacher training, and partnerships based on new social interactions inside and beyond schools.

Teachers and students are adapting to the new environment and the implications for curricula, training, technical support and organisational change. However, the move towards the knowledge society and lifelong learning means teachers must incorporate new content and services. Students must become more self-reliant as they prepare to be autonomous, responsible and creative citizens.

The concepts of teacher as "school leaders" and schools as "learning organisations" open up pedagogical possibilities that bring both opportunities and challenges. European co-operation is maximising the opportunities as more than 5,000 schools have participated in education programmes with promising results.

### Factors fostering innovation

There are many obstacles to the effective use of new technologies and a major one is lack of appropriate teacher training. Today, training is moving beyond the use of tools and technical know-how to innovative, practical teaching methods using an interdisciplinary approach.

A recent study <sup>(2)</sup> of IPETCCO <sup>(3)</sup> involving 583 primary schools in five countries (Greece, Italy, Portugal, Spain and the Netherlands) April 2001 to June 2002 helped identify some of the key factors that can help improve ICT use in schools and foster innovation in pedagogical methodologies. First, the more hours ICT is used in the class room, the more likely the possibility of generating ICT based school innovations. Second, the researchers pointed to an important external factor: the presence of ICT in daily life. In countries where ICT has been introduced at an early stage, teachers do

not tend to consider ICT as an innovation in itself and can focus more on its potential as tools to foster innovation in education.

IPETCCO also pointed out two interesting factors related to the inner school environment and one related to what happens externally. As for the inner factors, the researchers emphasise the level of teachers' autonomy. The more the teachers introduce new pedagogical practices or media into the learning process and are free to decide what they do in the classroom, the higher the potential for innovation.

In addition, they point out, "inclusion of ICT as a compulsory subject would provide a favourable setting for development of ICT-based innovations. The fact that these subjects are currently optional limits the familiarity of teachers and pupils with the new technologies. Making the subjects compulsory would also contribute to equality of opportunities since it would make the new technologies available to those pupils who otherwise would not have access to them. Making a subject compulsory also leads to a need for specialised teachers in this subject area."<sup>(4)</sup>

(2)

Teachers' use of ICT in Greece, Italy, Portugal, Spain and the Netherlands. See: <http://www.elearningeuropa.info>

(3)

Investigation in Primary Education Teacher's Confidence and Competence in supporting innovation

(4)

"Why do you innovate more than me? A comparative analysis of the conditions for fostering ICT-based school innovations in five European countries", by Francesc Pedró, Pompeu Fabra University, Barcelona, Spain See: <http://www.elearningeuropa.info>

# Is the role of the teacher as the “knowledge authority” in danger?

A contribution by Mario Barajas, University of Barcelona-DOE (Spain), Friedrich Scheuermann, Centre for Future Studies, Innsbruck (Austria) and Katerina Kikis, FORTH, Heraklion (Greece)<sup>(5)</sup>

It is generally recognised that the roles assumed by teachers are related to the transmission of information, the guidance of students' actions and the possession of fixed and precise knowledge. Today, these roles are changing.

## Teachers as learning guides

In most ICT-based learning settings, the role of the teacher as the “knowledge” authority or as transmitter of information is in danger when extensively using sources of information different from those provided by the teacher.

In this environment, teachers act more as learning guides or take on the role of learner, tutor, collaborator, developer, researcher, lifelong trainee and team member. Teachers are accepting that students might do better in special fields and are ready to learn with and from them.

As tutor, new roles include acting as a modeller, coach, and “scaffold” (guide and monitor). In many project-based learning ICT activities, teachers often participate as peers with the students. As developers, they create learning materials mainly in electronic format or provide input.

There is a trend to view the teacher as a researcher of his/her own educational experiences as a way to reflect and internalise the innovations promoted in the classroom. Teachers use research outcomes to help with planning and improving pupils' learning experiences with ICT, and to make them relevant to the curriculum.

ICT literacy is the first step in professional development. Teachers involved in innovations of any kind, and those using ICT, are more easily involved in retraining in pedagogical and technical innovations. In virtual classrooms, teachers are “members of a team of teachers” rather than acting as indi-

viduals. This is due to the complexity involved in collaborative courses, such as international ones or other types of distributed learning arrangements.

## Interdependent roles create self-reliant students

In this context, learners must become self-reliant, active searchers for relevant information. The role of a self-reliant student is the corollary to a less directed role of the teacher. This raises the level of students' responsibility in learning.

The roles of students appear to depend on the pedagogical approach used in classroom, the roles played by the teacher, and the classroom peers. For this reason, students take on the roles of teacher, collaborator, and co-operator.

In general, students tend to adopt a more active, motivated, deep and self-regulated learning role. Collaborative rather than individual learning tends to occur. Teachers tend to move from a traditional role towards one of a “learning facilitator”.

It must be noted that these changes tend to be restricted to learning situations that employ ICT-based “open” applications, such as interactive educational programmes and the use of Internet.

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<sup>(5)</sup> The authors participate in the Monitoring and Evaluation of Research in Learning Innovations (MERLIN Consortium), funded by the EU, Key Action improving the socio-economic knowledge base.

## School twinning – great potential for rich learning exchanges



**T**wo teachers talk about the challenges and potential benefits of school twinning. **Maria Tsirampidou** is Head Teacher at the Special Primary School of Kilkis, Greece. **Juan Carlos Ocaña** is Head of the History and Geography Department at IES Parque de Lisboa, a high school in Alcorcón, near Madrid. He was a member of the European Schoolnet project, Spring Day in Europe Event.

**What can we expect of school twinning in terms of pedagogical improvements?**

**Maria Tsirampidou:** A rich exchange of pedagogical, methodological, educational experiences and information about different school systems must be a main goal of a school twinning both for teachers and students.

Activities can include presentations and exchange of projects implemented over the last years involving subjects such as environmental and health projects, as well as cultural activities. This will present the opportunity to discuss both pedagogical issues and proposals for improvements.

There could be also a valuable exchange on curricular issues such as lessons, the school "atmosphere", special needs students, minorities, violence, drugs, equal rights and any other themes of interest to parents and teachers.

**Juan Carlos Ocaña:** There are many benefits to school twinning. An important one is to bring a European dimension to daily teaching and learning. Also important is fostering collaborative ways of working.

Collaborative work between students across Europe will improve their language capabilities.

ICT is an unavoidable tool in our daily lives and work, which is why integrating it into the school environment and promoting digital literacy is critical.

**What are the main obstacles to overcome on the road to school twinning?**

**MT:** A special website to present schools in detail is needed to enable participants to choose an institution that "fits" their school and interests. Students and teachers (why not parents?) should be allowed to "travel to" the other school. This mobility must involve head teachers, school advisors and supervisors so that they are aware of the importance of the project.

**JCO:** Different levels of knowledge in both ICT and language skills could result in an uneven exchange or one that does not realise its full potential.

Success will also depend on the Internet facilities available at the twinned schools. In addition, we need to consider the different curricula in countries that are very diverse. However, this could result in added value through rich exchanges.

**Schools are already linked by cooperation and networking. What lessons can be drawn from those experiences in developing school twinning?**

**MT:** Schools are already facing too much demanding work and have very strict curricula, so all types of cooperation face the same problem: lack of time. School twinning must be integrated into each school's curriculum with the support of the local authorities, which is why they must be convinced why twinning is important.

**JCO:** We need to work on concrete projects so that local authorities, head teachers, teachers and parents understand the potential benefits that can be realised from the rich exchanges among teachers and students.

These projects must be adapted to the national curriculum so they become part of the learning environment and as such, result in added value for participants.



**What are the conditions or requirements for a successful school twinning?**

MT: Success will depend upon equality between the schools; sharing of responsibilities; taking on equal roles; frequent contact through emails and use of ICT; as well as an exchange that includes products, letters, news and language lessons by post.

Priority should be given to cooperation between different regions, offering an opportunity for culturally diverse schools to learn more about each other and become closer. For example, cooperation between two Scandinavian schools may not be as rich as between Scandinavian and Greek students.

JCO: There should be a teacher in charge of the project to ensure it runs smoothly. This is important because there must be continuous correspondence if the twinning relationship is to be maintained and nurtured.

There must also be collaboration between the management teams. For this reason, head teachers should actively participate.

Staff and students with knowledge of several languages are a key to success along with appropriate Internet facilities and ICT capabilities.

A good relationship between teachers and students is also essential.



## New dimension in higher education



In her opening speech to the Learntech Forum in February 2003, Commissioner Viviane Reding described the fundamental changes e-learning is making to education and training. This is particularly the case for higher education, where e-learning takes many forms: it can supplement traditional teaching methods, it can create 'virtual universities; it can spawn distance learning institutions; or offer students virtual mobility. It can also be the beginning of 'life-long learning'

Many institutions use e-learning to support traditional teaching through 'on-line' course material' or electronic tutorials. This also offers the possibility of inter-university collaboration, and 700 European Universities now produce joint teaching materials and organise electronic discussions between students.

Research plays a crucial role in higher education, and here e-learning means institutions can pool their expertise. For example, the eMerge Project, led by Bordeaux University in France, is giving remote laboratory access to engineering research students via the Internet.

### Democratic learning

E-learning also offers more 'democratic' higher education, by reaching out to people, who have neither the finance nor the opportunity to go to university. Instead they can use Distance Teaching, where study and supervision can take place over the Internet. There are now more than 4,000 staff preparing distance learning materials for over 900,000 students in 14 countries, coordinated through the European Association of Distance Teaching Universities. Distance learning is also being used to educate travellers' children, who often miss out on conventional education.

The importance of opening up e-learning to all has been stressed in the European Commission's Sixth Framework Research Programme, as follows: "Work on e-learning will focus on personalised access to, and delivery of, learning".

### Virtual learning

E-learning has precipitated the growth of European 'virtual universities', networks of traditional universities, distance universities and telecommunications projects. MENU, which is developing courses between 11 countries is a good example of this (see box).

Europe's scholars are being encouraged to use 'Virtual mobility' to complement programmes such as Erasmus, where they have exchanges between universities. A virtually mobile scholar could prepare or consolidate this experience by "virtual Erasmus" activities at his or her university of origin.

### Is it mainstream?

These are the best examples of what e-learning achieves, but is it the trend?

Some commentators are concerned that many institutions have not yet rethought their teaching methods to include e-learning, despite considerable encouragement from the European Union, in terms of generous funds and policy support. While e-learning should engender new academic-business partnerships, at present only the most well-established and prestigious institutions are making these links. Education policy is slow to change and other, smaller institutions need to embrace the opportunity presented by e-learning.

In response to the question posed by Commissioner Reding, "Is e-learning going mainstream?" The answer is "Yes, but we are only at the beginning of a long process."



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## Focus

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### **MENU – a model for a European Networked University**

*The Model for a European Networked University for e-learning (MENU) grew out of four Norwegian education institutions in 1992, and now has 11 partners from Norway, Sweden, Finland, the UK, Spain, Italy and Greece. It is one of Europe's first 'Networked Universities'.*

*Harald Haugen from Stord/Haugesund College, in Norway, which coordinates MENU, explained that most partners already had considerable net-based learning experience. For example, his own institution has been running courses where students assemble electronic 'portfolios', while Greenwich University had offered video conferencing teaching.*

*The project has had requests from other institutions to join, but is resisting the temptation to grow too quickly "When you have more partners, you have more disagreements", Haugen admitted. While retaining its original size, MENU has nevertheless established links with institutions in the USA and Australia, and plans to exchange courses and study programmes with them.*

#### **MENU in action**

*MENU really got moving in 2002, with support from the European Commission, and will operate in its present form until the end of 2003. It is now busy planning future activities and preparing its business plan for a Networked university, which is designed to be flexible enough to take account of its partners' interest and activity. Its structure allows it to exist as an independent organisation, or a virtual network.*

*The academic programme is beginning with a general European Masters Degree, and in December 2002, Norway registered its first group of 'MENU-students' in a Masters in 'ICT in Learning'. Norwegian institutions are planning a further joint programme in engineering, which they will share with MENU's Greek partners.*

*Assuring that courses are of a universally-high quality is one of the keys to getting a Networked University accepted, explained Haugen. "At times traditional universities find it difficult to accept e-learning, particularly if students were not attending their institution. In some places net-based learning is not accepted, and universities will not grade papers produced in other institutions".*

#### **Innovation in practice**

*So how innovative is MENU in its approach? Very, hopes Haugen. "While many institutions use what we call the 'Volkswagen model', which means putting lectures on the net, we are looking for more blended solutions, where students can mix conventional learning with video-conferencing, and web discussions".*

*While MENU's funding ends in 2003, the programme will continue. "MENU has certainly been challenging, but rewarding", Haugen finished.*

## Major challenges facing the higher education system in the ICT era



**Jim Devine, Director of IADT,  
Dun Laoghaire, Ireland**

The situation in Ireland exemplifies the opportunities that European Higher Education Institutions are facing, the strategies they are beginning to put into practice and the new challenges that are arising.

A strategic review, 'The University Challenged' carried out by Skilbeck (2001) identifies key opportunities and challenges. Collaboration between universities, polytechnics and media organisations offers a significant opportunity to create high quality course resources while at the same time avoiding the risk of wasteful duplication. Competition from global technology-driven virtual universities must also be taken seriously at least in the medium term.

Universities and polytechnics in Ireland have developed a body of experience in ICT for teaching and learning. The phase of experimentation and of the early adopters is giving way to thinking of a more strategic nature. The use of web-based 'Learner Management Systems' is no longer a novel phenomenon, but the emphasis is still for the most part on underpinning traditional methods – what we are seeing is an evolution towards 'blended' learning. We can expect more radical, innovative, media-rich solutions to emerge only if we take a more strategic approach.

The European University Association (EUA) offers guidance on strategy for ICT and e-learning and the HECTIC report published by the Coimbra Group also provides a roadmap, based on the experiences of best practice.

### **Current trends and issues in ICT for teaching and learning in Ireland:**

- Institutions use ICT to find new ways to manage familiar processes. Experimentation is universal, although in a majority of cases it is targeted at campus-based students as a "value-added" support.

- Large scale deployment of e-learning is dependent on a reliable infrastructure. This varies from campus to campus and students still complain of inadequate levels of access. Delays in rolling out broadband to the home also hinder wider adoption of e-learning. This situation is set to improve dramatically in 2003.
- In common with other countries, teaching staff report an increase in workload when students have greater access through e-learning environments and this will require careful monitoring and management and staff training and development, if enthusiasm and goodwill is to be sustained.
- Good pedagogical and content design is essential for e-learning. There is a need to be critical of environments that offer no more than the 'textbook on screen' which may ultimately be counterproductive by reinforcing habits of surface learning.
- College buildings must be geared to take account of e-learning. For example, new library buildings have been constructed to perform as networked information resource centres.

### **State of Play in Ireland:**

Higher education is entering a period of transformation and the strategic importance of e-learning is recognised. What has been achieved to date is largely the result of the efforts of higher education institutions acting independently. The next step is for strategic collaboration in order to maximise potential.

# Lifelong e-learning

In its strategy to become the world's most competitive knowledge-based society by 2010, the European Union has stressed the necessity of extending the concept of learning far beyond the borders of the traditional education and training systems (schools, universities, institutes). The idea of lifelong learning has emerged. From pre-school to post-retirement, it covers all forms of education and training, whether formal in nature (in an institutional setting and based on an evaluation system such as an end-of-year exam), non-formal (in a defined institutional setting but not leading to an official qualification) or informal (without a framework or evaluation).

It is no surprise that e-learning is a formidable instrument in helping lifelong learning to become a reality. However, a prerequisite is to ensure wide public access to electronic media, and so the European Commission is promoting the concept of local ICT learning centres. Also important is the need to adapt e-learning to individual needs and styles, and to ensure it is a social process, where learners can interact with the material, as well as collaborate with other learners, teachers, trainers and tutors.

## Learning at work

Lifelong e-learning obviously needs the involvement of companies and the world of work. In a context where new skills and competencies have to be upgraded for rapidly changing business and labour-market needs, e-learning is proving a very popular cost-effective solution (e.g. up to 60% of the training needs of some key players in the ICT sector is now provided by e-learning). "Corporate universities" are amongst the most advanced players in this field, especially in the Information Technology sector.

There seem to be obvious advantages for SMEs to use e-learning, as they cannot afford the costs and time involved in sending staff to off-site training. However, further effort is required to allow small companies to understand, shape and use e-learning tools and methods according to their own requirements. In addition, corporate e-

learning solutions often require significant investment in infrastructure, content and services, and are therefore only cost-effective when there is a sufficiently large number of learners. Therefore new approaches are required to help SMEs achieve the critical mass necessary for cost-effective e-learning solutions. Such approaches may involve innovative Public-Private Partnerships between regional councils, chambers of commerce, industry and training providers, for example.

E-learning offers particular advantages when it comes to keeping information and course contents up-to-date with respect to rapidly changing business, environmental and regulatory needs. For example, an e-learning course offering support to craftsmen working in small foundries can be rapidly updated to reflect changes in regulations concerning the use of chemicals in the work place.

The European Commission has emphasised the need to tackle the ICT and e-business skills shortages and, in this context, to promote the development of e-learning solutions.

There is a growing demand for individuals to take greater responsibility for, and control of, their own learning. Employers are moving from a system of centrally delivered standardised training, to one in which they invest in their employees' self learning. E-learning facilitates this process of empowering the learner to match his or her own needs for personal development with those of the rapidly changing work environment. As such, e-learning contributes positively to the development of human capital and to an improvement in the quality of work.



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## Towards an eLearning programme



The eLearning programme is the third phase of the process launched after the Lisbon Summit in March 2000 that vowed to help turn Europe into the most competitive knowledge-based society by the year 2010.

The programme is due to run from 2004 to 2006 and its objective is to encourage the effective use of information communication technology (ICT) in European education and training, principally via the Internet.

It is anticipated that e-learning will increase the quality of education, be adaptable to the needs of a knowledge society and contribute to the European model of social cohesion.

The eLearning Programme follows on from the eLearning Initiative and continues the work of implementing the eLearning Action Plan, complementing the existing Community actions such as the 6<sup>th</sup> Framework Programme for research, the eTEN programme and the educational and training programme, Socrates and Leonardo da Vinci.

The proposed programme identifies four priorities, chosen for their political importance and their relevance to the modernisation of Europe's education and training systems. The priorities are: promoting digital literacy; twinning of schools via the Internet; deployment of European virtual campuses; and promotion and monitoring of the implementation of the eLearning Action Plan.

While the current Socrates and Leonardo da Vinci programmes are already supporting the use of new technologies in the education and training sectors respectively, the eLearning programme is designed to transcend the boundaries of traditional methods of education and training as part of a truly lifelong learning experience. The programme will support a contemporary approach to education and may also provide the opportunity of trying out new and more flexible modes of teaching and training that are more in line with the innovative nature of e-learning.

Here are the four priorities of the eLearning programme explained in more detail:

**1) Promoting digital literacy** – This will address the contribution of ICT in learning, specifically for those who, due to their geographical location, social status or special needs, cannot benefit from traditional educational and training provisions. The goal is to foster awareness and understanding of how ICT can aid these less privileged groups to acquire basic educational skills and new competencies that are needed for the knowledge society. It will identify good examples and build synergies between the many national and European projects that address these target groups.

**2) Twinning of schools via the Internet** – This plan is designed to bring young people together to learn and practice ICT skills, as well as promoting awareness of the multilingual and multicultural European model of society. By encouraging more schools to integrate with each other across Europe, they can build pedagogical partnerships together and foster language learning and intercultural dialogue. The twinning links could take various forms; pupil-to-pupil, teacher-to-teacher, class-to-class and school-to-school. These relationships could be utilised in simple exchanges of information or documentation, joint discovery or research projects, or, ambitiously, form an integral part of the education system.

The Internet twinning scheme fits well with the vision of mobility, whereby every young European at secondary school can participate in an educational project of his or her choice with one or more pupils or teachers located in one country, or even several.

The scheme will also support the development of teachers' competencies in the use of ICT and the Internet for pedagogical purposes.

**3) Universities and higher education institutions** – This priority focuses on better integration of the virtual dimension in physical mobility, quality assurance and the mutual recognition schemes of the Bologna Process. The objective is to encour-

age the development of virtual models for European universities (virtual campus) and for European exchange and sharing schemes (virtual mobility), building on existing European co-operation frameworks (Erasmus programme, Bologna process), and providing an "e-learning dimension" to their operational tools

**4) Promote and monitor the eLearning Action Plan** – The objectives here involves the practical aspects of the dissemination, promotion and adoption of good practice and products from the many projects and programmes that have been funded at the European level or by Member States. It should also galvanise the co-operation between the various parties involved, particularly in developing partnerships between the public and private sectors, as well as encouraging participation in international projects that are related to e-learning, such as with OECD, IEA, UNESCO.

In conclusion, all these priorities and efforts are designed to move us at least one step nearer a European knowledge society, a society in which lifelong learning is not just a **virtual** reality, but a **true** reality!





## For more information

### **European Commission**

Directorate-General for Education and Culture  
Multimedia Unit for Culture, Education and Training  
Office B-100 03/7  
B-1049 Brussels  
Email: [elarning@cec.eu.int](mailto:elarning@cec.eu.int)  
Fax (32-2) 2 296 69 92  
<http://europa.eu.int/comm/elarning>

### **Other sites**

Directorate-General for Education and Culture  
[http://europa.eu.int/comm/dgs/education\\_culture/index\\_en.htm](http://europa.eu.int/comm/dgs/education_culture/index_en.htm)

The eLearning Portal  
<http://elearningeuropa.info>

The Minerva Action of the Socrates Programme  
<http://europa.eu.int/comm/education/socrates/minerva/ind1a.html>

eEurope Action Plan  
[http://europa.eu.int/information\\_society/eeurope/index\\_en.htm](http://europa.eu.int/information_society/eeurope/index_en.htm)

Information Society Directorate-General  
[http://europa.eu.int/comm/dgs/information\\_society/index\\_en.htm](http://europa.eu.int/comm/dgs/information_society/index_en.htm)

Action to Promote European Education and Training for Research and Development  
<http://www.proacte.com>

Information Society Technologies (IST) Programme  
<http://www.cordis.lu>

European Knowledge Society  
[http://europa.eu.int/comm/employment\\_social/knowledge\\_society/index\\_en.htm](http://europa.eu.int/comm/employment_social/knowledge_society/index_en.htm)

Employment and Social Affairs Directorate-General  
[http://europa.eu.int/comm/dgs/employment\\_social/index\\_en.htm](http://europa.eu.int/comm/dgs/employment_social/index_en.htm)

Enterprise Directorate-General  
<http://europa.eu.int/comm/enterprise/ict/policy/ict-skills.htm>

Research Directorate-General  
[http://europa.eu.int/comm/dgs/research/organisation\\_en.html](http://europa.eu.int/comm/dgs/research/organisation_en.html)

Regional Policy Directorate-General  
[http://europa.eu.int/comm/dgs/regional\\_policy/index\\_en.htm](http://europa.eu.int/comm/dgs/regional_policy/index_en.htm)