

The European Union and its Role and Impact on ODL

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The acceleration of change induced by technological innovation will deeply affect the systems of education and training. It accentuates an increased demand for flexibility and mutations in the process of teaching-learning. It is important to analyse the position and role of traditional institutions, distance-learning institutions and electronic publishing institutions concerning the transformations and innovations foreseen. Particularly in Europe, there is also a balance to be found between unity and diversity. Plurilingualism should be maintained, and cultural diversity should be respected and appreciated.

A series of interventions in the form of actions and programmes within the European Union since 1993 is described. A major concern has been the need to integrate the resources available, and to develop the European dimension, in respect of the principle of subsidiarity and the defense of cultural identities.

Like in any process of innovation, it is important to guarantee that it is sustained by adequate research activities. These should not be limited to research on technology itself and its application, but go further to help us understand and creatively develop the new paradigms needed within fundamental learning processes.

Keywords

technological innovation, continuous training, cultural diversity, European programmes, policy, research

At a meeting of experts one runs two risks: either of being too generic or of going into too much detail, and this is not admissible from those who do not work and operate in this field. To avoid these risks I propose to discuss three topics only.

The first concerns the general *context* particular to those industrialised societies in which the field, object of this meeting, is collocated and the specific characteristics it assumes in the countries of the European Union. The second topic concerns the Union's programmes in the fields of education and training, and, more specifically, that of distance learning. The third directly concerns research in these fields.

The general context

Let us start with the context. The two fundamental questions we have before us and which are destined to affect the remaining few years of the century and of the millennium deeply, are both born from an *acceleration of changes* induced by technological innovation. This occurs above all in the industrial system and, more in general, in the productive system and causes a problem to emerge which will, in coming years, be central to policies of education and training: the *need to learn throughout one's life*.

The probability of changing job during one's lifetime, even more than once, must be taken into account and this fact is destined to modify the functioning of traditional systems of education and training, which were until now implicated mainly in the phase of initial instruction. It is now a matter of finding procedures and mechanisms to face this challenge, at a level of regulations, of financing and also how traditional structures can participate.

There are countries who have already acquired valid experience in continuous training but this problem has never before reached its present dimension and relevance.

A second consequence induced by the acceleration of industrial changes is an *increased demand for flexibility*: flexibility of offer and of products and of processes of education and instruction. In fact, the demands which will characterise the coming years in this field are: continuous and flexible instruction.

In this regard, distance learning has an important role to play. To begin with, because of its flexibility it can overcome the bonds of proximity and contemporaneity, that is the bonds of space and time, and it is naturally suitable to make an important contribution to the growth of flexibility. But it is also true with respect to the demand for continuous instruction, where flexibility is yet more decisive.

Technological innovation, however, also induces *direct mutations in the process of teaching-learning*. These mutations commenced some decades ago and have led, in a gradually increasing way, to numerous

innovations.

The transformation of the memories of knowledge and the integration into them of the various languages (sound, iconic, symbolic) induce a new type of development in publishing, which will ever more increasingly be accompanied by electronic publishing. To this integration, thanks to computer science, processes of exploration of these interactive memories are added much more than in the past. The act of consulting a book can be substituted by a much wider range of courses. Telecommunication networks make it possible to take advantage of them from a distance. These transformations, which have come about in recent decades, are today much accelerated through the decision to realise telematic networks which will lead to an acceleration in the fruition of new modalities of teaching and learning.

Here we are posed with a problem: what is the position of traditional institutions (universities, schools, training centres) which have so far been only marginally involved in distance learning, as up to now only specific institutions for this type of teaching have been developed? The problem of the relationship between these institutions and traditional ones on the one hand and electronic publishing on the other is also posed.

Analysing how these three subjects (traditional system, distance learning institutions, electronic publishing) can accompany and also control the evolutionary process of the educational and training system becomes an important theme in this field. It is a question of measuring oneself with the transformations which will occur in the next few years because of the increased demand for continuous training and flexibility and of finding a new equilibrium between the systems which must supply this answer.

Personally, I am convinced that universities, institutions with almost a thousand years' history behind them, will adapt to the new context, utilising the new instruments and mechanisms of communication.

Transformations and far-reaching innovations which are in part already being outlined, will be necessary: a greater autonomy of the student in learning, a modification in the role of the teacher in teaching through participation in didactic projects which utilise the potentiality of multimediality and interactivity, the evolution towards a flexible, open organisation. An important role in this transition can be played by the present open universities and above all by those structures that cooperatively involve several traditional universities and publishing itself will evolve, as will the role of the author.

The reflections made up to here refer to all industrialised societies. If we proceed to consider the specific case of the construction of Europe, the problem of balance to be found between unity and diversity must be taken into account. On the one hand, on an economic level, we are building a single market, on the other hand, on a cultural level, we are facing a very delicate and complex question. It has been said that the culture of Europe is unitarian because the appreciation of its multiplicity has become a common heritage. The sentiment of unity coexists with the sentiment of differentiation and the former is founded on the acceptance of the latter. A fundamental role in this double sentiment is played by translation and actually our continent is also called the continent of translated cultures; it is translation which makes it possible to understand and appreciate the music, art, films, theatre of other countries.

Well, it is here that two basic questions, specific to Europe, arise: the challenge to build the union maintaining plurilingualism and that of considering diversity as a heritage to be guaranteed and as a potentiality to be utilised. In order to build the union it is necessary to accept this departure point: as in nature biodiversity is considered an enriching element to be preserved, so must diversity of culture be considered.

This common European sensitivity explains the prudence in the treaties, the maintenance by each country of the prime responsibility for its education and training system and the attribution to the Union only of some complementary, subsidiary actions.

Therefore, as well as the general problems I listed for industrialised societies, there is in Europe the cultural challenge to respond to the new system, respecting diversity while yet seeing a European dimension for European education and training to meet the needs of market unification and free circulation of professions.

This is the context, a context of strong changes on which the debate is too limited and which those who operate in this field are called upon to deepen and enrich.

What the European Union is doing

I would now like to spend a few minutes on what the Union is doing in this field.

In the years 1994-95 the Union made an analysis, which is still relevant and which is contained in the White Paper "Growth, Competitiveness, Employment", on the role of the research system and the instruction-training system and necessary interventions. It also elaborated and approved a new generation of research programmes (the fourth Framework Programme) and the new education (Socrates) and training (Leonardo) programmes. In these programmes space has been given to the new technologies in instruction and training and in particular to distance learning. Moreover, the central objective, stated in the treaty, is growth of the European dimension of instruction. The instruments foreseen are those of cooperation through programmes and networks.

An important requirement, already present then, was cooperation through the various lines of intervention, often divided by rigid frontiers. It was to this aim that cooperation was explicitly foreseen and a pilot plan was launched which involved diverse programmes under various managements.

The acceleration of this process of development, penetration and diffusion of information technologies and the actual thrust exercised by the actuation of these new programmes has emphasised the need to consolidate the process of horizontal integration. This is the picture in which is collocated the Task Force on educational multimedia instituted in March 1995 by Bangemann and Cresson, with the object of developing an analysis of educational multimedia in Europe and of suggesting actions, both to strengthen research and competitiveness of the European multimedia industry and to stimulate the use of multimedia in the education system.

An initial proposal made by the Task Force was exactly that of reinforcing cooperation between the various general directions and preparing call for common proposals.

On the basis of the work of the Task Force, the Council of Education Ministers approved a resolution on educational multimedia, directed to member states and to the Commission in May '96. The former are invited to pursue research and experimentation, evaluation and diffusion, improvement in the training of teachers with regard to the utilisation of these technologies in the practice of teaching, support of partnerships between educational institutions, editors and multimedia companies.

The task of developing support at a European level is entrusted to the Commission. The action plan "Learning in Information Society" adopted in October 1996 is a part of this and concentrates on: interconnection of school networks, development and diffusion of European contents, training of teachers to use technologies, sensibilisation and information.

The new generation of programmes elaborated in '93-94, and the reflections and actions of coordination of '95-96 have matured and consolidated the need to integrate the resources available for European action, destined to the contents of multimedia (Media, Info 2000) the education programmes (Socrates), the training programmes (Leonardo Da Vinci) and research (Telematic Applications, Information technologies, finalised socio-economic research). The proposals for the Fifth Framework Programme now under discussion reflect this line and constitute the Union's contribution. But the actions of single member states which have maintained primary responsibility in this sector are decisive. Only in this way can the situation be improved.

In fact the development of multimedia is not easy in a world context which is characterised by ever more accentuated competitiveness. There are various factors which condition it. Above all, compared to the United States there is a very low per capita ratio of instruments which are often out-dated, in that we do not manage to keep up with the rapid evolution of instruments. The rate of interconnection with communication networks is also low. The unbalance between member states is notable, from northern countries to central and southern ones.

There is the cultural resistance of teachers or their inadequate training to use these technologies.

There is, too, the specific nature of the European Union, its linguistic, cultural and institutional variety. This in particular indicates the lines to follow and the need of inspiration through mechanisms of cooperation from the bottom up.

The principle of subsidiarity must be respected and the defence of plurilingualism and diversity respected, in short, the defense of cultural identities. But this is the challenge and the opportunity which the new technologies offer cooperation, with their potentiality to favour exchanges, common experiments, cross fertilisation.

A powerful factor of change will be provided by the development of wide band networks which will link, ever more diffusely, educational institutions, homes, work places, museums.

The liberalisation of the telecommunication market, decided by the European Union, and the availability of new technologies to take advantage of and adapt the existing telephonic and television networks are the prelude to a phase of advancement which will bring about the growth of the potentiality as regards educational programmes. And this network will become the connective tissue of a European dimension. Along it ever more frequent and intense dialogues will take place. It will lend consistency to the European dimension of the educational system, it will be the connecting link of a common space.

What is important is participation in this dialogue using the new multimedial languages and this is the challenge facing our educational institutions. National and European policies are called upon to promote and sustain this commitment.

Research

I would like, before concluding, to make some reflections on research. It is in fact very important, like in any process of innovation, to guarantee that it is sustained by adequate research activities. This is what determines the quality of the process of change.

At the moment the field we are examining is propelled by technology and its application and this strongly

characterises the research which is being developed. We thus have research into how to integrate the different languages, into the production of software for access to memories, into the architecture of networks and the hierarchies of relative nodes. Or studies and research are undertaken into the ways of utilising multimedial products, that is about the processes or interaction. All this with the objective of improving the planning of the product and/or bettering its utilisation. In all these cases it is a type of research strictly linked to the application and the needs of increasing the efficacy and efficiency; it is necessary research, useful, as is all research concerned with application, in the field of, for example, engineering.

There is, however, a risk if it is limited to this kind of research: the confinement in limited domains. The space for creativity is not explored, that from which new paradigms and new models can emerge, to better the understanding of the learning and teaching process in a technologically new and sophisticated environment, to integrate the languages and for a new use of space and time.

The questions are many: how relevant is the interaction, not with the product, but with the teacher and the other people learning; how important is it, in short, to create a virtual class?

Here the adjective virtual appears bringing us back to the more general theme of virtual reality which gives rise to other questions. How can the problem of imparting not only formalised knowledge but also the knowing how to do, practical knowledge, be imparted? Can professions be taught at a distance and if so how? How can one face the problem of enriching a basis of already existing knowledge, which is not always a formalised type but can be empirical? This is an important question with respect to continuous training.

There is, therefore, an area of exploration which must be promoted and sustained; the analysis of the teaching-learning process in the context made possible by new technologies, even that of virtual reality. There are also ethical problems in this as in other scientific fields, for example biology. The ethical problem in virtual reality is the weakening of the boundary between reality and fantasy, between reality and the perception of reality. This debate, too, should be fomented.

There is a need to invest in fundamental research in this field, both theoretical and methodological research.

The risk of evolution being propelled by the wave of technological innovation must be avoided, and of choices incapable of taking advantage of the deeper potentialities that the new technologies offer, or of conjugating their use with the richness of the interpersonal relationships in the learning-teaching process.