EUROPEAN COMMISSION
Directorate-General for Education and Culture

Vocational training
Multimedia: culture - education - training

3.12.2004

IMPLEMENTATION OF "EDUCATION & TRAINING 2010" WORK PROGRAMME

WORKING GROUP C

"ICT IN EDUCATION AND TRAINING"

PROGRESS REPORT

2004

Synthetic version

Contact: elearning@cec.eu.int, tel. +32 2 298 7519

Commission européenne, B-1049 Bruxelles / Europese Commissie, B-1049 Brussel - Belgium. Telephone: (32-2) 299 11 11.
Telephone: direct line (32-2) 298 7519. Fax: (32-2) 296.69.92.

http://europa.eu.int/comm/dgs/education_culture
elearning@cec.eu.int

1. MAIN RECOMMENDATIONS/MATERIAL DRAWN ON THE KEY ISSUES DISCUSSED

1.1. Embeded ICT policies and strategies into long term educational objectives

Given the fundamental changes in education and given the ICT potential, it is vital that policies and strategies in the area of ICT be driven by long-term educational objectives. The role that ICT plays for fostering production in the economic system should not obscure the role that ICT may play in fostering citizenship and personality building in the education system.

The general rationale for integrating ICT in education often lies with the growing importance of ICT based resources and services in society as a whole, the complexity of the tools available, and the pressure to make education more cost effective and employment compliant. Long-term educational goals, the so-called foundations of knowledge, are usually implicit and as such are rarely questioned, in order not to disrupt the assumption that there is a general adherence to them. Making them explicit in order to establish ICT objectives and priorities is no easy task. Some countries are however revisiting not only the curriculum, but also the fundamental goals of education and the organisation of their educational institutions and activities. Exploring their ICT policies and their action can facilitate the work to be done by others.

1.2. Ensure new support services for education

Services are an essential component of ICT-supported learning provisions. Both on-line and 'physical' services should be funded and made available for technological and educational support.

This may involve specific investments in services infrastructures. For example, the setting up of agencies, competence centres, local 'club houses' appeared to be very successful in several countries. The transformation of school libraries or municipal libraries takes place as answers to the political will of developing open learning centres, of completing formal learning provisions by non-formal ones for lifelong learners. An 'educational multimedia clearing house' project is also being investigated as a possible model for facilitating the exchange of know-how and public domain educational materials at European level.

Specific investment in staff development and specific human resources are also required: support teams, pedagogical and technical helpdesks, etc. Such services may also aim at a better personalisation of learning paths, tutoring and guidance facilities for learners, which is the long-running (but not much achieved) claim of using computers for learning.

1.3. Empower educational actors and addressing new challenges

Educational actors, students, teachers, trainers, administrators and school directors need to be empowered through ICT-inclusive educational policies.

Teacher education appears as one of the most important arenas for addressing the integration of ICT in education. The ability of teachers to critically reflect on their own practice should be encouraged through specific methods and tools. ICT can be a catalytic element for achieving such 'reflective practices' or other methods for upgrading teaching and learning processes.

However, policies have to take into account environmental conditions for such methods to be developed. Teachers still appear as "a problem" for ICT-policy specialists. It has been estimated, in several countries, that 80 % of teachers do not make real use of IC technology at their disposal. Social pressure on using ICT in education is such that, in some cases, teachers claim to use it even when they don't. The involvement of teachers in demand-based strategies then appears as a pre-requisite if one wants to go beyond the "pilot" or "pioneer" level of implementation.

Several policies now address this necessary involvement. There is also an increasing involvement of heads of schools – sometimes jointly with parents and local decision-makers – to help them to cope with new challenges.

Students' empowerment stays an important recommendation. Most successful cases of ICT use in education lie in such empowerment. However, the pioneer effect may be one of the reasons for existing motivations in involved actors. Sustaining such empowerment calls for new learning environments, and may involve changes in curriculum, changes in learning spaces and time and new pieces of software. For example, software like the "Gene Technology Program" in the Norwegian Viten project, which has been developed for training students to scientific argumentation may be a good example of how ICT can foster new learning processes.

1.4. Develop research, indicators, access to results and specific fields of application

Much effort and funding have been devoted to technological research and development. However, it was stressed in the previous report and should be repeated that social science and educational research should get more sustained funding. The working group also recommended that more should be done with results from past and current research or pilot projects. Though information on more than 800 hundred European Community projects is available from the e-learning site [www.elearningeuropa.info], recommendation was made that additional attention should be given to thematic analysis of such European projects. The same recommendation should be addressed to the analysis of national and regional pilot and research projects. What has been assessed as 'good practices' or 'good policies' should be systematically evaluated and thoroughly analysed. This could possibly lead to a network of the national or regional bodies conducting such evaluations, and exchanging know-how on qualitative and quantitative evaluation methods.

There is a need to shift to new specific research areas addressing more problematic issues, such as the growing number of 'unquestioned assumptions' and slogans in the ICT field. For example, the whole issue of 'ICT basic skills: there is an unquestioned assumption that any pupil or teacher should go through some obliged steps before accessing to some more higher-order uses of ICT. Skinnerian approaches support such views in setting the obliged path which all learners should follow. However, there is much research evidence that most adult learners have so far taken short cuts, and that teen-agers – for example - are able to set up sophisticated web sites without having gone through such "basic skills" compulsory path.

As students enter school with a growing ICT familiarity, the definition of basic skills – to be addressed by the educational integration of ICT – needs now to embrace more and more higher-order thinking skills, and a global vision of media education to prepare

young citizens in a world where mass-media play an increasing role in setting communication spaces which have their own values and models.

Another unquestioned assumption relates to the fact that – if ICT is everywhere in offices – it should be everywhere in schools. Strangely, no one questions the adequacy of office tools for educational purposes. This issue of the relevance of IC technology for educational purposes needs to be addressed in order to determine where ICT is pertinent, where it is vital, where it is cumbersome and useless as well as determine what the conditions for an optimal use are. Problems of school architecture, of schedules and class units are often mentioned but there is very little information available on what are the best solutions to be implemented. Important issues were brought forth during the Irish Presidency conference which took ICT in education as its main issue of discussion[1]. Several speakers argue that what happens in schools should not naively replicate what happens in the society. While media are everywhere in society, reading text should – even more than before – be given attention in schools; while there is "noise" outside, one should stress the importance of places where one learns to reflect and work in "silent concentration"; while violence may increase, pupils should learn to overcome conflicts; etc..

Finally perhaps the most significant assumption is that integrating ICT is bringing about fundamental changes in education. There is a need to revisit, not only what is meant by change and if change is desirable in education, but also how school systems and pedagogical approaches change. Changes with ICT can be limited to student-centred, multimedia learning, without changing the school curriculum, thus progressively invalidating the changes. School reform is not a spontaneous consequence of the introduction of ICT, as was noted from one contribution to the conference.

An important problematic issue concerns the organisation of educational spaces for ICT use. Integrating ICT can mean anything from complete online training, with specific learning platforms using virtual microworlds and laboratories, to online access to/ and control of/ distant physical set-ups such as greenhouses or physics laboratory; it can also mean working with in a face to face situation in a laboratory with digital controls and computer based mathematic tools. How is this taken into account by current school architecture decisions? What are the priorities in setting up building that will include such ICT-based activities?

Research on new learning processes and methods should be given much more emphasis than is the case today. Researchers and educational actors need to question the relevance of ICT to education and training in the light of the educational goals pursued, and assess much further how ICT is used, and how it may foster or weaken learners' abilities to learn in specific educational contexts.

An important issue is the future of learning platforms. Across universities and training centres, specific learning platforms have been set up, built on the assumption that in the future, education would be online or at least "blended" or with online teaching and learning activities. These platforms entail several problems, such as their technological

---

[1] New Futures for learning in the digital age - Dublin May 2004 http://www.newfuturesforlearning.ie – Report by Aidan Mulkeen

obsolescence, the constraints and normalisation of educational interactions, without mentioning their costs. Is standardization a desirable objective in education? Are learning models imposed upon education through either technical or quality standards? What are the advantages and the limits of "industrialising" university education? As institutions and stakeholders attend to implementing these platforms, there is an urgent need to look forward and examine these choices in the light of the fundamental educational objectives.

The whole issue of technical standards and formats has also been brought to the forefront with the need to share and make available on a large-scale contents that are very costly to produce. Up until now, the decisions concerning which metadata are to be used to describe educational contents have been mostly taken by computer specialists, and teachers have been barely involved. Educational designers are already coping with the constraints that these choices are imposing on the concrete educational activities that will be developed. Here again research and involvement of the concerned actors should be priorities.

2. PROPOSED FUTURE WORK PRIORITIES

A first hypothesis is to continue the work begun on the integration of ICT in education. There are several reasons that support this position:

– Representatives of Member States are very much involved in the integration of ICT and have maintained a strong participation in the group C activities;

– The group has a mix of people at the decision-making level and people with a more academic profile;

– The active involvement of "stakeholders" such as the CSEE, the European Confederation of Syndicates, the European Schoolnet, the European Vocational Training Association, MENON, EDEN, l'IEA, all these organisations equally working in projects that concern the issues tackled in group C;

A link with the work of the eLearning committee, which could provide it with an operational status in group C, more oriented towards reflective work and comparative evaluation; furthermore, the eLearning programme is more focused on projects having a European dimension than Group C which concentrates its work on exchanges dealing with national or regional programs.

2.1. Open the group work to higher education and vocational and professional training

Going along with the work already undertaken, the perspective is to open, by the end of 2004 and the beginning of 2005, the field of the ICT group to the domain of higher education and professional training.

As already noted, this opening is problematic for those members of the group who belong to Ministries whose mandates are limited to primary and secondary schools, but it is considered with interest by those members that deem it necessary to extend the work of the group and who have mandates also for higher education and vocational and professional training.

The opening to higher education is crucial as it may, inter alia, ensure better links between education and research. Higher education has – by tradition – been at the forefront of knowledge production, management and dissemination. Relevant institutions should play a key role as interfaces between research and all educational sectors. Moreover, the use of ICT in education at all levels requires new pedagogical and organisational settings. Therefore, cross-collaboration between education, social science and 'hard science', and within the different fields of research, is needed.

This issue will have to be discussed further with the other groups concerned.

2.2. Focusing on one of the recommendations

Another hypothesis for the group work would be to concentrate on one of the recommendations and look more specifically at its implementation, the evaluation of what has been accomplished and the policies involved.

As a matter of fact, the work on « good policies » has brought an end to the gathering of good pedagogical practices and has geared attention to micro-social or micro-economic approaches rather than in-the-field practices.

The group could refocus its activities on field practices and organisational, regulatory or financial aspects that have allowed going forward and that could be interesting to explore.

For example: services

The issue of « services » is the basis of one of the 2003 Report final recommendations and could be developed further. Centres open to different types of publics have been explored in several countries:

- Competence centres in Portugal, Netherlands, Sweden, to name but a few countries, are centres that allow training in-the-field of teachers to pilot collaborative projects innovatively involving ICT.
- "Multimedia school libraries" in Norway have been reorganised to develop convivial areas for training, open to students as well as to teachers;
- "Club Houses" in Ireland are being developed in poor sections of Dublin as areas for exchanges and creativity – involving ICT – for the young people in the neighbourhood;
- Renovation of « municipal libraries » in Glasgow in order to open then to new publics and users.

2.3. Develop the ICT dimension in all the other working groups

This could also be on of the priorities, as it is becoming more and more obvious that the changes in pedagogical paradigms, the evolutions of learning environments, the pervasiveness of digital information and communication technology and the coming of age of an information rich society has implications and important consequences for all aspects of education, for educational institutions and for educational actors' roles and competences.

This situation will sooner or later result in a need for decision makers to revisit all educational policies, especially those focused on ICT integration.

2.4. Recommendations for short-term focus of ICT group

The immediate work of the ICT group needs to address two problematic issues, while continuing a pedagogical and technological watch on how ICT integration is involving:

- Point out to researchers and educational actors the unquestioned assumptions that hinder ICT integration;
- Revisit the important developments going on concerning standards, metadata, and learning platforms, by assessing their interest in view of long term educational goals and methods;
- Evaluate the design process and impact of current indicators and work out more appropriate ones.