



Methodologies and scenarios

# University for LifeLong Learning

Alberto Colorni\*, Stefano Menon\*, Aurelio Ravarini\*\*

\*Centro METID Politecnico di Milano, \*\*Centro CETIC  
Università Carlo Cattaneo

alberto.colorni@polimi.it, stefano.menon@polimi.it,  
aravarini@liuc.it

Key-words: Lifelong learning, e-learning, University.

## Abstract

This article deals with the relationship between LifeLong Learning (LLL) and e-learning (eL). The point of view is that of University, which is inserted and called to act in a context characterized by a growing need for lifelong learning and by people's progressive aging. This latter aspect is going to create important cultural and organizational changes in the management of "over 45" workers.

In the perspective of development of LLL, the university system is called to interact, in a more and more coordinated way, with other players: institutional bodies such as Government and Regions, representatives of the labour market, businesses, as well as individuals. In this panorama eL represents a lever with high potentials (a significant example is the Web 2.0 world), but it needs to be developed and made known.

Then this paper analyses two LLL projects carried out in eL modality, but with two different approaches, and it ends with some comparisons concerning their features and repeatability.

## 1 What we are talking about

The title of this paper lets understand that the university system can do a series of things to foster LifeLong Learning (LLL hereafter): this is certainly true (at least in part, we are going to see what and how).

But the contrary is true too, that is LLL can serve University. In the light of the new ministerial policies, LLL can represent the fundamental instrument to bring supply nearer to demand (if demand arises from the worker and/or the enterprise), as well as to introduce within the university system some elements of business training, of experience, of users' care that so far have been scarcely presented. It is a sort of positive symbiosis, at least formally, in which LLL gets from University systematized contents, didactic quality, formalization through the credits system, and University on its turn assimilates in part business culture. University culture and business culture will get reciprocal benefit if they succeed in being influenced the one from the other.

The problem of LLL is now becoming evident, since the population (and so also the working population) is destined to age. This is shown in graph of Fig. 1, in which the distribution of European people (extended to 25 countries) in 2004 is compared with an estimate of 2050. As a consequence of ageing there will be in the market an increase in workers who want to (or have to) attend training processes to retrain, to increase in value, not to stay behind.

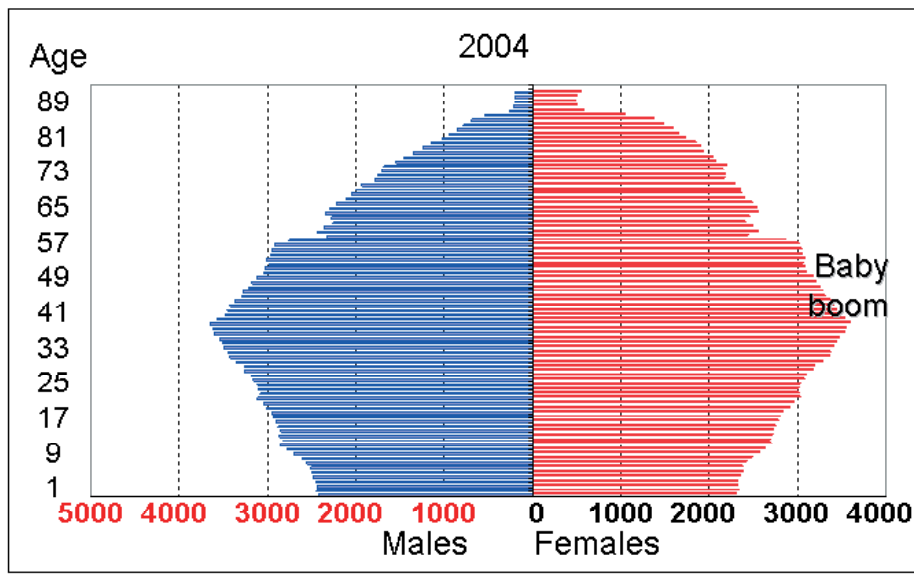


Fig. 1a Trend of age classes: figures 2004

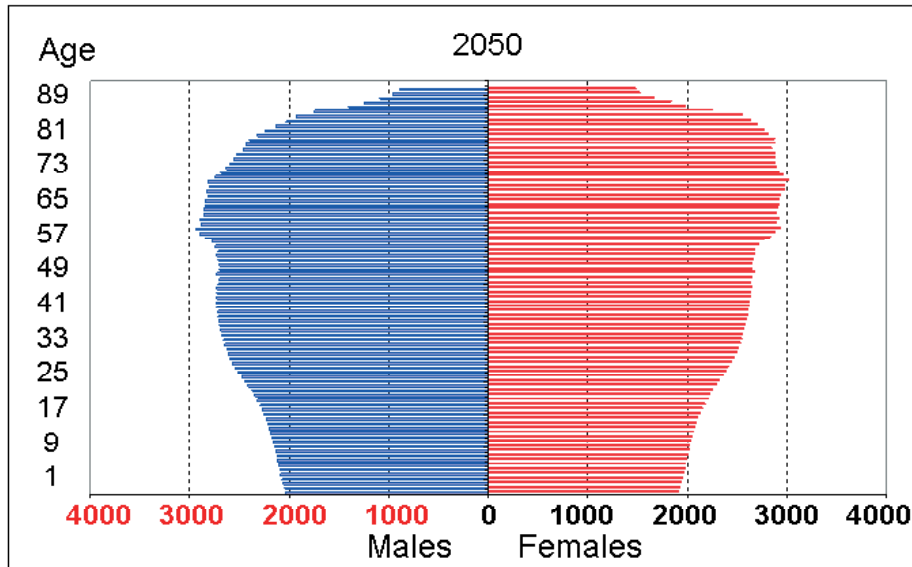


Fig. 1b Trend of age classes: estimate 2050.

The problem of LLL places itself at general level and initiatives are no more only local (actions of the single enterprise which activates itself for the update of its workers).

There are different measures, both national and European, aimed at analysing the situation and at testing efficacious solutions. At European level there are the finance lines “Article 6 and reconversion”, aimed at identifying innovative approaches to the change management, whose main theme is represented by the demographic change. The Article 6 financed projects on this theme (nearly 30 between 2004 and 2006, 19 only in 2006 of which 9 on demographic change) are focused, for the majority, on the management of active ageing: instruments of reintegration of senior unemployed people, welfare policies and, naturally, continuing training. These projects are characterized by a high innovation trend: they are more directed towards research and experimentation of new models and solutions rather than towards implementation of plans with traditional methods and tools and high social impact.

At national level, last July the National Operational Programme (NOP) “Learning Environments” (for the complete text see linkography) was signed. In the NOP the theme of the relationship between people ageing and lifelong learning needs is specified by objectives of improvement and enlargement of services and dedicated structures. The programme points out that the Italian working population between 25 and 64 years old in lifelong learning reaches only 7%; but the good news is that the trend is up (even though slowly).

In this picture of change e-learning (eL hereafter) can play a strategic role. EL can build the relationship between LLL and Knowledge Management more and better than traditional training in classroom. It can be a useful tool for both lifelong learning and valorisation of business know-how: the issue of LLL involves the business as a whole and therefore the use of eL concerns not only the human resources field but also the entire organizational culture.

The players called to discuss these topics, so as to make eL an instrument that can be really spent in lifelong learning, are not only universities and businesses, but also the central Public Administration (Government) and the local one (Regions). A variety of players is at stake, each one with his own objectives and conditionings, linked together by well-established relations and by new/possible collaborations. In this specific national phase the relationships more mature according to us are those shown in Fig. 2.

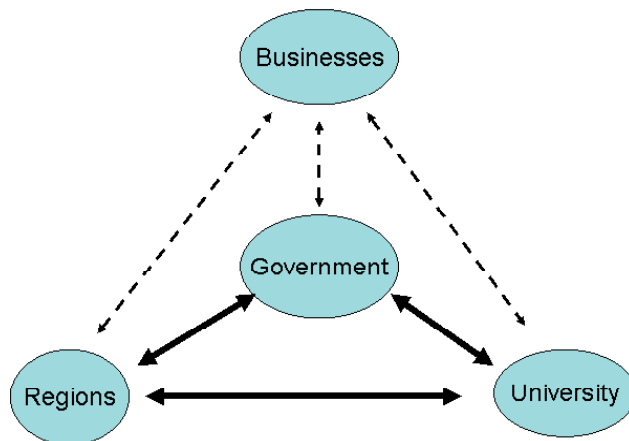


Fig. 2 Our perception of the relationships among the players of the LLL process

Coordination between Government (in particular the Ministry of Labour) and Regions has been having active forms and places for a long time (for instance NOP and ROP); and coordination between Government and University too. Still there are new elements, like the agreements under way (or on the point of being signed) between MIUR, Regions and local Universities: one foresees in them a combined effort for the integration between research and production system through the creation and increase of Technology Transfer Offices and the promotion of initiatives combining universities, research centres, enterprises and services. These are only some of the objectives defined in the protocol of the Piemonte Region (see linkography for complete text). A similar initiative has been taken in the opposite part of Italy, in the Basilicata Region. The Government-Regions-Universities triangle seems rather strong (it

is represented by entire lines), while their action strategy towards the fourth player, that is Businesses, seems less mature. Good practices certainly exist, but there is not yet a shared programme (that is why the lines describing the relation are broken). Furthermore, another player exists in the Italian panorama but he is not yet very visible: the individual. At present continuing training in Italy finds it hard to open spaces of negotiation between the single user and the other players of training. In other countries, for instance Great Britain, this dialogue is riper.

So, relationships are becoming closer and players are starting acting with stronger coordination. That is the reason why we are talking about LLL in this journal: the eL instrument, with its potentials and its possible use models, set itself aims absolutely consistent with the evolution of this context.

## 2 Context

Taking up the title of this paper, let's examine now LLL from the University point of view. Continuing training, even though sometimes present, has always been marginal compared to the various "missions" and the different interlocutors of university activities: at Politecnico of Milano, for example, there is a programme called Lifelong Learning, but its proposals are rather heterogeneous and its coordination is substantially formal.

But now things are changing: the change seems due to two different drives. The first is the growing dimension of the LLL phenomenon and the greater and greater necessity of facing the changes of the labour market; the second is the larger availability of technology. We have already talked about the first aspect, let's shortly dwell upon the second (we will take it up again later).

In the last years we have witnessed a veritable revolution of the web which, having arrived at stage called 2.0, has "ferried" users from passive fruition to direct participation through tools that have become in a few time very popular as for efficaciousness, functionality, easy availability and, often, gratuitousness. This evolution has already determined the introduction of a lot of novelties, both technological and methodological, also in eL. For now informal learning, rather than formal learning, has mainly profited from them in the LLL field. The reasons are different: previous investments to be amortized, cultural resistances similar to those met with the first eL supplies, restrictive business policies in the use of certain channels, difficulties in pathway formalization, unawareness of the opportunities offered (for example, that called "syndication", according to which the user develops an active role in training and in knowledge management).

In this outline it is natural to wonder how eL can organize itself so as

to face these topics, above all at level of general trend, to create a plan that may lead eL to maturity (Colorni, 2005).

At government level different action strategies can be devised: the main ones are the three shown at the vertices of Fig. 3 (all intermediate cases are obviously possible).

- Point A corresponds to the creation of a single big e-learning consortium: the most typical example is Finland with the Finnish Virtual University, about which there is a wide documentation on the net (see linkography).
- Point B corresponds to the project of creation of (few) consortiums on thematic and/or territorial basis: it is what France – in part - did.
- Point C shows the forms of support to local initiatives, like in Denmark, which does not mean indiscriminate financing, but initiatives of creation (and training to use) of tools placed at the disposal of all universities.

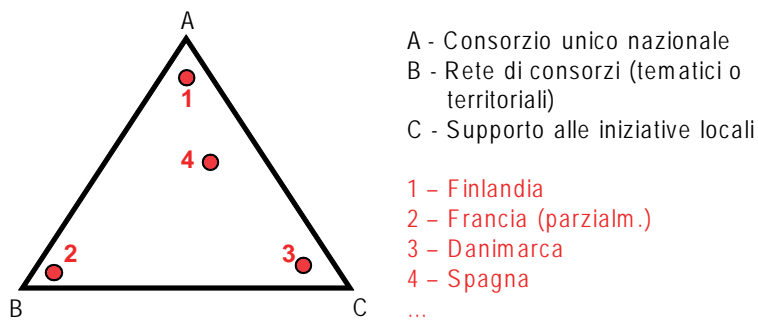


Fig. 3 Main intervention lines at level of central Government

In Italy a unitary plan seems not to exist yet: the three solutions are still in phase of exploration. The places where LLL has always been a specific competence are Regions, towards which Government has decentralized many powers on the theme of learning. A regional virtuous experience is that of Tuscany with the TRIO<sup>1</sup> project which offers a wide catalogue of training courses to be enjoyed in a totally not assisted modality. But it is important to reflect upon the need to make system, in order to optimize some processes – such as accreditation – which risk remaining isolated phenomena and experimentations.

In businesses eL is gaining more and more emphasis, even if we still have contrasting data. The AEE research (Liscia, 2006) points out that 10% of the sample has tested eL; it means that the trend is up compared to previous

<sup>1</sup> <http://www.progettotrio.it/ProgettoTrio>

years. The research shows above all that eL is considered more efficient than any other training tool and provided with good efficacy. It is however a pity that the classical classroom gets always the better of it, with 90% of use by the sample, with a significant 30% that uses books and manuals. The main conditions indicated as element of diffusion are commitment at high level and availability of dedicated spaces. There is then specific financing, such as Fondimpresa or Fondirigenti, where allocations for training are regulated by agreements with Government.

### 3 Tools

Solutions for e-learning have multiplied with the coming of the so-called Web 2.0 and its tools: they are within everyone's reach, of easy access, of great participation, built for (and by) the users, going beyond the old concept of passive navigation and of eL as system of reading/listening of video-lessons.

Certainly eL has not waited for the coming of Web 2.0 to increase dynamism and participation, but the point is that the available tools were complex and expensive till a few time ago: Web 2.0 has extended possibilities offering and continuously renewing a wide range of options. Nowadays, as regards tools, the planner's main effort becomes pondering over their use. As a matter of fact, often Web 2.0 tools are not born for training purposes, but for communication and exchange. Furthermore they favour phenomena of informal learning.

A possible classification of Web 2.0 tools, depending on the different uses, is:

- tools to *create contents* (wiki, web editors, maps);
- tools to *manage resources* (feed reader, iTunes, social bookmarking);
- tools to *share media* (YouTube, Flickr, podcast);
- tools to *communicate* (blog, msn, Skype, Second life).

If now tools are free and easy, if contents are various and available, the problem is whether and how to recognize these learning modalities: the topic of informal learning and of its accreditation at university level is so on the table.

Universities are defining guidelines to regulate accreditation of previous learning (Ronsisvalle, 2007). These lines state that a user can be accredited as CFU (University Training Credits) competences and knowledge previously acquired in conditions other than the academic ones. This process, called AAP (*Accreditamento dell'Apprendistato Progresso - Accreditation of Previous Apprenticeship*), can happen in cases of learning certified or based on

the experience or on autonomous study.

The guidelines express the awareness of an exigency, but they do not solve it completely (neither could they). To face the question of informal learning, we should ask ourselves how University can confront the potential demand for accreditation of the huge quantity of qualitative knowledge. Facing the question of previous learning means dealing with the problem of quality criteria, which can concern not only materials and contents, but also processes. And this theme has been discussed for a long time in the world of eL.

Besides, University will have to provide itself with suitable tools for trainers' training. This requirement emerges from the above mentioned guidelines which identify universities as the responsible for the training of the staff and the teachers of the AAP structures. And that is not all: University has to insert lifelong learning in its institutional mission. For this purpose it is supposed to create CAP (*Centri per l'Apprendimento Permanente* - Centres for Lifelong Learning), that is university centres which will arise from partnership with Regions, Businesses and Public Administration.

#### 4 Two examples

To modelize eL pathways it is necessary to observe different parameters: users (features and numerousness of the target), pathway level (basic training or high level training), contents (from soft skills to more technical and specific competences), hw-sw package (which changes depending on training needs). An interesting attempt to modelize these parameters comes from the Public Administration through the ACPRE project (*Analisi e Classificazione di PROgetti formativi in E-learning nella PA* – Analysis and Classification of E-learning projects in Public Administration), a research carried out for CNIPA. The research shows some important variables for the classification of eL pathways: typology of the intervention and its level of “repeatability”, target, methodology of interaction and mix blended, choice of materials, level of externalization in the various phases of planning, production, delivery and management. In the model, the variables are organized – two by two – according to 3 levels, which highlight the attempt to characterize the different phases of the planning in which the variables are important.

**Level 0** → dimensions of the eL pathway

input variables → typology of intervention + target;

**Level 1** → dimensions of the didactic format (macro)

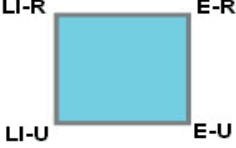


planning variables → typology + methodology of interaction;

**Level 2** → dimensions of the didactic format (micro)

planning variables → typology of materials + modality of organization.



Tab. 1 Representation of levels in the ACPRE model

<p><b>LEVEL 0</b></p>	<p><b>Input parameters</b>  <b>Li / E</b> = Internal workers / External users  <b>U / R</b> = Single editions (limited) / Repeated editions</p>	
<p><b>LEVEL 1</b></p>	<p><b>Macroplanning</b>  <b>W / A</b> = Web / Classroom  <b>I / C</b> = Individual / Collaborative</p>	
<p><b>LEVEL 2</b></p>	<p><b>Microplanning</b>  <b>D / S</b> = Unstructured / Structured  <b>Out / In</b> = Outsourcing / Insourcing</p>	

In the LLL context it is interesting to consider the formative potential of a particular target of workers, that is those who, for their age, have entered the second half of their production cycle.

We must obviously consider different situations: from non-employees to employees of high potential, from small contexts to very big companies. Fig. 4 shows a scheme referred to the three parameters.

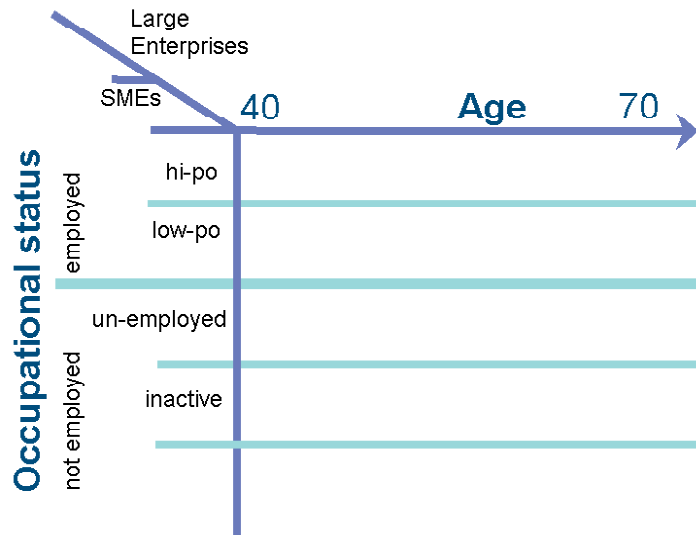


Fig. 4 A schematic representation of LLL target

About the aspect of the dimension, with some schematics, we can identify three typologies of training intervention of enterprises. The first is that of enterprises of big dimensions, which are able to create inside themselves structures like veritable corporate universities: for example FIAT with Isvor. A second pattern comprises enterprises which, for common training needs, have been capable of associating with each other through specific consortiums to manage the demand for training: in this area are also included Chambers of Commerce, Confindustria, the various business and trade-union Associations. The third typology is that of enterprises, often of small size, which have to apply to the outside world to answer the training demand: on this target a training developed jointly by the Region and the university system could have a strong impact. There is actually a fourth pattern; in Italy it has not reached the full maturity, but it is developing in a promising way: it consists in the possibility for the individual to enter lifelong learning bypassing enterprises. An example is the project “individual choice training”<sup>2</sup> which in Lombardia is gaining great success. It bases itself on the idea of *voucher*: practically the user can enter a catalogue course, transversal or sectoral, by paying only a (small) part of the declared value.

We present now two cases of LLL whose planning models derive from very different features: the @pprendo project and the Refocus project.

The @pprendo<sup>3</sup> project is financed by the Ministry of Labour and Social Policies and is born as a support tool for training on transversal topics provided for by the collective agreement on professional apprenticeship for the engineering industry. The content areas (transversal) are: relational competences, economy and organization, discipline of employer-employee relationship, industrial safety. The project is addressed to all enterprises of the engineering sector with training ability, that is enterprises capable of managing training. The platform registration procedure provides that the business tutor shall enrol; afterwards the tutor himself/herself will enter apprentices for the platform and will create their training pathway.

This is possible because the didactic format is planned to answer flexibility requirements:

- in the choice of contents (100 hours of training have been carried out; among them each enterprise can choose 60 hours of transversal training provided for by the contract);
- in the delivery (materials – fit to print – can be used in different contexts, since they are available online, or they can be downloaded and used offline in self-learning, or they can be used as a support to classroom activities).

The business tutor has the power to monitor students’ activities through

<sup>2</sup> [www.formazioneasceltaindividuale.it](http://www.formazioneasceltaindividuale.it)

<sup>3</sup> <http://www.apprendonline.it>

tracings, if students attend lessons in the online modality. Training is carried out in self-learning; the external intervention is limited to the only registration procedure and to the help desk. For each thematic area there is an introduction video, a set of lessons for the transmission of contents, in-depth studies and exercises, quizzes for self assessment of learning.

The platform is active since summer 2007 and has been visited by about a thousand users (tutors, students-apprentices and guests). At present the enrolled enterprises are a hundred but the number is supposed to rise remarkably. Current efforts are directed towards different directions:

- spread of the service;
- update of didactic materials and software;
- monitoring on the use of the platform (to recreate the main use models);
- optimization of the service (in a following phase).

The carrying out has been possible thanks to the agreement among the main players of the engineering sector, joined in a national Commission whose presence has been fundamental during the whole project (among other things, the Commission has validated the contents of the platform). You can sense the complexity of the project if you think that the training activity is grafted on an apprenticeship pathway which provides for a number of training hours varying depending on the contract, but fixed for transversal training (i.e. 60 hours), and which must take into account the diversified population of users who start working with an apprenticeship contract: roles, positions, tasks, education level, etc. vary considerably. For this reason, planning has taken into account the pathway compulsoriness and has tried to supply the highest flexibility. The question gets complicated if we introduce the theme of certification of the training pathway: the panorama is varied, since certification is referred to Regions which manage it autonomously (but in some of them there are not yet precise regulations on the matter).

The format of @pprendo is easily repeatable from various points of view. The didactic material, being transversal, can adapt to different contexts. The didactic format itself, easy and flexible, adapts itself to a multiplicity of situations in which training is managed internally by enterprises.

The REFOCUS<sup>4</sup> project starts from premises that are very different from those of @pprendo. It is financed by the European Union and it is a research project aiming at identifying efficacious training patterns for retraining and valorisation of over 45 y.o. workers. The project goal is the identification of a repeatable model of learning system for workers over 45 years old, in which the eL component is the central, even if not exclusive, element.

The first steps are bibliographical and field researches: in particular on enterprises of the manufacturing and ICT sectors, mostly in Italy, UK and Greece.

<sup>4</sup> <http://refocus.liuc.it/>

The target people of the project was not precisely defined a priori – like in the preceding case – and its identification has required a long phase of analysis. This has led to the decision of centring all efforts on a specific objective: training that acts on the specialist competences of workers with a technological background, updating their profile with the IT innovation, with the aim of redefining their profile and getting new roles in the enterprise.

The Learning System has been planned using a grid which analyses didactics (aims, approaches, contents, activities), technologies (platforms, formats, fruition conditions), organization (scheduling and formative contract), communication (channels and strategies). The project provides that the system shall be implemented in different contexts and shall be improved after each training pathway.

The testing provides that the pathway shall be defined on the basis of a joined assessment by the enterprise and the training body. The structure of the pathway provides for a rather rigid scheduling of learning activities, and inside it much room is left to active and collaborative participation. Materials (video-lessons) are given out weekly through an open source platform (Moodle, the same used in @pprendo) organized so as to give access to different kind of users: learners, tutors, teachers, technical help desk.

Two elements necessary for efficacy are motivation (according to which the project choices vary: situational pedagogical approach, high setting of the foreseen engagement, use of project work are some examples) and consistency (not accidental but fruit of a long work of dialogue and analysis) between business commitment – very strong and well communicated - and the training contract with the users.

Some choices in the didactic format have proved particularly efficacious, in particular:

- the blended format, characterized by phases of traditional training placed in crucial moments (at the beginning of the pathway and of each module, in the presentation of the final project works);
- the project works, which have guaranteed a strongly situational approach, closed to the users' professional reality, problems, developments and projects.

The contents, specific and agreed upon with the enterprises and/or workers, but always of the non basic ICT area, want to be an added innovatory element: the choice is however obliged given the nature of the target.

The repeatability of the format is one of the important goals of this innovation project. The aim is complex: compared to the preceding case, a certainly higher number of variables must be taken into account. A compromise, an efficacious synthesis of the possible contexts and of the bounds has therefore to be found. The REFOCUS project is financed by the Directorate-General

for Employment and Social Affairs of the EU, under the Article 6 programme before mentioned. The project team includes Universities, training companies, institutions linked to trade unions, in the hypothesis that to face efficaciously this topic the coordination of different competences and efforts is necessary, besides the commitment of social partners.

The two projects presented differ from many points of view. First of all because @pprendo is an experimental project while REFOCUS is a research project.

Moreover:

- from the point of view of the demand → @pprendo is based on national contractual agreements, relatively steady, while REFOCUS explores a not yet very investigated sector (but destined to gain more and more prominence in the future); where there is a national contract, training takes on a prescriptibility character, while for over 45 y.o. workers the only true spur can come from motivation (it can be inner, linked to one's own wishes, or external, linked to business choices);
- from the point of view of contents → @pprendo covers a part of the apprentices' training duties, the part defined transversal training and addressed to a wide range of users; REFOCUS works on a macro area of content (ICT of non basic level) with a strong trend to taylorization;
- from the point of view of the population (Fig. 1) → in @pprendo the population is young and willing to training, unlike the target of REFOCUS training, the over 45s.

Compared to the ACPRE table shown before, the features of the two projects and the consequent planning choices are deeply different.

Level 0: the need for repeatability is guaranteed in @pprendo from the fact that the course can be managed and organized at the tutor's discretion. In REFOCUS, on the contrary, repeatability is sought through the definition of a format which is not univocal but certainly very accurate as for methodologies and approaches.

Level 1: in @pprendo the tutor can organize the courses for his apprentices both in the classroom and via web, both in the individual and collaborative way. On the contrary REFOCUS plans pathways where the mix of classroom and online fruition is rigidly organized as well as the learning modality (an individual phase followed by a collaborative one for each didactic unit).

Level 2: the situation is almost complementary, since didactic materials in @pprendo are very structured because they serve as bearing framework independently of the modality of pathway management chosen by the tutor; in REFOCUS, instead, didactic materials are partly structured and partly not, so as to ensure the mix of individual/collaborative study about which we have already talked.

## 5 Conclusions

The remarks expressed in this article would require further investigation in order to be translated into operational policies and interventions. The definition of the role University can play in LLL also depends on the analysis of the environment where universities act, because environment influences their relationships with the other players of the LLL process (Fig. 2).

Not all European countries are implementing the Lisbon principles at the same speed. In recent years the countries of the Balkan and British areas have activated support policies for continuing training. This aspect, on the one hand, has pressed enterprises and individuals to acquire awareness and responsibility in the management of LLL; on the other, it has promoted the development of a training supply to answer the specific needs of continuing training. The Mediterranean area is moving from a phase which explored the theme of active ageing to the carrying out of pilot experiences, with the aim of approaching institutions, universities and the target of continuing training to LLL and eL.

Significant differences in the role of universities in LLL can be found also in a geographically more restricted territory. Where universities have a systematic and structured relationship with the territory in which they are located (at provincial, regional or interregional level), the pre-conditions are guaranteed to awaken (where necessary) businesses and individuals on LLL matters and to identify the specific training needs of the territory itself, which is an essential requisite to intervene efficaciously.

On the other hand, there are fields in which the links between university and economy of the territory are weaker, because of historical reasons, strategic choices, capacity and speed of change of universities compared to the dynamics of economy. In these contexts it is unavoidable for university to have a marginal role in the LLL process.

## BIBLIOGRAPHY

---

- Colomi A. (2005), *Dai learning objects ai learning objectives*, Je-LKS, Vol. 1, no. 1.
- Liscia R. (2006) (edited by), Osservatorio ANEE/ASSINFORM, *E-learning In Italia: una strategia per l'innovazione*, Milan, Apogeo.
- National Operational Programme "Learning Environments": [http://www.dps.mef.gov.it/documentazione/QSN/docs/PO/PON\\_Ambienti\\_Apprendimento\\_FESR\\_SFC2007.pdf](http://www.dps.mef.gov.it/documentazione/QSN/docs/PO/PON_Ambienti_Apprendimento_FESR_SFC2007.pdf)
- Protocol MIUR (Ministry of Education, University and Research) and Piemonte: [www.regione.piemonte.it/piemonteinforma/scenari/2007/giugno/dwd/sistuniv1.doc](http://www.regione.piemonte.it/piemonteinforma/scenari/2007/giugno/dwd/sistuniv1.doc)

For a survey of the Finnish organizational model: [http://www.virtuaaliyliopisto.fi/vy\\_front\\_page\\_eng.asp](http://www.virtuaaliyliopisto.fi/vy_front_page_eng.asp)

Ronsisvalle, G. (2007), *Il Riconoscimento dell'Apprendimento Progresso*: [http://www.miur.it/Miur/UserFiles/Dossier/Apprendimento%20Permanente/Ronsisvalle%20-%20Intervento%20Napoli\\_marzo%202007.pdf](http://www.miur.it/Miur/UserFiles/Dossier/Apprendimento%20Permanente/Ronsisvalle%20-%20Intervento%20Napoli_marzo%202007.pdf)

Web site of the project “apprendonline”: <http://www.apprendonline.it>

Web site of the project “REFOCUS”: <http://refocus.liuc.it>

Web site of the project “Trio”: <http://www.progettotrio.it/ProgettoTrio>

Web site of the individual training supply of Regione Lombardia: [www.formazioneascltaindividuale.it](http://www.formazioneascltaindividuale.it)