

Going the Distance with e-Learning

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The communication of knowledge in this society without distances is causing the rise of a new reality that is characterised by the fact that the quantity of information available outside the "school and university structures" makes the learning of knowledge and competencies happen also outside traditional educational and training structures. Anybody can learn from those who feed the communication networks. The process, enhanced by telecommunication technologies, tends to build a pedagogical society inside the knowledge society and to develop a new market: the market of educational contents.

Many initiatives related to e-Learning are developing a new productive sector, the knowledge industry, which is going to witness a significant development worldwide. In this context, universities, as only place where production and transfer processes coexist, can acquire a significant and crucial role in producing contents to be put on telecommunications networks and should become the protagonists of this market. But, to make this happen it is necessary to establish new systems, new public policies facilitating the development of new organisational models for universities at a local, national and international level and allow the universities to create new international alliances and new real and virtual spaces in order to create shared knowledge networks among the different universities in the world and support cooperation among institutions.

There is a risk, in case it does not happen, of a progressive decay of the traditional educational structures. We will witness an out-of-control process leading to a more deschooling society. The agencies external to the traditional educational institutions and the software producers will be in charge of creating for the citizens new competencies required by the knowledge society.

Therefore, the problem is no longer if education reproduces or not social inequalities, but today the question, common to all universities worldwide, is how to adapt themselves to this system and create, inside the framework of a globalised economy, systems that could develop *integrated* teaching and learning processes, since they use different languages to communicate knowledge; they should also be open processes since they should have no spatio-temporal limits. University systems that can develop an educational and training space "intra muros" and "extra muros" so as to give students the possibility to attend the university both on face-to-face and distance.

In this new setting distance university is not an alternative to the traditional university, but it represents a new way to make traditional universities carry out their teaching and research functions and make them re-acquire a new vitality in the cognitive society, characterised by the specificity of the technologies especially affecting the knowledge processing and its transfer, in order to help universities developing system, process and products innovation.

LIVIUS Project

LIVIUS Project, Learning in Virtual Integrated University System, is set in this context of deep socio-cultural changes. The Project originates in the perspective of providing appropriate responses to the needs identified in the e-learning plan “ Define tomorrow’s education” for the development, in Europe, of knowledge virtual networks using new technologies. The LIVIUS Project is funded by the European Commission, Directorate General Education and Culture, Multimedia for Training, Education and Culture.

Thanks to LIVIUS, a consortium has been created including some of the most famous traditional universities, distance universities and technological companies from many European countries, linked by means of a technological network in order to create the European Virtual University EVA of U (European Virtual Association of Universities) via digital television and Internet via satellite. The LIVIUS Project may allow the development of reference models which can be easily generalized and able to fulfil the indications fixed in the *Maastricht Treaty*, Article 126, formally and specifically sets for actions to promote the distance education development conceived as a tool to implement cooperation among Member States in the education field and in the respect of individual countries organisational, language and cultural diversities.

The model proposed by the LIVIUS Project is based upon the idea that distance teaching has to be founded on traditional University’s specific functions, with the aim of developing an educational offer respecting academic autonomies, as per the joint declarations of the European Ministers of Public Education during the **Sorbonne** Congress on 25 May 1998 and that of **Bologna** on 19 June 1999. These Declarations have emphasised the central role played by Universities for the development of the European cultural dimension and have identified in the construction of an European space of higher education an essential tool in order to favour the citizens’ circulation, their cooperation and the development of Europe.

The aim of the LIVIUS Project is to:

- **create** a new organizational and didactic and psycho-pedagogical model of a European Virtual University;
- **develop** cooperation among the partners in order to design didactic paths and common academic curricula that allow the acknowledgement of titles at a European level, as per the **Sorbonne** (25th May 1998) and **Bologna** (19th June 1999) declarations;
- **transfer** knowledge by means of the new technologies and **innovate** teaching and learning methods;
- **renew** the teacher’s and student’s roles.

The Organisational Model

The organisational model upon which the European Virtual University of the LIVIUS Project is based is that of a Consortium of traditional universities of various involved countries and of technological companies in order to create also new psycho-pedagogical models to develop contents to be inserted in the telecommunication networks and to implement processes of face to face and distance teaching-learning.

University consortia at local, national and international level lead to the construction of a system of distance teaching founded on didactical modalities referring to traditional universities; they allow matching places where knowledge is originated by research with places where knowledge is transferred by teaching (university) meeting quality education needs. Actually, thanks to single experiences made by various universities from the countries involved, the Consortium may allow to select the best teachers, themes and contents of training courses on the basis of a wider and more diversified reality compared to a single university or mere local or regional groupings. Certainly this facilitates the making of choices of excellence.

The European Virtual University EVA of U is settled on the basis of NETTUNO Network per l'Università Ovunque model, operating in Italy since more than 10 years and adapted to an international dimension. The structures envisaged are:

European Centre: it coordinates all the distance activities;

National Centres: they guarantee the coordination of the activities at the national level in relationship with the European Centre;

Supplying Universities: they manage the enrolment of students and provide academic titles recognised at the European level;

Production Centres: they realise multimedia didactic products to be distributed on the satellite television and on the Internet by Sat;

Technological Poles: they are the didactic structures provided with all new didactical technologies such as digital television, links to Internet via satellite. They offer distance students the following services: use of multimedia computer tools, face-to-face and/or video computer conference seminars, laboratory exercises, tutoring, exams, videolessons, texts and didactical material archiving. Technological Poles may be set up at each partner's site, at traditional universities and also in extra university sites or in students' homes.

Developing common curricula

The didactical organization is supervised by a Scientific Didactical Committee made of teachers of various European universities composing the Consortium, of experts distance teaching systems (also from already existing distance-universities) and of representatives of the industrial world. The Committee has the task to define a common curriculum and the contents of the course programmes in order to train the "European Engineer". The Committee also has the task to choose among the best teachers of traditional universities those who are going to give the lectures via television and prepare the multimedia products to be put on a didactical platform on Internet, also by sat, and implement through telematic tutoring collaborative learning processes. The analysis of the curricula from different universities involved in the Project has highlighted the significant differences existing among degree courses in Computer Science Engineering and Telecommunications Engineering at national and European levels. Although the making of common paths has been very difficult, currently LIVIUS Project, has already created, in a pilot phase, a common curriculum for Computer Science and Telecommunications Engineering (with Cambridge University, INSA of Toulouse, the Universitat de Barcelona, the National Technical University of Athens, the Politecnico di Torino and the Engineering Faculty of Rome University "La Sapienza"), an organisational model for the programme course duration (3 years degree + 2 years specialisation) and the acceptance by all the partners of the European system of credits transfer (ECTS).

The didactical psycho-pedagogical model

The didactical psycho-pedagogical model set for the European Virtual University "EVA of U" of LIVIUS Project is a mixed model, which strengthens, with the use of new technologies, the teaching system of traditional universities. Distance education grounded on traditional universities institutional functions allowed distance students to enrol the same course, to get support by the same teachers from the universities supplying distance courses, to get the same kind of degree obtained by face to face students.

The training staff will divide his/her time between internal and external students. The psycho-pedagogical model meets the need for flexibility of all the educational process and allows overcoming the sense of isolation perceived by the student. It is a model that enhances the traditional system employing a kind of teaching that is free from spatio-temporal limits, but which maintains a certain degree of direct interaction; it includes activities in which the student works alone and uses the new technologies and activities that make him interact with other people, both face-to-face and at distance in a synchronic and diachronic way. In this context university classrooms are no longer the only place where one can attend courses, but anybody anywhere, if

provided with the right technological equipment, can build his/her own space where he/she can set up his/her individual training and self-learning process.

Courses supplying modalities are as follows:

Distance modality

- Lectures (videolessons broadcast on the digital television channels RAI NETTUNO SAT 1 and RAI NETTUNO SAT 2 and on Internet via satellite);
- Practice exercises through via satellite Internet and also through virtual laboratories;
- Distance tutoring through chat video and audio, forum and videoconferences.

Traditional modality

Direct Interaction between teacher/tutor and students, seminars and laboratory practice works by university technological poles, exams and evaluation tests.

Technologies set for the Project

The LIVIUS Project sets for the creation of a network between all the universities and institutions involved supported by digital satellites either for television broadcasting and interactive television or for services on Internet. Internet becomes a flexible didactical platform favouring the free expression of ideas, opinions and information, enhancing the support among peers, stimulating the sharing of experiences allows the telematic tutoring and developing collaborative learning.

The teacher's new role and the student's new role

The teaching and learning model of the European Virtual University aims at renewing the didactical methodologies and creating a university teacher's new profile.

The university teacher's old function, seen as the absolute repository of knowledge, the only transmitter of knowledge and solitary protagonist of the educational process should modify some of his functions. The teacher should abandon the role of "sage on the stage", to take over the softer but more crucial role of "guide". The new role which takes shape is that of a teacher-director who designs learning scenarios and cooperates with his students to jointly create a training path taking into account the different learning styles.

The new teacher should be able to use the new technologies of the mind to transfer knowledge, but also to share and develop new kinds of knowledge.

The new teaching style, implying that "the teacher wears again Socrates' cloak" and becomes a guide, favours, consequently, the appearance on the pedagogical stage of a new student. The student is in the middle of this system and he/she can be the manager of his/her own learning process.

The old student, passive receiver of knowledge and isolated observer of the expert performance of the teacher, gives up his place to the new student, who is an active constructor of knowledge and independent protagonist of the concrete application of the knowledge he acquired.

Which Philosophy?

The European Virtual University model, set in the LIVIUS Project, is based upon the new technologies and the sharing, from some of the best European universities, of human resources and competencies. It may become an indispensable tool for developing a new e-learning market to be successfully inserted on the international markets and may help developing a new policy of the knowledge industries.

Thanks to the new technologies and to the knowledge networks between the best universities, Europe may value its own heritage; its treasures are immense: painting, sculpture, literature, music, history, Renaissance, Enlightenment etc, but also its scientific and technological knowledge; its resources are infinite: texts, images, sounds to learn, illustrate and to study more in depth. This wealth is the heritage of Europe, is the tool from which a new wealth can rise.

The knowledge networks between the best European universities can offer to everyone, in an open and democratic way, the teachings of the greatest scientists and intellectuals in the world.

With EVA of U it will be possible to build virtually the model of university, which gave birth to the European culture: the medieval university.

In the medieval universities curricula were common; students did not belong to a single university but they could attend courses in all existing universities; in order to follow the lessons of the professors, they moved from one site to another facing wearying travels on foot or riding a horse to attend a course on law at the University of Bologna or a course on theology at the University of Paris. Masters too travelled from one site to another. The best ones were then called by the Universities since their presence gave prestige and power, but above all, because they attracted masses of students and youths from all over Europe.

The new technologies allowed the mobility of ideas and allowed besides the physical displacement of professors and students, also the virtual displacement. The distance university which, allows the interaction between professors and students of the different European universities can rapidly give an adequate answer to the needs for internationalisation of the university educational systems to supply the skills required by the new labour market, but also the products required by the Net Economy.

When the Internet-based courses contents and the modes of delivery are carried out by university teachers at international level, control upon contents' quality is performed by the academic world and users are guaranteed as "consumers of education" since courses suppliers are easily identifiable. The quality brand will determine the competitive challenge on education global market, a distance university based on a network of the best traditional universities of different European countries, will certainly win the challenge and will be the absolute protagonist of the new E-Commerce frontier and of the new knowledge market.

Today, then, distance university can meet the needs of the new knowledge market: exhibit its quality brand; guarantee the user; help transform the traditional universities from an isolated system divided into many classes and subjects and from a repetitive system of pre-established knowledge, in an open system, capable of updating itself and integrating all information available on the Web and creating spaces where knowledge could be exchanged.

Obviously, shared knowledge space should be neither homogeneous nor uniform; we should not unite in order to be cloned or to McDonaldisise educational and training systems, but to assure a new balance between unity and diversity: the unity of values and tradition that memory leaves us, diversity of cultures and languages. Today universities should commit themselves to develop interaction and cooperation virtual spaces, maintaining meeting and communication physical spaces between the two generations: that one of youth and that one of maturity, should move under open skies, without frontiers, to create new knowledge but also new values.

LIVIOUS PROJECT'S PARTNERS

NETTUNO- Network per l'Università Ovunque - Italy

Cambridge Universities UK

CNED Centre National pour l'Enseignement à Distance - France

Université Franco-Italienne France

Institut National des Science Appliquée de Toulouse - France

Eutelsat - France

Groupe CYBEL- Strategy and Knowledge Management- France

Giunti Ricerca - Italy

Getronics- Italy

Universitat Oberta de Catalunya - Spain

Universitat de Barcelona - Spain

National technical university of Athens (NTUA) - Greece

National Centre for Scientific Research NCSR "Democritos" - Greece