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LIFELONG LEARNING: WHICH WAYS FORWARD?

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Foreword by the Rector

Otto von der Gablentz

For over half a century, the College of Europe has been a unique experiment in European education. By its strict academic programme in European studies and by creating, each year anew, a residential European microcosm of selected graduates and guest professors from all corners of Europe in its two campuses, Bruges and Natolin (Warsaw), the College has become a driving force behind the scenes of European integration. About 6500 former students share a common European orientation in their professional networks and in private life.

Our students are thus part of the learning society of tomorrow's Europe. They acquire the capacity for forward looking thinking based on an understanding of the main issues of Europe and its changing societies. The College's department of Human Resource Development has consequently devoted special attention to the problems of lifelong learning in a European perspective. It has organised conferences in co-operation with academics, European institutions and decision-makers in business and social life. In its daily academic work, it followed closely the programmatic proposals of the European Councils of Helsinki, Lisbon and Feira as well as the European Commission's appeal for a Europe-wide debate with a view to fostering lifelong learning for all.

The common work presented in this publication illustrates these debates. The authors belong to various organisations and institutions all over Europe, linked by the desire to make lifelong learning for all a reality. The several contributions highlight particular, innovative and essential dimensions of learning. The College of Europe thus endeavours to raise the visibility of the current debate, and provide food for thought for the debates to come.

Acknowledgements

The idea of this publication originated in some meetings of the Human Resources Development Department of the College of Europe. Professors of the Department wanted to pursue the movement initiated by the late Professor Rhys Gwyn and the seminars he liked to organise. The very first suggestions for such a publication came from Dr. Alexandra Angress and Dr. Luciano Morganti, Assistants in the HRD Department.

From my own European and international experience, it seemed clear to me that such a volume could be a good vehicle for reflecting on European progress towards achieving the ideals embodied in lifelong learning. As the professor in charge of the course closely related to education, training and learning policies in Europe, it fell to me to take on the tasks of editor. I discussed the draft outline with the individuals from the College and other academic institutions, national ministries, international organisations, and the European Commission.

Authors from inside and outside the Department contributed, in a personal capacity, sections to the various chapters. I would like to express my depth gratitude to all of them. This publication would not have been possible without them. I am indebted as well to Viviane Consoli; her patient editing surely will help the reader.

On the behalf of the individual authors, I would like to express our wish that this volume contributes to the lifelong learning debates in Europe. We are grateful to the College of Europe for providing the opportunity and to the CEDEFOP for publishing this contribution.

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FROM FORMAL EDUCATION AND TRAINING TO LIFELONG LEARNING: WHAT IS NEW? WILL IT WORK BETTER?

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Lifelong learning: what is new?

1996 was the Year for Lifelong Learning. Ever since, public authorities, public and private education institutions, secondary and higher education, the social partners, enterprises, non-profit organisations or various associations and, of course, individuals have reflected about its meanings, the changes necessary to build its future. Nobody thought then or today that there would be only one way of developing lifelong learning. There would rather have to be a multitude of opportunities, choices, strategies and responses to ever more diverse demands.

In 1996, most of the large international organisations presented their own analysis: the European Commission published the White Paper on "Teaching and Learning: towards the learning society", UNESCO made a valuable contribution with "L'Education: un trésor est caché dedans", and the OECD held a ministerial meeting on "Lifelong Learning for All". But the first proposals on recurrent education (OECD, 1977), second chance education or *éducation permanente* were published already a quarter of a century ago.

Since 1996, many programmes have promoted new partnerships, new curricula and new assessment methods. Enterprises have had to face the challenges of globalisation and the increasing speed of technological change. Public authorities are now urgently looking at ways of modernising their education systems; questions are raised about learning outside educational settings; more and more individuals reach higher levels of education than previous generations ever hoped for; but at the same time, our learning societies have discovered widespread illiteracy. As stated by Grepperud and Johansen (2000, p. 283) "*even if overall there has been some rise in competence, the competence gap has in fact been strengthened by the emphasis on competence in working life.*"

What has been accomplished since 1996? What steps have been taken and what have all the debates led to? The purpose of this book is not to give a comprehensive overview of lifelong learning, even over the recent years. It is to gather the views of a few persons who have followed with particular attention recent developments and who are therefore "special key persons" in this area. These specialists work in universities, ministries, independent institutes, and international organisations. All dedicated their work, thinking and energy to lifelong learning, long before 1996. Their views on recent developments and of what could be signs of stable trends for the coming years are presented here.

Their contributions examine particular aspects which have emerged forcefully since 1996. This does not mean that the issues did not exist before. Lifelong learning did not suddenly appear out of a vacuum. It existed long before, but under different names: -- "recurrent education", "retraining", "continuing education", "second chance" -- and was the

subject of a considerable amount of analyses and reports. Nevertheless, there is something new in the lifelong learning concept. Is it the term "learning" that makes it differ from its predecessors? Perhaps also "lifelong" implies a longer span than "retraining" or even a "second chance to return to high school"?

The magnitude of lifelong learning

Several contributions emphasise the order of magnitude of lifelong learning. It has to be said that not many educational reforms are aimed at such a potentially huge and diverse population. Only once before has a major reform related to formal and non-formal learning been implemented. This huge reform, although still far from being a lifelong learning strategy, was implemented in the United States in 1944 and is known as the GI Bill. For the first time in history, prior experience acquired outside the education system was taken into account to be allowed access to vocational or higher education. Veterans from World War II could have access to education regardless of their educational background before the war. This means that 16 million veterans (young men and women) were offered federal grants to go back to school: 7.8 millions went back to education and training, out of which 2.2 millions into higher education. For the first and only time in history, the link between family income and access to higher education was broken. This sudden growth in education and training enrolees has undoubtedly helped the United States' development in technology and sciences. One historian also traced back in that reform some debates occurring during the Lewinsky episode: changes of values in society find their origin in a sudden increase of the middle class in the 1950s and 1960s. Education is a long process which still has consequences decades after a reform. The common feature, with lifelong learning today, is the order of magnitude, for the role of federal authorities in the GI Bill has little to compare with what public authorities in Europe are facing in designing and implementing lifelong learning.

Although the order of magnitude was important in the case of American veterans, it is not comparable with what lifelong learning is implying. Within the European Union, the population is altogether 375 million individuals (Annuaire Eurostat, 2000) out of which around 30 per cent on average are under 24 years old and are therefore enrolled in early childhood, primary, secondary or tertiary education. Lifelong learning considered as a tool for the design of a knowledge society raises issues for education and training systems such as: how to address the problems of early school-leavers and drop-outs at secondary level as well as the low level of qualifications and adult illiteracy in Europe? Mass education at secondary level is now universal but it opens new and unsolved questions. Sometimes, problems are old (drop-outs and early school-leavers) but, placed in a lifelong learning perspective, they suddenly have longer-term repercussions. One should keep in mind that, according to enquiries conducted all over industrialised countries; participation in further education and training is higher when initial levels of education are higher.

Adults (25 to 64 years of age) represent around 54 per cent of the European Union population for whom learning needs should be one way or another taken into consideration, either through formal provision or through recognition of non-formal learning. Of course, not every single individual will be engaging in all the different parts of a lifelong learning system. Nevertheless, the order of magnitude is way above what is the normal intake of formal education and training provided usually under the responsibility of ministries of education and/or employment. More precise estimates are to be found in the contributions. In addition, the European demographic structure calls for more attention to be paid to individuals over 65 year-olds.

To better grasp what lifelong learning policies require, the size of the population concerned should be looked upon against the results of various experiments with prior learning assessment (PLA), the aim of which was to integrate prior experience into formal learning. The number of adults concerned (around 202 millions) should be compared with the results of actual prior learning assessment practices in European countries. For example, in France, according to the Secretary of State for vocational education and training, Ministry of Employment, since 1992, 8000 persons have used PLAs to get credit for education and training; it is not known how many of those 8000 actually succeeded in completing a diploma. Ideally, one should be able to compare the impact of PLAs across all the countries. The *Centres de bilans*, where assessments do not lead to formal recognition as such but can be a step towards it, mentioned 125 000 individuals (1994). But this is the example of only one country and though the order of magnitude is quite large, it is small compared to the potential population concerned by lifelong learning.

Are these results good enough? Are they far from what could be expected in order to have a societal effect in Europe as, for example, an impact on the economy, on research, on technological developments?

Of course, an attempt should be made at the European level to have a real estimate of what is done today (PLA, portfolio, Europass, and any other certification procedure than the strictly formal one). This would give us a clearer idea of what is "left out" in a lifelong learning policy and therefore what should be taken care of.

So far, many aspects seem not fully conceived as part of lifelong learning policies. When all the aspects of learning and their recognition are integrated, can it still be argued that both a framework and flexibility in formal education will bring the answer to the challenges? Putting aside the need for more precise estimates, do these very weak results justify new roles for partnerships, new responsibilities for different actors? Can it be advocated that nobody should be deprived of the lifelong learning adventure?

Formal and non-formal

At present, one of the approaches to lifelong learning is to look at the distinction between formal and non-formal learning. Could the understanding of relationships and links between the two help to conceive and implement lifelong learning policies? Is it a valuable track to explore or is it a dead-end street that can but lead to sterile debates? It might be worth examining some aspects of those relationships, as they seem to clarify somewhat the issues in lifelong learning and to explain what the current debates and research are about. The following definitions of the terms "formal" and non-formal" are used (Cedefop, 2000):

-- Formal learning is learning that occurs within an organised and structured context (formal education, in-company training) and that is explicitly designated as learning. Formal learning may lead to a formal recognition (diploma, certificate).

-- Non-formal learning is learning which is embedded in planned activities that are not explicitly designated as learning but that contain an important learning element. As opposed to formal learning, non-formal learning encompasses what is sometimes described as semi-structured learning, that is, learning in environments containing a learning element (e.g.

quality management); and accidental learning resulting from daily life situations (including at the workplace) and defined as informal learning.

As we shall see in the various contributions, authors have attempted to follow the definition of the CEDEFOP glossary (2000) although there are many others. But rather than having long-winded debates on definitions and ending up with too many proposals, the choice here was to refer to the glossary as a way of facilitating thinking in a complex area. As mentioned in its presentation, the glossary proposes definitions whose scope can be generally accepted, irrespective of the various national or regional contexts. The choices made here are open to discussion as it is not possible to offer universally accepted definitions of these key concepts (even if they are key concepts) (Bjørnåvold, 2000, p. 200).

The terms non-formal learning and informal learning are often used as synonyms. The difficulty is that they are both "negative" concepts in the sense that they are the negation of something else (see Bjørnåvold in Chapter 2): they include what is not covered in formal education and training. That "negative" aspect could well disappear the day non-formal learning would be better known and understood. What the present definition really translates is the still limited knowledge and understanding of what exactly one is dealing with, how complex it is, how vast a territory one is moving in. For the time being, the concept is accepted as such and it can be considered that non-formal and informal are frequently interchangeable[1]. For clarity purposes, the authors were asked to use the term "non-formal" except in particular cases that would have to be explained in their contribution.

Lifelong learning: why will it work better?

Lifelong learning is a vast domain: why will it work better than "second chance" education, "recurrent education", further education", "retraining"? Is the lifetime idea enough to make the difference? Several of its aspects are indicative of possible ways forward:

- The multiplicity of providers ready to take responsibilities;
- The multiplicity of demands from individuals;
- The already large diversity in supply;
- The stricter quality requirements applied, especially in ensuring quality of certification procedures;
- The different ways of learning (by experience, on the job or any other) it allows;
- The assessment of learning outcomes gained out of school;
- Progress made in certifying them;
- The input/outcome approaches that open new territories where learning can take place (it is still difficult to make that form of learning visible because we are unable to recognise it);
- The visibility but also the portability and transferability of any form of learning should be ensured.

These aspects are all contributing to a lifelong learning strategy. They are more developed than decades ago; they are more present in actions and experiments as well as in

[1] When quoted from official publications, the term used here is kept unchanged.

analyses and debates. Being aware of their role could be an important step in the overall strategy for lifelong learning.

At various levels, these aspects are treated in the following contributions. The conclusions will perhaps indicate some of the directions and trends taken by lifelong learning in action.

Lifelong learning: weaving a perspective

An inclusive learning society cannot be encouraged simply by more pressure to conform to existing arrangements. It may be necessary to overcome real barriers to participation, to make people more aware of opportunities available, but other changes are also, and perhaps even more clearly, needed. Changes are needed in the nature of opportunities available, since even in a system which is seen as heavily bounded by socio-economic constraints, it seems that many people do not want to take part in the courses that are available to them... (Researchers) now also suggest that wider inclusion in a learning society may come more easility from greater recognition of tacit knowledge than from more participation (Gorard *et al.,* 1999).

Lifelong learning has social and economic aims and purposes. To fulfil both social and economic objectives, lifelong learning has to extend over a huge territory, a wide variety of learning grounds: basic foundation, vocational education and training, democratic and civic values, specific training and retraining in enterprises or on the job, and non-formal learning for professional and personal development. Most of these learning experiences already exist and actually take place every day (Livingstone, 1999). Sometimes they take the form of courses, training, and education with or without certification. Sometimes they occur in everyday life outside any learning setting or environment.

If all of these experiences have to be taken into account to enable our societies to become progressively knowledge societies, then they have to be related to one another and be well defined.

A comprehensive approach to lifelong learning

Lifelong learning encompasses general education and vocational education and training. These sectors provide the basis and the foundation (writing, reading, arithmetic, citizenship) as well as the preparation for working life. As part of lifelong learning, one can also find general education for adults, personal and career development ("liberal adult education" or *éducation permanente*) as well as any form of learning taking place at work or in daily situations.

Four "settings" (contexts) can be distinguished as a frame for lifelong learning:

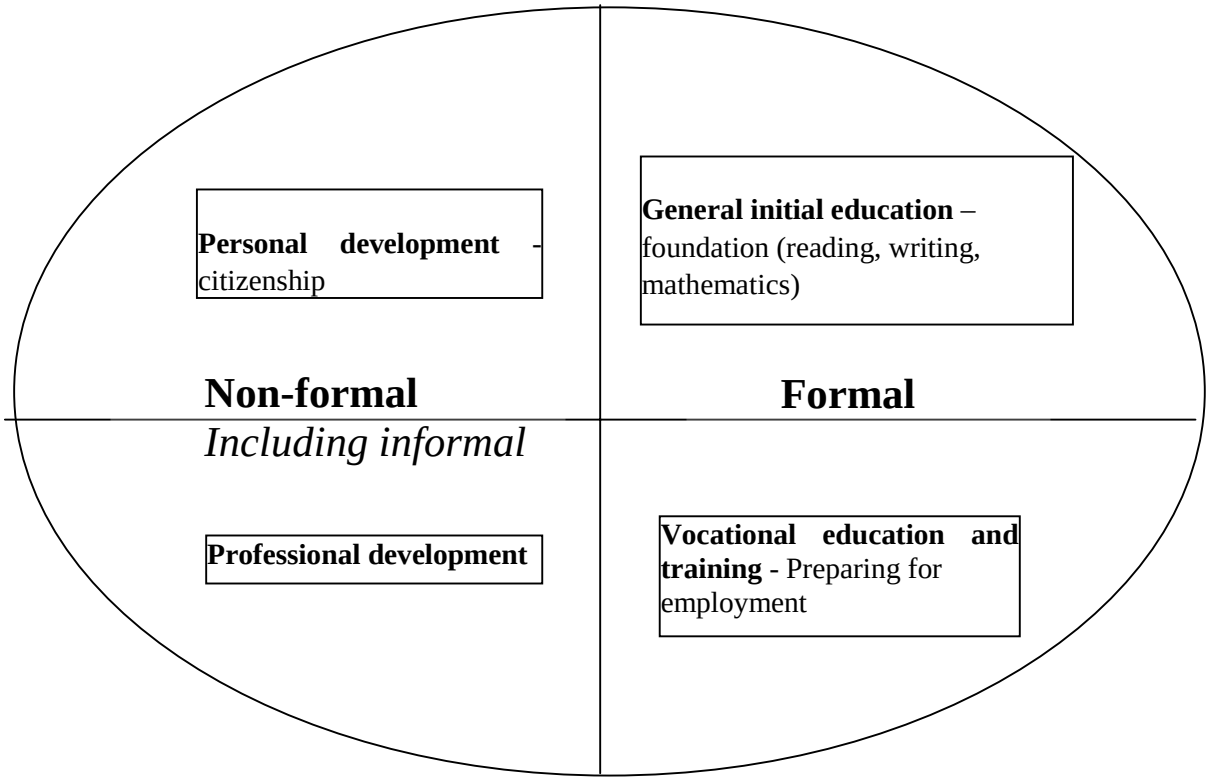
- General initial education;
- Vocational education and training;
- Professional development;
- Personal development (liberal adult education, *éducation permanente*).

These four learning settings exist to different extents in all the countries and they are all needed to fulfil the social and economic aims of lifelong learning. They can be characterised by:

- Their funding;
- What they do best;
- The focus of learning;
- The existence (or not) of certificates.

A first clarification emerges when the four settings are grouped under formal and non-formal learning as proposed in Figure 1.

Figure 1- Lifelong learning for economic and social inclusion



Source: Colardyn, D.

The issue is no longer which setting public authorities will give priority to and, consequently, which one could be suppressed. It becomes the management and development of the four settings in order to better define how they can contribute to the various aspects of human resources. Table 1 summarises this characterisation.

Table 1. A comprehensive approach to lifelong learning

	Personal development	**General initial education**	**Vocational education and training**	**Professional development**
Funding	- Non-profit based (learners and public funding)	Public	Public and private	Private
Objectives What is done best?	- Promotion of democracy; - Equality; - Respect of plurality of values	- Basic and foundation education	- Vocational education and training; - Transition to work	- Work specific training; - Management - Corporate universities - Recognition of competences - Human resource management
Focus of learning	- Democracy - Illiteracy (adults) - Enlightenment (young and adults)	- Basic skills (read, write and count) for young; - Little for adults (Prior learning assessment);	- Young adults; - Training and retraining for unemployed; - Retraining of under qualified employed	- Integration in enterprise (young); - Retraining of adults
Certification	Often non-existent	- Formal general qualifications - Credit towards a formal qualification	Formal vocational qualifications	- Attendance certificate; - Certificate of competences
	Non-formal	**Formal**	**Formal**	**Non-formal**

Source: Colardyn, D.

Issues for lifelong learning

The issues for lifelong learning are how to link and articulate the various learning activities:

1. How to agree on their relative size. The size of each part may vary (depending on countries). In a lifelong learning perspective, stakeholders could first decide on the links between the four settings (contexts) and then on their size. In addition, size may vary with demand and needs according, for example, to the weight and relevance of initial education;

2. The financial dimension may help to understand the variation in size. For example, let us imagine that total public and private spending on the four learning settings comes out of a theoretical budget of 100. That theoretical budget could be shared between general and vocational education in the formal system because of high

priority, leaving adult personal and professional development bloodless. Another share of the theoretical budget could be attributed on the basis of "what is done best here or there". For example, is adult remedial education (personal development) provided better by adult liberal education or *éducation permanente* than by public basic education dealing with young people? If so, part of the public funding could be directed to that setting. This could help set up priorities: if some specific training is best provided in enterprises, then flows of people and funds should be directed to them; in the case of adult illiteracy, flows of people and funding should be directed to the adult education sector, in either personal or professional development;

3. Another priority is to weave strong links between sectors: what is learned in one should not have to be learned again in the other. This means that different certifications will have to be developed for the non-formal learning experience (personal and professional) at least for those individuals who want their learning to be recognised as such or in a formal qualification.

The links between the different existing learning settings could enable lifelong learning to make its perspective clearer. Of course, it would be a lifetime perspective since the premise is that individuals learn (not train) all the time, regardless of where they are. The main priority for individuals and society is thus to make the "best use" of this learning capital. The "best use" may well be to recognise learning as it is and where it takes place. Forms of certification might differ but links and transfers should always be defined. Lifelong learning would not be dominated by training providers (public and private) but by the learners themselves.

More diversified certification procedures might be needed but without multiplying formal credentials or without "forcing" individuals into formal qualifications. As diversity of learning activities is crucial, lifelong learning will also call for diversity in certification. Formal learning is extremely well assessed through regular school-based procedures. For non-formal learning, outcomes could be assessed on a voluntary basis. Proofs and evidence of outcomes could be constructed in work-related situations as well as more generally in adult personal development. That form of certification would recognise that learning took place. Individuals could then use it for prior learning assessment with a view to pursuing a formal qualification.

By increasing diversity in learning modes as well as in certification procedures, a strong emphasis falls on quality. Quality in certification applies to both formal and non-formal modes. Quality in certification of outcomes requires specific procedures to ensure transparency, impartiality as well as reliability and validity. Everyone wants to make sure that new "certification formulas" will be equitable, a valuable measure that can be trusted once an individual decides to use it.

Outline

The formal education and training system is now more accessible to adults. Nevertheless, it does not seem to respond to all their needs. A number of innovations to promote learning in non-formal settings have to be examined.

The "promotion" of non-formal learning tends to add "something different". So, in addition to the opening-up of the formal sector, other types of learning activities are included in the lifelong learning area, referred to as "non-formal learning". Experiments and practices concerning both access to formal education and new approaches to non-formal learning are found in the framework of new partnerships based on regions and/or enterprises. Today, formal learning is of course much more organised and structured than non-formal learning. Nevertheless, it seems that the lifelong learning concept should encompass both formal and non-formal learning.

In brief, one sector is becoming more open and the other, better structured. Will linking formal and non-formal learning help in achieving the design of lifelong learning policies?

The contributions examine several aspects. First, why should the formal and non-formal sectors be linked? Without links, could they coexist? Should they be articulated flexibly? In fact, should quality assurance be the link? Who should be involved as actors and partners? The actual impact on the changing role and responsibilities of public authorities and the allocation of financial resources are also discussed. At the European level, the present proposition of the Memorandum on Lifelong Learning, released as a communication from the European Commission to the Council and European Parliament, will contribute to highlight some directions. In addition, the particular situation of Central and Eastern European countries in transition, where the entire system, formal and non-formal, is under construction, is analysed as an opportunity for innovating.

Finally, the conclusions propose some trends to be considered as, for example, the improvement in standards; the integration of PLA in formal settings; the availability of counselling; the commitment of various new actors. A progressive awareness of the scope of lifelong learning and of the increased participation of mature students is renewing the debate on social and economic integration. The experiments on assessment and certification of non-formal learning have now reached a "critical mass" that makes a careful analytical examination on measurement and methodological issues possible.

A last central question concerns the role and responsibilities of the various providers and stakeholders involved. Public authorities will certainly have to redistribute responsibilities among themselves and change their relationships with the new actors. Rights and responsibilities could well have to be redefined as the financing and certification are shared between all interested actors.

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CHAPTER 1: RECENT DEVELOPMENTS IN FORMAL SETTINGS

Opening ways for more accessibility

Danielle Colardyn

Changes have affected secondary education. Participation in upper secondary schooling has increased with the development of general and vocational tracks and the presence of new target groups. These new groups may have different needs and this means that the traditional teaching methods, curriculum content, and progression and assessment practices have to change accordingly.

In addition, upper secondary education is now also open to "non-traditional students", that is, other than young people in initial education: examples are given of pilot projects concerning disadvantaged groups and women. Jean Gordon's contribution shows how innovative projects and experiments could be integrated into mainstream vocational education. Field-based research brings clear results and messages to policy-makers. It questions the feasibility of integrating very demanding (time and funding) approaches targeted on small pilot groups. Answers lay in the non-traditional vocational curricula, team approaches, partnerships. However, vocational education will never be flexible enough to take on board all the messages sent by the variety of pilot studies and experiments: only lifelong learning strategies could possibly give the means of integrating the innovations needed by large groups of population who wish to be fully integrated in the knowledge society.

The broadening of the population targeted, the needs for retraining and the emphasis on learning present considerable challenges to mainstream vocational education. The first contribution illustrates that issue with some experiments, which took place in various countries in order either to integrate more disadvantaged people or to develop a strategy ensuring access to lifelong learning for all. The respective roles of the European Union and the member States are examined. They focus on raising participation, laying the foundation for lifelong learning, new skills, school-to-work transition, wider access to adult education, quality, validation and certification, partnerships and the need for more flexible work and school organisation. Proposals for reform have emerged, support mechanisms, new funding and partnerships have been called upon.

Higher education faces difficult choices and is being pushed into new directions. Globalisation as well as local pressures contribute to changes in higher education: they relate to the nature of education and raise questions on the essence of knowledge, disciplinary-based or more practically-oriented, problem-solving. As Peter Jarvis develops, learning is increasingly subjective, reflective and experimental. Practical knowledge is present next to the traditional positive approaches. His contribution emphasises that education and learning should not be confused: education is the institutionalisation of learning. Higher education institutions progressively grasp that reality as new qualifications, demographic factors, different relationships with work, continuing vocational education and training, networks of

universities and transnational universities become more common and affect teaching as well as research. A doctorate is no longer the route into university employment and some programmes experiment new means of accrediting learning at work.

As institutions, universities act more as “entrepreneurs”, a fact that is associated with the growth of a recent phenomenon: the corporate universities. Some of these offer education and qualifications without guaranteeing a job for the “student” in the corporation: they fulfil a new role. As the author notes, the corporate classroom is a global trend accompanying lifelong learning. Lifelong learning has also an impact on student characteristics: fewer young people, more part-time mature students, distance-education students attending modules in universities located in a country they might never even visit.

Issues of information technology as well as new educational and knowledge tools are examined by Luciano Morganti. These issues obviously concern secondary and tertiary education, young people and adults. A multitude of expectations and questions is raised.

After a useful and short clarification of some essential technical terms, such as hypermedia, multimedia and hypertext, the author addresses the issue of their impact on education, pedagogy and learning. Multimedia involves an integrated presentation of various sets of information such as text, images, moving images, animation and sound. A multimedia presentation is interactive; a printed text is not. These fundamental differences have serious consequences for educational processes. Once the user reaches a certain computer literacy level, technical and cognitive questions remain. Without ignoring the technical dimensions, this contribution focuses on the cognitive aspects. The cognitive difficulties derive from the meaning one gives to a complex information structure. Reading multimedia may create uncertainty, discomfort, a feeling of being lost. When learning with a text, one will read and then conceptualise. With a multimedia, one will read, listen, watch and then understand what has been read, listened to and watched at the same time. The effects of the so-called “immersion learning” are still largely unknown.

The author discusses some of the main issues facing education and pedagogy. He describes how a student becomes a co-author, editing notes, interacting with a screen rather than with a teacher and other students. Another set of essential remarks deals with the significance of these new tools for teachers, for the didactical methods, for learning and teaching as well as for teacher training. As these new tools will certainly open up new ways of access to learning, in a lifelong perspective, one would strongly urge for more research since adults might react to a complex structure of information differently from what young people do since the bases they build on are quite different.

Concerning new ways of making education at secondary and tertiary levels more accessible, a number of countries are very interested in prior learning assessment (PLA). This creates a dynamic of opening up the traditional education system to experience. In his contribution, Ruud Duvekot examines several experiences and highlights particular dimensions such as the commitment of all providers and the role of public authorities to ensure quality and bridges with formal qualifications. The economic and social importance of taking PLA seriously into account is described: it is a tool to assist lifelong learning and employability when facing labour market shortages. That tool focuses on the knowledge a person has capitalised rather than on his or her lack of skills, competences or qualifications.

PLA is a procedure that is relatively simple once some agreements are reached on several principles. For example, qualification refers to formal certificates or diplomas, competences are developed in any setting and they are job-oriented. Prior learning assessment is not an end in itself: it has to be connected to qualifications, it helps the design of a training plan, and it makes learning flexible. PLA is to the benefit of individuals, enterprises, social partners, educational institutions, and governments. The Norwegian and Dutch experiments described by the author could serve as lessons, if not guidelines, concerning standards, quality assurance, access.

The author also insists on a major precondition, a key to lifelong learning and to the opening-up of the education system: a strong commitment has to be reached within government, educational institutions and social partners in favour of new ways of learning.

New challenges for vocational education

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Key words: vocational education, access, entrepreneurship, innovations

Introduction

In the last decades, public authorities in Western European countries were obliged to review the models of, and mainstream approaches to, vocational education and training, established during the years of economic expansion. Vocational education and training has undergone major developments, adapting to new students and trainees and a range of sometimes conflicting requirements, through the introduction of more flexibility to the content and delivery of courses, approaches to accrediting prior learning, new awards and qualification structures and, in some countries, major organisational changes.

Many of these developments were stimulated by the need to find adequate responses to high youth unemployment and for training and retraining both the unemployed and the employed. The processes and outcomes have been well analysed and documented in most European countries and by CEDEFOP and the European Training Foundation (Parkes *et al*., 1999; Bainbridge and Murray, 2000). Among other aspects, reforms have modified the content and delivery of courses, developed support mechanisms for trainees and students, reviewed funding policies and strategies and encouraged partnership approaches. Depending on the countries, reforms have sought to establish better flexibility (e.g. with alternative modes of delivery), to open access to training, fund individuals, strengthen the labour market links in order to respond to the skills needs of enterprises in terms of training, retraining and updating the skills of the employed workforce. They have moreover reinforced the role of the social partners in curriculum and qualifications development.

So, what is different about lifelong learning? Many of the measures and experiments implemented had objectives and outcomes recognisable in the lifelong learning debate. On the one hand, issues of access, content, flexible delivery and accreditation of prior learning have been addressed. Reforms have equally sought to foster responsiveness to the requirements of small and medium-sized enterprises (SMEs), enhance the role of the social partners and have had to examine the implications for organisation and funding to cope with all of the above.

The purpose of this contribution is to present selected challenges for the vocational education and training systems (initial and continuing) in the European countries, if they are to contribute to making lifelong learning a reality. Given the complexity of the systems and as they are well documented at national and European levels, it will focus on those challenges made by activities funded under European education, training and employment programmes. It will examine how innovative, project-based initiatives exert a pressure on policy formulation processes through the messages and recommendations they send to the policy-makers about modifying mainstream provision.

The following section presents a short summary of the range of issues involved in formulating a lifelong learning strategy. A crucial facet of the context in which the European Union member States are formulating and determining such policies is the European Employment Strategy. The lifelong learning implications are then presented with examples of recent policy initiatives in this area. The next section takes selected examples from projects carried out in various European Union member States during the 1990s in order to illustrate the agendas for mainstream provision. The final section draws together the challenges raised by these pilot initiatives for the education and training systems.

Is lifelong learning a new label?

Though there is obviously continuity between debates and reforms of recent years and the current preoccupation with strategies for lifelong learning, there are perhaps three main aspects (already present in debates on education and training) which take lifelong learning a step further:

- The range of potential "clients";
- The notion of continuity both in time (the lifetime of the individual) and across types of provision and;
- The emphasis on "learning" rather than on "education" or "training".

The combination of the three -- broader range of beneficiaries, continuum through types of provision and over time and an emphasis on learning -- presents a formidable challenge to education and training strategies and provision in European countries, as it raises important issues not just of content or delivery but more fundamentally of organisation and funding.

Within the domain of training and employment policies, lifelong learning is increasingly the new label given (*a priori* or *a posteriori*) to sets of measures implemented in order to reform or adapt existing provision. Whether or not this implies the existence of a policy of lifelong learning (in any country in particular) or a strategic vision is debatable. The term has, to some extent, become a useful shorthand for a range of aims, enabling objectives and structures which, it is hoped, would contribute to developing a "seamless web". It is generally suggested that the latter should allow for horizontal and vertical moves and progression; fund individuals and institutions in such a way as to make learning a realistic option; integrate mechanisms for the accreditation of prior learning, flexible assessment and recognised validation. It would also provide real access to learning by including transport, childcare, encouraging flexible modes of learning and establishing more outreach work. Based on appropriate learning content, lifelong learning would foster distance learning parallel to learning centres and provide accessible and user-friendly information, guidance and counselling.

At the same time, lifelong learning addresses individuals and their personal commitment posing the issues of how, during compulsory education, one can encourage children and young people to envisage a culture change in which “learning” will remain part of their way of life, an activity that will not finish at the start of their adult life but be periodic, repeated, continuing. As part of the same process, how can higher education cater for adults who wish to add to their qualifications or obtain a recognised higher education qualification? The agenda proposed to mainstream education and training is vast and multifaceted. The

European Union is currently in an interesting pivotal role. On the one hand, recent initiatives set a framework and agenda for lifelong learning strategies. They are briefly examined in the next section. On the other hand, its programmes fund the innovation, which exerts pressure on governments to modify provision taking into account the lessons learned from innovative pilot experiments. Examples of the latter are examined in the following section. Responding to these challenges and designing the strategies which can respond to these needs is the responsibility of national governments.

Lifelong learning in the employment policies of the European Union

Implementing lifelong learning as a transversal aspect of education and training practices and policy is seen by the European Commission to be an essential element in the transition to a knowledge-based society, in facing the challenges of globalisation, competitiveness and employment. In 2000, the European Commission published *A Memorandum on Lifelong Learning*, as well as other associated documents such as *Lifelong Learning and the Employment Strategy*. Lifelong learning was introduced into the Employment Guidelines in 1998 and, since 1999, the European Employment Strategy has strengthened its guidelines on lifelong learning. The member States have reached a broad consensus on a general definition: "*all purposeful learning activity, whether formal or informal, undertaken on an on-going basis with the aim of improving knowledge, skills and competence*". Member States are expected during 2001 to make a structured policy response, formulate a comprehensive strategy and provide information and data in order to develop appropriate indicators for monitoring and assessing progress, as described in *Setting Targets for Lifelong Learning in Europe* (European Commission, 1999).

The *Proposal for a Council Decision on Guidelines for Member States Employment Policies for 2001* stresses the importance of lifelong learning as part of what is referred to as the "Lisbon process". The proposal is clear, the member States "*shall develop comprehensive and coherent strategies for Lifelong Learning in order to help people acquire and update the skills needed to cope with economic and social changes throughout the entire life cycle. In particular, the strategies should cover the development of systems for initial, secondary, and tertiary education, further education and vocational training for young people and adults to improve their employability, adaptability and skills as well as their participation in the knowledge-based society*." The guidelines emphasise the importance of the shared responsibility between public and private sectors and individuals. They encourage member States to set targets and to monitor progress in order to improve the quality of their education and training systems including, for example, the curricula, the modernisation of apprenticeship and the development of multi-purpose local learning centres.

The objectives include:

- Equipping young people with basic skills, including information technology and language skills;
- Eradicating illiteracy and reducing the number of young people who drop out of school early;
- Promoting conditions for better access for adults;
- Ensuring that education systems deliver a continuously updated package of core skills.

Moreover, member States are also encouraged to improve mechanisms for the recognition of qualifications, acquired knowledge and skills. *Lifelong Learning and the Employment Strategy* (European Commission, 2000b) outlines the specific issues developed to contribute to the above. The first concerns the level of participation in lifelong learning activities and the need to set targets but also to lay the foundations for lifelong learning through initial education and training and to consolidate the transition from education and initial vocational training to paid work. Developing new skills such as in information and communication technologies and entrepreneurship is encouraged as is also the establishment of a partnership approach to lifelong learning which would ensure a role for the social partners, local and regional actors, enterprises, providers of education and training, and individuals. A major concern is to provide wide access to adult education, further and higher education and continuing training with flexible pathways between activities, and this reinforces the need for a flexible organisation of paid work and provision of childcare. Other important issues concern quality, validation and certification of education and training.

These issues, disseminated through European Union memoranda, constitute objectives and/or measures, which have already been experimented at field level and may even be the basis of agendas for policy in some member States.

Recent policy initiatives by the European Union member States on lifelong learning

Some brief examples of national policies and pilot projects are presented to illustrate preoccupations and action at government level. They are taken from the survey carried out by EURYDICE[2] on how the European Union member States envisage the development of lifelong learning strategies in their country. They are indicative examples.

Raising participation in lifelong learning activities and setting targets. In both Ireland and the United Kingdom, government reports have been published in recent years setting out agendas for lifelong learning, such as *Adult Education in an Era of Lifelong Learning* (1998) and *Higher Education: The Challenge of Lifelong Learning* (1999) in Ireland and *The Learning Age (1998)* and *Learning to Succeed* (1999) in the United Kingdom which fix targets for individuals and enterprises in terms of qualifications and investment in human resources. Italy has established a right to lifelong learning, which will be backed up by, for example, an experimental introduction of the right to a sabbatical year or a training credit. The Programme for the Development of Education (2000-2006) in Portugal, PRODEP III, fixes objectives and an agenda for integrating a strategy of lifelong learning.

Laying the foundations for lifelong learning through initial education and training. The EURYDICE survey, *Lifelong Learning: the contribution of education systems in the Member States of the European Union,* describes measures implemented by many of the member States to reinforce the desire to learn at the level of compulsory education. Motivating students to learn is one of the priorities in Denmark, where it is linked to a review of teacher training. In Germany, information and communication technologies (ICTs) are used as a means of piloting approaches to increasing motivation. The Greek government is developing key skills at pre-school, primary and secondary levels with the aim of increasing the capacity of young people to adapt to the demands of the economic system in the future.

[2] EURYDICE is the EU-funded network providing information on education in Europe.

ICT and entrepreneurship. For example, the Dutch Ministry of Education has established a Steering Committee to oversee the development of ICTs in schools and vocational education and training colleges. A similar policy including awareness-raising, information, training and grants has been established by the government of the Dutch-speaking Community in Belgium, while the government of the French-speaking Community is supporting a pilot project, *Cyber Ecoles*, in partnership with the regions and Belgacom, to equip schools. They have also established *Pôles d'innovation technologique* to inform, document and train students, pupils and teachers and to improve co-operation among the different levels of education and with enterprises. The University for Industry in the United Kingdom aims to improve access to learning for small enterprises and individuals both through recognised local learning centres and by developing distance learning. Since 1995 in Denmark a resource centre, the *Center for Teknologistøttet Uddannelse*, created by the Ministry of Education, focuses on encouraging education institutions to open up to distance learning and provides subsidies and teacher training for them to do so. The Finnish government aims to use an Internet-based service to inform the general public about the education and training offer.

The transition from school to work. This remains a major priority in most countries. In Italy, work placements have been increased and in Spain, the new curricula include transversal themes allowing students to focus on areas which will concern their life beyond school (health, environment, road safety). Young people who leave school without the leaving certificate have access to the "social guarantee" programmes aimed at labour market integration. The Vocational Training Opportunities Scheme in Ireland offers a second chance to the unemployed over 21, while Youthreach has similar aims for young people who drop out of the education and training system early. French provision has focused strongly in recent years on individualising learning pathways, particularly for young people with no or insufficient qualifications. In the United Kingdom, the programme for young people, Connexions, brings together information and guidance services for young people, works with employers to ensure that the training will provide the beneficiaries with the qualifications needed to find employment and deals with the obstacles to work and training encountered by young people, such as financial barriers. New funds have been allocated to dealing with early school-leavers in the Netherlands to strengthen links between schools and enterprises.

Wider access to adult education, further and higher education and continuing training with flexible pathways between activities. In Finland, enrolment in non-university higher education is being raised so that 70 per cent of young people will be able to study either in this sector or in higher education. The Danish government provides financial support to adults while in Portugal, recent legislation opens up higher education to non-diploma holders who have completed secondary education and then worked for a period. In Austria, second chance diplomas are being established for adults who have not obtained the diploma validating the end of secondary education. The Irish higher education system is also implementing a more flexible basis for access along with reviewing accreditation. Modes of delivery and distance learning are two approaches used in Sweden, especially for adults. In 1998, a Task Force was set up to encourage distance learning for adults. The Italian government has created a new training progression route, *Istruzione Formazione Superiore Integrata (IFTS)*, for adults to accredit their competences and professional experience and take further training. In the United Kingdom, the Individual Learning Accounts aim to encourage individuals to participate in lifelong learning and the University for Industry and its information service, Learning Direct, provides the information as well as the recognised courses and centres.

Quality, validation and certification of education and training. The Austrian government is undertaking initiatives to extend the practice of quality benchmarking to schools, and it is intended that it will become obligatory. Concerning validation and transfer of credits, there are several examples. In Denmark, one aim is to develop curricula built on a sufficiently broad basis to allow for a range of options at the next stage. In addition, more flexible admission criteria with foundation courses where necessary and modularisation should contribute to both widening access and ensuring validation. The United Kingdom, Ireland and France have, over recent years, developed systems of accreditation of prior learning, experience and awards, though with limited application in practice. A pilot project in Sweden since 1998 is developing this type of approach.

Partnership approach to lifelong learning. The projects established by the federal government and the Länder in Germany, the *Lebensbegleitendes Lernen für Alle*, are examples. They were launched during 2000 in order to reinforce co-operation and partnerships and ensure the best correspondence between supply and demand in terms of skills and training. Recent approaches adopted in France to reduce the number of young people who leave the education and training system early without qualifications, emphasises the importance of partnerships of public authorities (national, regional and local) with private sector enterprises and agencies. In Scotland, Local Learning Partnerships aim to co-ordinate efforts and inputs enabling individuals to define their needs and undertake training.

The need for flexible organisation of paid work and provision of childcare to provide access to lifelong learning. This objective is perhaps the least developed in current top-down measures and will be more fully explored in the next section.

The above illustrates measures being introduced in the member States within a lifelong learning perspective. Concerning partnership approaches, flexible organisation of work and childcare provision (the last two points), though there are a certain number of initiatives, the information gathered by the EURYDICE survey suggests that they are currently less well formalised in national policy initiatives. These aspects are dealt with in the following section, which examines the pressures coming from bottom-up initiatives. In addition, the improvement of information and guidance services, which does not appear as a specific item in the list of issues taken from *Lifelong Learning and the Employment Strategy*, is nevertheless a common preoccupation of many governments and pilot projects and will be referred to in the next section.

The importance of all these issues is commonly accepted; the hurdle is implementation and developing mechanisms for monitoring progress effectively. The enabling objectives, the precise targets, the specific strategy, the means and the mechanisms for assessing progress remain the responsibility of the member States. The challenges are to embed the objectives agreed in appropriate policy and strategy terms, to create sets of tools to implement them and to define mechanisms for monitoring progress. The following section presents illustrations of these points from a "bottom-up" perspective. The objective of establishing strategies for lifelong learning broadens the agenda of education and training policies, taking into consideration the needs and requirements of a much more diverse range of individuals and issues than mainstream provision has tended to integrate in the past.

Main challenges: from experimental action-research to policy-making

This section examines how these issues have been explored at field level by projects and partnerships developed with funding from European training and employment programmes. During the 1990s, the European programmes, created the space and the financial basis for experimenting innovatory approaches. There has been an extensive range of bottom-up initiatives, formulated essentially in response to a changing labour market and high unemployment in certain areas. Some have been linked to developing provision which should respond to the social, economic and learning needs of those groups in society that find themselves in the weakest position (e.g. unqualified school-leavers, long-term unemployed, women returners, the homeless). Others have focused on the specific human resource development needs of small and medium-sized enterprises.

Some of the partnerships managing these experiments have brought "cutting edge" ideas about lifelong learning closer to mainstream provision and transmitted important messages to the policy-makers and funders. At the same time, there tends to be a continual tension between the messages drawn from this type of field-based action-research and the content of reforms. The innovatory initiatives present an agenda of clear challenges to policy-makers concerning the content of provision, delivery and support mechanisms. They integrate reflections on partnership and funding issues.

The assessment of the ADAPT and EMPLOYMENT Community Initiatives (1995-1999)[3] examines the contributions of the Initiatives and the 10.000 or so experimental projects funded by them, to the European Employment Strategy. The document points out that: **'all policies aimed at improving the employability of the workforce are faced with two fundamental and complex issues:**

- **How to reach and integrate the most disadvantaged groups?**
- **How to design and implement a strategy ensuring access to lifelong learning for all?'**

The following examples address those issues.

Reaching and integrating the most disadvantaged groups

Whether in dealing with disadvantaged young people, long-term unemployed, women returners or other specific groups, educationalists have noted the importance of developing what are called the "soft skills" (e.g. developing the individuals' self-confidence, harnessing their personal competences) as well as specific vocational skills and competences. The first two projects presented provide illustrations of a non-traditional approach to the content and delivery of pre-vocational training. In the first case, the vehicle was the creative arts and, in the second, sport.

[3] European Commission (2000a), *Shaping Active Employment Policies.*

Two case-studies: Artisan and Réussir par le football

ARTISAN was a project implemented in Wales from 1998 to 2000, funded by the European programme YOUTHSTART designed to facilitate the labour market entry of under 20's, which sought to develop the contribution of the creative arts to the personal development and training of disadvantaged young people. It worked with partners implementing similar projects in several other European Union countries (Greenidge, 1999). ARTISAN worked with about 100 young people and piloted a number of approaches to acquiring key skills qualifications in areas such as communication, application of number and information technology through arts activities including music, dance, drama, lighting and sound. For the young people, in addition to the hard outcomes (the recognised qualification), the project team noted softer outcomes including increased self-confidence, motivation and more optimism about their future. As a second major objective, the project developed the framework of a recognised qualification designed for youth workers who wanted to improve their youth work by integrating arts into their practice and for artists who want to work with young people. The project partnership included educationalists, trainers, youth workers, local authorities, arts organisations and artists.

A second example is provided by another YOUTHSTART project, implemented in Normandy (France) and which focused on sport and, in particular, on football as the vehicle for the training: *Réussir par le Football*. The project worked with a small group of young men (15) from a neighbourhood suffering from high unemployment, high rates of school failure and early dropping out from education and training, violence. Their level of literacy was low, few had left compulsory education with recognised certificates and some had had serious problems with the police. The project aimed to channel their physical capacity positively, raise their level in French and maths, give them a first experience of the workplace, work with them to develop their own personal and professional project and contribute to their personal development and capacity to work in a team.

Outcomes: funding partnerships to implement non-traditional approaches

The main aim of both projects was that small groups of young people in a situation of failure vis-à-vis the mainstream education and training system acquired new skills that would enable them to envisage, realistically, vocational training and work in an area which interested them. In the case of the Welsh project, some had achieved, and others were working towards, a recognised key skills award, which would assist them in finding a vocational education and training course. In both cases, acquiring soft skills was an essential part of the project: a more positive self-image, confidence based on acquired skills, the capacity to work in a group, a project for the future.

The creative arts and sport proved to be areas in which it was possible to channel positively energy that was too often wasted. Both areas were effective stimulants for recruiting disadvantaged young people to the training programmes. In addition, they offer realistic job opportunities.

The experience of a large number of similar projects funded under the EMPLOYMENT initiative shows the importance of local partnerships. One of the preliminary conclusions of the working document, *Shaping Active Employment Policies*, was that partnerships involving a range of different actors facilitated labour market integration and job

creation. The authors suggest that further exploration of how local partnerships and networks can be created and sustained should be a priority for future developmental approaches.

A first series of conclusions about learning provision that aims to tackle social exclusion can be drawn from the above examples. They concern: the curricula, the small groups and the team approach, and the value of partnerships. The capacity to develop curricula based on a non-traditional content or approach has been substantially experimented both in mainstream provision and through projects. There are clear advantages for those learners whose experience of the education and training system has been largely negative and a succession of failures. By harnessing the individual's personal capacities, trainers are able to build on successes, even modest, which contribute to developing self-confidence and a more positive perspective. There are, however, implications for organisation and funding of provision.

Projects are undertaken for small pilot groups and are made possible either by funding for special measures or with project funding. Given the interesting outcomes, they raise the question about how mainstream education and training systems could offer atypical approaches to larger numbers, on a regular basis or replicate where and when necessary. The combination of a team approach based on a partnership of institutions and agencies, of different competences and areas of specialisation, raises issues for funding, such as unforeseen costs: for example the amount of one-to-one input needed, whether on social skills or specific key skills areas; bringing together teams of project staff with different competences and covering different areas increases the amount of staff time and necessitates a certain flexibility in the budget for the agencies and institutions to be able to work together; flexibility for planning and co-ordination of the team work becomes essential.

The added value of partnerships was well demonstrated in the above projects. In the case of ARTISAN, the training for youth workers and artists which integrated into the project an aspect of continuing professional development for the team. Both groups contributed to the future sustainability of addressing training needs of disadvantaged young people through the arts and enabled the different organisations to contribute from the basis of their particular expertise. *Réussir par le Football* brought in medical staff to work with the group on raising the awareness of the trainees about health and dietary issues which, it was felt, were important both in so far as some of them envisaged training in an area in which they could use their capacity for sport but also to raise self-confidence. It is also an example of an unforeseen cost when the budget was drafted. In both cases, the role of the local authorities was essential as contribution to funding, to ensure access to the social services but also to legitimate the activity vis-à-vis other funding bodies and for continuity in the network.

The ARTISAN beneficiaries worked towards a recognised key skills award, which formalised what they had learned, benchmarked their success and would assist them in finding a vocational course. The French project recognised the need for acknowledging success and awarded a course certificate. These and many other pilot projects have emphasised the importance for courses working with groups of trainees, for whom learning has been a difficult and negative experience with a series of failures, to be able to acknowledge each stage. Full qualifications do not always respond to this need.

How to design and implement a strategy ensuring access to lifelong learning for all?

Two case-studies: The NOW programme and training for women

A group of projects funded under the NOW programme from 1998 to 2000 examined the obstacles and barriers to women's employment linked to the rural or the specific urban contexts of each of the nine partner projects. The transnational partnership worked together under the title of WEERA. Though the projects covered a broad variety of training activities and specific objectives, including the creation of small firms, training in new technologies, training for creating small enterprises in the textile industry, they all emphasised the importance of support mechanisms before and/or after the main training activity in three basic stages. An initial phase concerned the development of a personal and professional project through training or counselling and guidance – feasibility of the individual's project, the local labour market and economy; the second phase involved the specific (skills) training; the third phase introduced activities designed to support the beneficiaries in finding employment or further training or in setting up their business (mentoring, job search techniques).

In summary, while the skills training was essential to each of these projects, they could not have taken place without the considerable contribution of the various support mechanisms put in place. Activities piloted were made possible thanks to European project funding but may be difficult to implement in the mainstream system of the respective countries.

At the information and guidance stage: a project managed by the social services in Tarragona (Spain) developed an intensive process of one-to-one counselling with the beneficiaries, mainly immigrant women, most of whom had not previously worked. The process aimed to address the social, economic and family difficulties facing the women, as well as their training and work needs. In Wales, the information about training courses and help for transport and care for dependants was distributed through social events, village meetings and groups such as mother and toddler playgroups, in doctors' surgeries, local post offices. It provided a first level of information in places where women were likely to access it. The guidance was then organised directly by the training providers in order to formulate individual learning plans with each beneficiary designed to respond to their specific needs, whether this involved a short course or a longer training process. The Finnish partners faced a specific difficulty owing to the large rural and sparsely populated area covered by their project. They decided to use focus groups as a first way of gathering information about needs, distributing information about training on offer and initiating discussion. They then developed these groups into local support networks, each with a resource person, funded by the project.

At the training stage, the projects addressed the issues relevant to their specific aims. Thus, in a mountainous region in the north of Italy, training for textile production was carried out in a "virtual" enterprise given the lack of openings in the area for work placements. The Welsh project, run in a very rural area, addressed the double issue of flexible care for children and other dependants to allow the beneficiaries to attend courses and either provided the transport to bring them to the training centre or took courses out to villages on an outreach basis. A French project implemented in rural areas organised a three-month course on setting up a business on an outreach basis in a nearby village to facilitate transport.

In the post-training phase, three of the projects concerned with setting-up small businesses were interested in developing mentoring activities. In France and Finland, the project developed a partnership with local enterprises so that each woman with a business project could have a local entrepreneur-mentor while she was setting up her business and in the early stages of trading. A project in the north of Spain developed the idea as a form of coaching for developing business plans with people who had suitable experience.

A second example is provided by the EURO PRO-FEM project in Paris (France), which aimed to develop an approach to guidance and to accompany women on the pathway to employment that would allow them a broader choice of occupation. In order to contribute to increasing the numbers of women in traditionally masculine occupations, the project worked with the information and guidance services in the region to raise awareness of new occupational areas and the need to advise women about a much broader range of occupations. The partners noted the need for continuing training, for information and guidance staff to enable them to improve the information given to women about training in new occupational areas.

Another important (but unplanned) aspect was the need to deal with the personal problems of the trainees (e.g. single mothers, housing), which stopped them from envisaging a long training process. Information and assistance have to be obtained from several different sources; one-stop shops are rare and the different social services are housed in different places, under the responsibility of different public authorities. The French partnership worked with German, Greek and Spanish projects and collective reflection on the above issues led to joint recommendations by the transnational partnership on the need to establish better co-ordination of information services dealing with training, occupational and social problems and for continuing awareness-raising and training of staff in information and guidance structures about careers, and training guidance for women.

Finally, it was suggested that a type of "pathway" contract and allowance for the beneficiaries would be useful, allowing them to integrate periods of training, of reflection, of short-term work contracts to respond to immediate needs. It would give them continued support over a long enough period to move towards vocational training for a fully-recognised qualification. The project organisers also noted that courses tended to be funded (and re-funded) on the basis of placement rates in employment, which encouraged training providers to select the applicants most likely to find employment in the sector on completion of the course (i.e. men with prior experience). The examples suggest a problem of non-correlation between the training needs, employment opportunities and the existing funding criteria.

Outcomes: what are the implications of supporting the needs of the individual?

These NOW projects illustrate the extent to which training, however important and essential, will only be taken up and lead to successful outcomes if the whole range of needs of the individual are addressed, in a co-ordinated and coherent way. "Support" is a very broad notion which, depending on the situation, can include all or some of the following aspects: information and guidance; individual learning plans; resource persons; funding for care of children and other dependants; solutions to transport difficulties; mentoring.

Pilot initiatives have experimented various approaches to improving the supply information and advice and making it more efficient and effective. Experiences in many European countries suggest that there is an urgent need to consider the types of mechanisms which could best respond to the need for a "one-stop shop" approach to information and advice provision in order to contribute to addressing all the needs of the individual in a coherent and consistent manner.

Other experimental initiatives have examined various approaches to 'after training support', whether in assisting the individuals in their job search or in setting up a business.

Whatever the specific approach, the important factor is the continuing contact, which avoids the individual becoming isolated, and which is a means of maintaining the enthusiasm of trainees after the end of the training course. In the WEERA projects, mentoring processes proved an interesting mechanism for integrating future individual traders in the local network of small enterprises.

To all of the case studies, a common factor was the local partnerships, which brought together public and private sector organisations and a range of different competences. In Finland and Wales, the local LEADER groups[4] worked with training providers to ensure synergy between the projects targeting women returners and those aimed at rural communities. In France and Finland, mentoring was a way to implicate the local business community in supporting new initiatives. It aimed to integrate an element of future sustainability into the structure of the project. Partnerships also provided the competences to address the full range of barriers (as in EURO PRO-FEM and in Tarragona).

The examples above do not fit into traditional organisational and funding categories and therefore have implications for the organisation and funding provision: for awareness-raising and training of information and guidance staff (EURO PRO-FEM); for financing a 'pathway' approach for individuals (WEERA, EURO PRO-FEM); for transport provision or alternative modes of organisation (WEERA); for care for children and other dependants (WEERA); for funding for courses that take into consideration criteria of combating social exclusion, equal opportunities and broadening employment choices, as well as placement rates.

The messages and challenges

The experiments presented send clear messages to mainstream provision and to policy-makers. The challenges fall into three categories:

- To respond to a broad range of needs (content and delivery);
- To resource those requirements (funding);
- To support partnership approaches (organisation).

There is a continuing tension between the development of solutions for dealing with the concrete issues in the field (content and delivery) and their integration into national strategies (organisation and funding). The deficit remains in the determination of policies and strategies, in order to move from innovatory status to mainstream practice, from the experimental to the main policy. Five issues raised by the examples can be summarised as follows:

- How to move from experimental provision for small groups to sustainable provision part of the mainstream system?
- How to encompass a variety of needs and requirements broader than traditionally addressed by education and training providers?
- How to integrate a broad perspective on accessibility including support mechanisms, information, and funding, standard, qualifications?

[4] LEADER II was a programme funded by the European Commission to contribute to the development of disadvantaged rural areas of the EU.

- How to provide solutions (not courses), which necessitate operating through mixed partnerships?
- How to structure and fund all of the above?

The agenda is impressive if governments are to take on board these messages from the actors in the field and overcome the tensions between action-research and policy formulation. The challenge is to move the concept of lifelong learning from its status as a reform slogan to being the foundation of comprehensive learning strategies backed up by adequately funded mechanisms for implementing and monitoring them. The European Union's *Memorandum on Lifelong Learning* formulates the challenge in the following way "*Lifelong learning is no longer just one aspect of education and training; it must become the guiding principle for provision and participation across the full continuum of learning contexts. The coming decade must see the implementation of this vision.*"

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Lifelong Learning – Which Ways Forward for Higher Education?

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Lifelong learning has become a central theme in contemporary society for many reasons, some of which will be touched upon in this chapter. There have been a multitude of policy papers from different governments, books and academic papers written about the subject – the learning societies, learning organisations and learning towns are all part of that educational vocabulary. In the United Kingdom, the government report on higher education was entitled *Higher Education in the Learning Society* (Dearing, 1997). Indeed, Duke (1992) recognised that universities were confronted with a problem when he wrote *The Learning University*, although this chapter adopts an entirely different approach from his book.

Higher education, like every other educational institution, is being forced to rethink its place in societies that are being changed very rapidly by the forces of globalisation. Implicitly, therefore, the leaders of higher education are not as free to choose how they wish to change as they might have been in previous generations since they are being *forced* to rethink their position. This is one of its greatest problems, however, since it has traditionally enjoyed high status and considerable freedom in most societies. Now, that freedom is being rapidly eroded. Globalisation will constitute the first main section in this chapter (see Jarvis, 2001a, 2001b), although the global does not exclude the local and so the idea of "glocalisation" (Robertson, 1995) will be introduced.

Since change is universal, although its speed varies in different countries in the world and even in different regions of a single country, people are being forced to learn throughout the whole of their lives. Aspects of this lifelong learning are institutionalised, e.g. they are part of the education system, but others lie beyond it. Hence the second part of the chapter explores the idea of lifelong learning and in the third, some actual and possible different responses of higher education will be examined. However, it must also be pointed out that while the title of this book includes the term 'forward', change cannot be regarded as linear and there is no supposition here that the changes are in any way forward or progressive.

The global-local

The process of globalisation, as we know it today, began in the West (United States followed by Western Europe) in the early 1970s, although the process itself can be traced back in history far longer. There were a number of contributory factors at that time such as the development of sophisticated information technology through the Star Wars programme, the competition from Japan, the GATT agreement, the oil crisis which dented the confidence of the West, and so on. Corporations began to relocate manufacturing and to transfer capital around the world, seeking the cheapest places and the most efficient means to manufacture,

and the best markets in which to sell their products. This resulted in the continued decline in manufacturing industries in some countries of the First World and the need for new occupational structures emerged. Beck (2000, p.11) actually suggests that globalisation is "*the processes through which sovereign national states are criss-crossed and undermined by transnational actors with varying prospects of power, orientations, identities and networks*." That they do so with little intervention being possible by any state is most significant for our understanding of the relationship between the state and higher education.

It was in the 1970s that theorists first began to suggest that there was actually a world economy (Wallerstein, 1974, *inter alia*) based on the capitalist system of exchange. This theoretical approach was questioned in part by Robertson (1995) who has developed the idea of glocalisation, and by Castells (1996) who has argued that the state still has a place to play in a not-completely free but extremely competitive global market -- something that may be more true in the United States than in, for instance, Zambia. But, both of these claims have some validity in this discussion of higher education. Nevertheless, it is also argued here that those who control capital (not own it) constitute the major powers in the global market. With the tremendous advances in technology, especially information technology, they can rapidly generate change throughout the world. The information technology revolution took off, with one development leading to another, and as Castells (1996, p.51) argues, "*to some extent, the availability of new technologies constituted as a system in the 1970s was a fundamental basis for the process of socio-economic restructuring in the 1980s*".

Now the world-wide sub-structural driving force of social change is information technology driven by those who control capital -- both financial and intellectual. More significantly, however, the corporations have been able to create jobs wherever it has been most beneficial to them throughout the world with the resulting demands being placed on the local higher education system, resulting in an international division of labour and generating competitive markets world-wide. Additionally, they are able to locate themselves in countries where they have to pay fewer taxes, so that they underplay their responsibility to the world. This is but one of the ethical questions about the globalisation process.

From an over-simplistic perspective, the outcome of this process can be understood as the *world* as having a substructure and a complicated superstructure, whereas the simple Marxist model of society suggested that each *society* had a substructure and a superstructure. For Marx, the substructure was the ownership of the means of production and the superstructure everything else, but this formulation was soon outdated by the creation of the joint stock company, which has now transformed capitalism itself. Now the substructure is the control of capital, which is more than just financial capital since it also includes the intellectual capital essential for the knowledge society, and the use of this capital facilitated by the control of information technology. Hence, the educational institution is almost directly exposed to these social pressures for global change, which is changing the nature of education itself.

The substructure has also changed from ownership to control, and from wealth to economic and intellectual capital and information technology. Now the superstructure of the globalised world includes the state, work, culture, leisure, and so on -- but it is now much more complex and affected by many other processes, including the historical and the cultural forces that resist some of these changes. There are market super-structural phenomena that are driven by the sub-structural forces and the economic system has gained a dominant position in the global world, and even some of the welfare institutions of society, such as education and

health care, have become commodities in it. In this process, the lack of an ethical foundation to the global market has become apparent since there are bound to be winners and losers in a competitive market.

The documents about the learning society continually stress that higher education has a place in seeking to make society a fairer place and in providing opportunities for the socially excluded. But there is a sense in which the competitive system would cease to be efficient if there were not losers; the success of the system is demonstrated in the way that it weeds out those which do not contribute to its success, and that higher education is beginning to be driven by this system rather than education being the driving force of the economic system (Young, 1998).

Although the global processes have to some extent bypassed the state, they have not completely destroyed the local -- the McDonaldisation of society (Ritzer, 1993) has occurred to a great extent in the economic and popular culture spheres but even here, as Robertson (1995, p.28) points out, there has been a process of "tailoring and advertising of goods and services on a global or near-global basis to increasingly differentiated local and particular markets", and so the process of marketing has constructed different consumers, or publics. In other words, the place of the local culture has been recognised. Once the local culture has been recognised in this way, Robertson (1995, p.30) argues that the sense of the local is actually constructed in opposition to the global, and then the local becomes a product of globalisation. He maintains that there is now an increasingly global discourse about the local, the community, the home and so forth, and that globalisation is a linking together of local cultures. Now there is a wide recognition of cultural difference and cultural pluralism, an inter-play of the global and the local, one that should also be found in the educational discourse. However, in order to relate this discussion to education, it is necessary to explore the place of knowledge in this changing world.

Two approaches to the nature of knowledge are examined here: the first relates knowledge to the speed of social change and follows naturally from the previous discussion on globalisation, while the second explores the necessary conditions of knowledge itself. First, Max Scheler (1980, p.76) suggested that there are seven types of knowledge:

- myth and legend -- undifferentiated religious, metaphysical, natural and historical;
- knowledge implicit in everyday language -- as opposed to learned, poetic or technical;
- religious -- from pious to dogmatic;
- mystical;
- philosophic-metaphysical;
- positive knowledge -- mathematics, the natural sciences and the humanities;
- technological.

Scheler regarded his final two forms of knowledge as artificial because they changed so rapidly and never became embedded in local culture. But these are the forms that emanated from the Enlightenment and which now dominate global society. They are the ones underlying the knowledge society and that are necessary for the world of work in technological and scientific society. They are a significant element in the forces of globalisation, whereas Scheler's remaining five relate to local culture. Without accepting this typology uncritically, it is a useful one to show how knowledge itself has both global and local forms.

Secondly, Scheffler (1965) has suggested that there are three main conditions of knowledge: the logical-rational; the empirical; the pragmatic. In this he comes close to Aristotle's understanding of knowledge and wisdom in *The Nicomachean Ethics*, although Aristotle develops practical wisdom in a manner that Scheffler does not. Nevertheless, the rational starts from first principles and argues a logical case to its proposition, the second takes natural science as its model and natural phenomena are revealed by the sense experiences, and the third emphasises the experimental nature of science. With the exceptions of the philosophical and the pragmatic knowledge gained from everyday experience, the remainder of Scheler's first five forms of knowledge might not be regarded as scientific knowledge at all, although it would be difficult not to view them in some way as subjective forms of knowledge.

An all-round education, so it might be maintained, ought to include all these different types of knowledge. But in this technological world, much greater emphasis has been placed on the scientific and the empirical. This has resulted in research being separated from education and teaching, and teaching being a matter of introducing and demonstrating the validity of the information gained from scientific research, and learning becoming a matter of non-reflective memorising of objective information or following established procedures. By contrast, local cultural and subjective knowledge have traditionally been under-emphasised in Western Europe since the Enlightenment. However, Lyotard (1984) has argued that in the new era practical knowledge will again come to the fore: he suggests that performativity will be a major criterion in the legitimation of knowledge, which is experimental, practical and pragmatic. In a world where this is occurring, the nature of learning must become subjective, reflective and experimental – and it is these criteria that underlie the need for lifelong learning and which may be numbered among the additional reasons why the higher education systems need to change.

Lifelong learning

It is important to note that a certain degree of confusion has emerged in the educational vocabulary about the concept of learning -- there is an increasing tendency to merge the concepts of education and learning into one: learning. This was to be found quite early in the adult education literature in the United States (see, for example, Long, 1983). Hence, lifelong education and lifelong learning have become treated, wrongly in my view, as synonymous by European Union and United Kingdom government reports (e.g. DfEE 1998, 1999) but not, for instance, by the Finnish national strategy (Ministry of Education, 1999). Education is the institutionalisation of learning, and this process can occur at national or at corporate level, as well as at an individual and informal one. Education is about the provision of learning whereas learning is about consumption. In this sense, education is planned and controlled learning, usually by having a curriculum or a programme, and having specified aims and objectives. By contrast, learning incorporates all education but it also includes all the knowledge, skills, attitudes and so forth that are acquired beyond the education system and this is often far less planned. Learning is the process of constructing and transforming experience into knowledge, skills, attitudes, values, emotions, beliefs and the senses. In a rapidly changing world, the experiences from which people learn are changing all the time, creating potentially new learning experiences from which people continue to learn throughout the whole of their lives – both work life and leisure time learning. This is a phenomenon that higher education is just beginning to appreciate through the accreditation or through prior

experiential learning (APEL). This is a process of institutionally recognising private learning (Jarvis, 1996).

That higher education is beginning to recognise private learning illustrates how it is being exposed to these same pressures of change, but these forces are greater within the higher education sector because it is exposed to the competitive pressures being generated in the global knowledge market. Developing new commodities, especially in a high technology world, calls for considerable investment in the higher learning of employees and researchers. Creating a service society also demands greater investment in workers' knowledge base, and so on.

With the advent of knowledge workers, the whole educational scene is beginning to change although this is more rapid in those societies that adopted a minimal state policy in the 1980s and 1990s than it is in those where the state played a stronger role. Institutions of further and higher education are being forced to become institutions of lifelong learning if they are to offer relevant learning opportunities to those who work with knowledge or sophisticated and rapidly changing equipment. New academic qualifications, increasing numbers of higher degrees of a vocational nature, and practitioner research (Jarvis, 1999) are all part of the new formal education offering. Developing such courses is again an investment in time and money by higher education institutions and they can afford this only if they receive increased funding from the state or if they earn income themselves. Some European countries, such as Germany, have tried to shield higher education from the exigencies of the capitalist market with very high levels of funding whereas others, e.g. the United Kingdom, have endeavoured to turn higher education into a wealth-producing sector of society.

Corporates, however, are prepared to invest in human resource development where the education sector is not sufficiently responsive to their demands – and the overall size of their investment in education and training is immense. They have started their own universities and training schools, run on-the-job education and training schemes, train instructors and mentors and so on, and invest vast amounts of finance in order to enrich human capital. For instance, it was estimated in 1990 that American employers invested $210 billion in education and training (Carnevale *et al.* 1990, p.23) and a decade later it will be considerably higher. Companies in Germany invest some DM 27 billion annually in further training, which is nearly 40 per cent of the total amount spent on all forms of continuing education in Germany in 1994 (Dohman, 1997, p.15). Employers are regarded as good if they invest in people – but the reality is that unless they do so they will not survive in today's knowledge society.

Demographic factors also play an important role in the generation of lifelong learning. It is a truism that people are living longer but it is also significant that it is being recognised that older people are still capable of enjoying the fruits of learning. For instance, recent research in psychology, developing the ideas of fluid and crystallised intelligence from Cattell's (1943) early work, demonstrates how individuals continue to develop both crystallised and fluid abilities as a result of learning throughout the whole of their lives. Lohman and Scheurman (1992, p.86), for instance, argue that adults

> *continue to develop those abilities that they use; abilities that show decline in the later adult years either emphasize speed or require the solution of novel problems. In both cases, disuse may be a significant factor in explaining the decline...*

In other words, the more people continue to have experiences and learn from them, the more their abilities grow and develop; only when they choose not to be involved in the experiences of everyday living do they cease to learn, grow and develop. Lifelong learning is more than work life learning, it may truly be lifelong. However, the learning concerns of the third age are more local than global and the forms of knowledge in which the learners might be interested might be more local than global, according to Scheler's typology.

In this atmosphere of investment in human learning and the need for industry and commerce to focus on developing knowledge and information, it is hardly surprising that higher education is being forced to change.

Higher education responses

This section is entitled 'responses' rather than initiatives since the crux of the argument here is that the autonomy higher education institutions enjoyed in the past is being eroded. Even in societies where the state has shielded it from some of the pressures of the global market, the state itself is becoming less able to fund higher education adequately to meet these changing demands, so that education is being forced to become a generator of wealth and to become a part of the service sector of society. Consequently, this section will focus more on the way that changes in higher education are occurring, although it will point to areas where resistance to change is strongest. Four areas will be focused upon: the relationship between higher education and work; new forms of provision; the structures of higher education itself; the changing age profile of learners.

Relationship between higher education and the world of work: The classical universities were founded by the Church in order to prepare clergy, doctors and lawyers, so that they were not far removed from the world of work as it then was, although they catered only for the elite of society. As the civic universities were founded after the Enlightenment, both their clientele and their curriculum expanded, since they began to cater for the professions – the new elite. Indeed, Wilensky (1964), among other scholars of the professions, pointed out that one of the stages in professionalisation was for new occupational groups to seek to place their training schools in universities. However, the professions were still the elite of society and university entrance was still only for the minority of school-leavers. But with the advent of globalisation and the knowledge economy, the number of workers needing a higher education expanded dramatically. Reich (1991, p.225) pointed out that by 1990, more than 30 per cent of Argentinean, Singaporean and South Korean nineteen-year-olds were pursuing college degrees and, elsewhere, that one-third of all workers in the United States would be knowledge workers by the end of the twentieth century. In countries where the demand for knowledge workers is great, universities have either to stop catering for an elite or to create a dual system of higher education with one part focusing on general education and the other on vocational. Some countries have adopted the American system, like the United Kingdom and have now combined the two into one system of mass higher education. These tend to be higher education institutions that are expected to be wealth earners. Others, like Germany, have retained a dual system but also have mass entry to higher education to such an extent that having too many undergraduate students is inhibiting the universities from competing in the continuing education market.

Many of these young graduates are entering knowledge-based industries and they become both recipients of new knowledge generated in the work place and also creators of

new knowledge. In this world, their education must continue so that they can keep abreast with all the innovations being created by advanced technology and this rapidly expanding knowledge base. Universities are, therefore, beginning to adapt to the new demands for continuing professional education for these workers. They are introducing an increasing array of part-time courses, even for higher degrees, many of which are vocationally-oriented. For instance, Campbell (1984) records that since 1974 there have been more adults in universities in Canada than undergraduates. This is true of most North American and United Kingdom universities. In the United Kingdom for instance, the Higher Education Funding Council reported that there were many more people studying in universities who were over the age of 21 years than there were traditional undergraduate students in 1993. As Lyotard (1984, p.48) wrote:

> *In the context of delegitimation, universities and institutions of higher learning are called upon to create skills, and no longer ideals – so many doctors, so many teachers in a given discipline, so many engineers, so many administrators, etc. The transmission of knowledge is no longer designed to train an elite capable of guiding the nation towards its emancipation, but to supply the system with players capable of acceptably fulfilling their roles at the pragmatic posts required by its institutions.*

However, these are now not only symbolic analysts, but service workers as well, and they are studying for undergraduate qualifications and for taught masters and taught doctorate degrees - part-time, and even at a distance.

Many of these courses have to be relevant to the work place and are often work-based, and so those universities that have to earn some of their own income are more likely to be responsive to these pressures than those which are well funded by the state. New post-graduate courses are springing up for different knowledge-based industries - from management to consultancy, from medicine to journalism, and so on. However, this trend is not occurring quite so widely in many countries, where entrance to post-graduate education only occurs after students have successfully completed an undergraduate degree in the same subject. This approach is more common in European countries that have adopted the German university structure, including smaller countries like Slovenia. Moreover, there is a genuine concern about retaining academic standards, which has resulted in some resistance to these innovations -- this is quite understandable where the subject being studied has a logical, sequential structure of development, such as some of the pure sciences. But much work-based practical knowledge does not have this same epistemological structure.

However, this expansion of higher education into work life learning is not just a trend for taught courses, it is also a trend in research. Increasingly people researching for PhDs are part-time; their research is work-based and they are often funded by their employers. The idea that the doctorate was a route into university employment is changing. Doctorates are being undertaken during, and even at the end of and beyond, work life and much of the research is based on the researcher's own work. Practitioner-researchers (Jarvis, 1999) are becoming a relatively common phenomenon in the universities of knowledge societies and it is significant that knowledge workers in countries that do not provide such open access are beginning to look elsewhere for research opportunities that relate to their work.

The demands of the global market and rapidly changing knowledge are gradually forcing universities to change their admission policies, to introduce an increasing number of

higher degree courses and to become institutions of lifelong learning. But the demands of the market require rapid response and many universities are unable to satisfy these demands. Two major outcomes to these pressures have occurred: first, some universities are seeking to change their own structures and, secondly, corporate universities are emerging as the new form of university.

In the United Kingdom, for instance, the vice-chancellor, i.e. the rector, of the university is being increasingly regarded as the chief executive officer of the university, which is itself becoming a business organisation. Attempts at restructuring, including removing academic tenure, so that universities function more like corporate businesses are being undertaken, something that is to the detriment of the universities' democratic nature. However, it would be difficult to claim that this has been altogether successful in the more traditional universities. They are still not able to respond sufficiently fast to the pressures being exerted upon them by the world of work to change since changing the structures is only one element of the change required. But it must be asked whether universities should become the 'handmaiden of industry' (Kerr *et al,* 1973).

Increasingly, corporate universities (Eurich, 1985) are emerging. These are educational institutions created by industries or large transnational corporations themselves, so that in the United States, Europe and elsewhere in the world, large corporations are creating their own universities, e.g. Disney, McDonalds and Motorola in the United States; Body Shop, British Aerospace and British Telecom in the United Kingdom; Daimler/Chrysler and Lufthansa in Germany, France Telecom in France, and so on throughout the world. Transnational corporations have the knowledge, the finance and the employees to provide specialised teaching and learning. Significantly in the United States, these corporate universities are not only training their own employees. Some institutions are now engaged in initial preparation of workers without any guarantee that they will get a job in the company on successful completion of their studies. Others, like the Arthur D. Little Institute in the United States, initiated their corporate training only to offer education and training to their clients. This is a new idea -- but throughout the history there have been different founders of universities -- the Church, the State and now the large corporations. The corporate classroom is a global trend in lifelong learning.

New forms of provision. It has already been pointed out that universities and institutions of higher education are being forced to introduce many new taught masters and doctoral programmes. The fact that it is people in employment who are returning to universities means that few will be full-time students – the new majority is part-time and not all of them can come to the campus during the daytime. Universities throughout Europe are now adapting some of their programmes to a part-time mode. Many potential students cannot attend classes at all and so, gradually, distance education programmes are beginning to appear. In May 2000, there was a conference exploring the significance of distance education for Denmark, a small country that traditionally would have had little need of distance education provision. Traditional university departments in many countries in Europe have already introduced part-time and distance education programmes not only for students in their own countries but also for students in other countries. Students may study for the whole, or part, of a degree course at universities to which they never go and even in countries which they have never visited. The University of Surrey in the United Kingdom, for instance, offered a masters degree course in the education of adults by distance throughout the world in the 1980s – and it still does; when it first began it was extremely innovative but now it is much more commonplace.

When the British Open University and other distance education universities were founded, they used paper-based courses, and to some extent this mode still prevails. But, increasingly, universities are using web-based learning – indeed, in Singapore, nearly all new courses are produced on-line. Government policy has been to finance this development. Now university material can be accessed anywhere and at any time.

In contrast to education by distance, there have also been more local developments in provision. As the nature of knowledge legitimation has changed and knowledge is seen to be more practical and learning more experiential, universities are engaging in providing problem-based learning opportunities. The medical faculty at McMaster University in Canada was among the first to pioneer this approach. Boud (1985) has collected together a number of examples of how universities and institutions of higher education in Australia are providing problem-based learning in professional preparation. He describes this approach (p.5) thus:

> *It is the idea that a problem should be presented before learning begins, or, on a larger scale, that learning should be organised around problems which are related to the profession rather than around academic subjects which underpin the field.*

In many problem-based learning exercises the students work in teams, for this has become central to the world of work. Traditionally, higher education has been individualistic and it was believed that individual ability was tested as students progressed through higher education. Slowly universities are beginning to change: collaborative learning projects have been carried out at the University of Leuven, Belgium. In the University of Tennessee there is a collaborative learning Masters degree programme in collaborative learning. Some universities are beginning to adopt more collaborative approaches, but traditional assessment procedures tend to inhibit this development and will be forced to change.

Once this practice-based approach is recognised, it is not difficult to see how work-based learning for continuing professional education has emerged. Some universities in the United Kingdom are exploring programmes that accredit learning in the work place, so that the work place becomes the site for accredited learning rather than the lecture theatre.

In problem-based and work-based learning, it is the practical knowledge that is important rather than only the theoretical knowledge of an academic subject. This automatically leads to another issue – if the academic subject is not the basis of the learning but the practice itself, then how can the courses be constructed? Courses are being modularised, so that students are expected to pursue so many hours of learning in certain, often work-based, fields rather than to study the whole of a discipline or sub-discipline. Modules can be as short as twenty-five hours or can run into hundreds of hours. Each module can be accredited and students can pick and mix their modules, to some extent. This allows for greater freedom of choice by the students and is also important for higher education institutions as they seek to market their learning products through distance education, and so on. At the same time, it can be seen that this may introduce a new approach to the structuring of knowledge, which needs to be evaluated in relation to the disciplines perspective.

Structures of higher education: It can also be seen from the foregoing that the structures of higher education and learning are changing as new organisations emerge to cater for the learning demands generated by the world of work in a global society. As Dohman

(1997) makes clear, even in Germany this is a competitive market. However, there need not be competition between or within these two sectors of society. Different forms of partnership between them are beginning to emerge, with whole academic departments or research institutes being funded by different industries and professions. In these instances it becomes clear that universities and institutions of higher education are increasingly becoming dependent upon the business and commerce for their funding.

Another form of partnership that is occurring is where a university or college enters a specific arrangement with a corporation to provide education and training for it. For instance, American Express Corporate University has recently entered into an agreement with a community college (a two-year college) with Rio Salado Community College near Phoenix, Arizona, to accredit its courses in customer service at associate degree level (Meister, 1998, pp.163-165). It is initiatives like this that are paralleled by the ACCESS courses that were started in the United Kingdom to enable those who are socially excluded to follow a non-traditional course of study in order to gain access to higher education.

Initiatives taken by the European Union in programmes as diverse as Socrates and Framework 5 illustrate another way by which subject departments in local universities can build international partnerships and networks with academics in different countries. This can give rise to the network university, where different groups throughout Europe, and even more widely, work together through teaching and researching – this demands a mutual recognition of each other's awards – better than individual universities all making similar provision.

Arrangements like this illustrate the fact that the boundaries between the sectors of society are being penetrated and in different ways the different sectors come together. This may be additionally illustrated by the fact that further education colleges in the United Kingdom, traditionally non-higher education, are now undertaking higher education work and that some universities are undertaking sub-degree work. The United Kingdom, for instance, is about to introduce the foundation degree – a two-year degree similar to the associate degree offered by American community colleges.

Another way in which the structures will change relates to the market economy into which universities are moving. Once they begin to adopt corporate models and see themselves as players in a global market, then it is possible to see some of the ways that the structures will change in the coming years. Already there is competition between some universities so that the collaborative development of a European system of higher education, as envisaged by the 1999 Bologna Conference of Ministers of Education, is perhaps over-idealised. Some universities are growing in size, offering their courses to a wide variety of students throughout the world and becoming increasingly competitive. Universities are now becoming multi-national, having campuses in two or more countries. Soon there will be transnational (global) universities offering courses by distance, by electronic means, throughout the world. Discussions are already in progress between a number of universities and television and information technology companies. The provision of learning opportunities becomes an industry and higher education has to learn 'to dance with the devil' (Katz and Associates, 1999).

The law of the market is also one of takeovers, mergers, asset stripping and downsizing. Already there are mergers between educational institutions as they see the advantages of greater size and a larger programme of courses to offer. But as mergers occur and courses are offered over the web, it will be possible to downsize on the number of

academics that need to be employed, and so it will be possible to offer educational courses at even more competitive fees. Nevertheless, courses run at a distance also generate a demand for the face-to-face, so that the mere existence of the global processes might give reason for the development of the local ones.

The changing age profile of learners: It is clear from the above that the idea that universities only cater for young adults is no longer a valid assertion. Indeed, it can be seen that with the advent of mass higher education, initial education will increasingly be seen to end with the first university degree. Ever since the beginning of schooling, the duration of initial education has been lengthening and with the advent of the global knowledge society, initial education will probably terminate with the first degree, although there will remain a number of other exit points for younger people. Higher education will effectively begin with masters and doctoral programmes and there will be an increasing number of learners studying for advanced qualifications throughout their work life. Institutions of higher education will be forced to respond to the demands of industry and commerce to provide further education throughout the work life of their employees and this work-life education is being wrongly equated with lifelong learning.

However, people will still continue to learn in their leisure time. Open university systems, such as those in Finland, extramural education like that offered in the United Kingdom, Institutes for Learning in Retirement in the United States and the Universities of the Third Age all offer opportunities to continue to learn throughout the whole of life. In a paradoxical way, the more these different institutions are forced to be competitive, the more they will bring students into their classes, the more they generate new publics for lifelong learning. Nevertheless, it is becoming increasingly clear that older learners are becoming more visible in higher education, both seeking further qualifications and also following non-award-bearing courses.

In Australia and the United Kingdom, among other countries, there are learning towns and learning cities initiatives. In many of these, the local universities play an important role within the planning and provision of learning opportunities. They are not only recipients of social pressure but they are also initiators of lifelong learning opportunities in the local situation.

Conclusion

A variety of different scenarios have been played out in this contribution – different higher education systems will develop differently. Globalisation entails that there is a similar economic system, similar knowledge, and that there are forces of standardisation. Higher education institutions have little choice but to respond to these pressures, when they are exposed to them. Where the state shields the system from these; then the higher education system will change more slowly and retain more of its local cultural roots. The extent to which the state can do this for long, with the advent of distance education and the Web, is debatable. Even if it does, other universities with a more entrepreneurial spirit and more open access policies might offer more global opportunities and attract students in these countries, which it turn will also exert pressures for change on the slower moving societies. At the same time, there are local initiatives that universities can take to play a significant role in generating lifelong learning in their regions.

In drawing this contribution to a close, it is necessary to return to the initial question – which ways forward for higher education? In one sense, if it is to survive into the twenty-first century, higher education has little choice but to respond to those pressures. It will take a variety of forms in response to market pressures but fragmentation is part of the mechanism of the market and a symbol of late modern society. Even though none will probably achieve the high ideals and vision educators have had for it. Even so, the vision serves as a goal at which educators might aim.

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Educational Hypermedia: Challenges and Perspectives for Lifelong Learning (Some Reflections on a New Educational and Knowledge Tool)

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> *"We face the rapid dissolution of the assumption of an education organised around the slow-moving printed word, and the equally rapid emergence of a new education based on the speed-of-light electronic image."*
> (Postman, 1985).

The aim of this contribution is to present the reader with a short analysis of the implications of new hypermedia educational tools for teaching and learning. Hypermedia educational tools are among the most promising instruments to comply with the educational necessities of the lifelong learning paradigm. As we shall see, they represent ideal learning platforms for different categories of learners. In the institutional debates, hypermedia are often associated with distance-learning to provide education and learning opportunities to people unable to attend regular classes and courses[5]. They are flexible and resourceful tools for autonomous learners who need to organise their learning agenda according to the obligations of their working agenda. They prove extremely useful for learners having problems integrating within the traditional educational structures. They are complementary and alternatives to traditional educational resources. They let the learners personalise their learning goals and timetable according to their knowledge, needs and time constraints. These are the reasons why the recent stream of policies supporting lifelong learning, at national as well as at European level, insists on hypermedia tools as a positive answer to educational and training needs[6]. From these considerations two necessities emerge. The first one is theoretical: it is necessary to understand more about their pedagogical and educational implications. The second one is political and institutional: it is necessary to reflect on effective policy lines to guide their use and implementation within the education and training systems.

[5] Ducatel *et al*. (1999).

[6] By way of example, aware of the fact that many other relevant examples are omitted, we will mention the E-Learning initiative adopted recently by the European Commission and the Key Action 'Multimedia Content and Tools' within the Information Society Technologies Programme of the Fifth Framework Programme on Research, Technological Development and Demonstration activities of the European Union. The importance of educational multimedia has been clear to the European Union since 1995, when the European Commission decided to establish a *Task Force on Educational Software and Multimedia* with the aim of co-ordinating the activities in the field of educational multimedia. In 1996, the importance of multimedia for lifelong learning was re-stated in the *Action Plan for Learning in the Information Society*. Since then, the subject of educational multimedia has been tackled in many different Community programmes, in particular in research and technological development programmes, education and training programmes and the programmes for content development.

Before considering the problematic aspects of hypermedia, we need to provide definitions and clarifications of the terminology in use. Then, we will move on to the description of the main challenges and perspective new hypermedia educational tools (products) present for the learner and for the educator. Here, the educator is to be understood both in a narrow sense, the teacher, the professor, and in a broader sense, the policy-makers and the institutional concerns. The speculation about the implications and perspectives brought about by new interactive multimedia will take into consideration theoretical, pedagogical and institutional issues related to hypermedia used for teaching and learning. A conclusive section will introduce some critical points and provide some ideas to further stimulate the debate.

Hypermedia: what's hidden behind the term?

Hypermedia, Multimedia and *Hypertext* are terms that have recently become widely used for different reasons. Hypermedia and hypertext are recognised as very powerful instruments for pedagogical, didactical and entertainment purposes. The interest in this new information and education tool is augmented and strengthened by the simple fact that it is now possible, more and more frequently, to jump from off-line information to on-line information such as that available on the World Wide Web that we call the Internet[7]. In fact, there is often confusion and lack of clarity when words like hypermedia, multimedia and hypertext are used. This happens in spite of the fact that the word hypermedia has been used since 1965 by Ted Nelson, one of the pioneers of the study on hypertext and hypermedia technologies. The confusion concerns especially the words hypermedia and multimedia. While the former is almost unknown to unspecialised researchers, the latter is wrongly used to indicate objects that are produced by using digital technology, and that necessitate a computer and a screen to be visualised and interacted with by users. These objects, as we will try to explain briefly, should correctly be named, in the majority of the cases, hypertextual-multimedia.

Hypertext, multimedia and hypermedia refer to three different but interconnected concepts. Hypertext refers to the organising principle, the logic structure, given to a certain content. Multimedia refers to the fact that informational content can be presented by using more than one medium (e.g. video, sound and text). Hypermedia is the result of organising, structuring and inter-linking pieces of informational content supported by different media through a hypertextual logic. Let us be more precise about these three terms and propose a working definition of the term hypermedia which, while not pretending to be exhaustive or technically adequate, will help the reader understand the potential hidden within such a new medium[8].

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[7] In other words, producers of CD-ROMs and hypermedia products very often provide clients with links to web-sites whereby it is possible, for the users, to update and extend the information stored on the CD-ROM they purchased. According to Negroponte (1995), in the long term multimedia will be more and more built out of the growing base of on-line systems that are effectively limitless in capacity. When these off-line products open up the possibility of on-line connections, the field of knowledge for the user becomes potentially the entire mass of information circulating on the Internet.

[8] For a detailed introduction to multimedia, a description of the concept and its history, see Monet (1996) *Le Multimedia*, and Maragliano (1998), *Nuovo manuale di didattica multimediale*. For a detailed introduction to hypertexts, see the important and renowned books of Landow (1992) *Hypertext, The Convergence of Contemporary Critical Theory and Technology* and Jonassen (1989) *Hypertext/Hypermedia.*

As we said, hypertext refers to a methodology or a logic of organising information. The term indicates an apposition between two different things: 'texts' and something that has been called 'hyper-text' to underline the fact that the text, in its classical definition, has been somehow enhanced[9]. In a text such as a book, an article, or information printed on paper in general, the reader/user proceeds from left to right, from the first page to the last one, from the first chapter to the final one[10]. Readers have the impression that they are viewing a finite piece of content, a unit of knowledge described through the renowned articulation of *introduction-argumentation-conclusion*. Compared to texts, hypertexts work in a different manner. They do not present information in a linear fashion. They present *fragments* of information (knots, pieces) related to each other by connections that let the user 'jump' from one piece of information to an other. The connections are known as *links*, and the points of the text from which it is possible to click to activate a jump (words, sentences, icons, and every possible clickable element visible on the screen) are known as *anchors*. A text is read from left to right, proceeding horizontally, from the first page to the last one. A hypertext is read *through, transversally,* crossing the links over a three-dimensional structure. Readers get the impression that they viewed only a portion of the information present on the hypertext. The three-part articulation organised in written material is no longer important. It is necessary only in the logic of written documents. With hypermedia, every piece of information can be, at the same time, centre and periphery, introduction and conclusion, important and unimportant according to the knowledge-interests and navigation-choices operated by the user.

Multimedia refers to the possibility of using more than one medium to transmit information. This means that the same information can be presented to the user through different media or that more media can be used to transmit inter-related sets of information[11]. Multimedia involves the integration of many ways of presenting information, such as text, still images, moving images, animation and sound[12].

Hypermedia, finally, is the result of structuring pieces of content supported by different media through a hypertextual logic of structuring information. Hypermedia and

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[9] It is not possible to start here a discussion about the interesting speculation on the meaning and implications of the word/concept 'text'. Today, the still widely accepted meaning of 'text' is in relation with a '…body of a printed or written work…' (*Collins Dictionary,* 1989) '…as distinct from notes, appendices, pictures, etc.' (*Encarta 98 Dictionary*, 1998). In the majority of the most currently and widely used definitions of the word 'text', text is a piece of written information, distinct from other (graphical and textual) elements, with marked connotation of finiteness, completeness and autonomy as far as the meaning of its content is concerned. This understanding of the word 'text' still applies in spite of a vast amount of studies and reflections about what is and what is not "text". See for example: Iser (1976) *Der Akt des Lesens. Theorie ästhetischer Wirkung*; Barthes (1970) *S/Z*; Eco (1990) *I limiti dell'interpretazione, and (*1962) *Opera aperta. Forma e indeterminazione delle poetiche contemporanee.* It is exactly this 'closed' occurrence of 'text' that is challenged by 'hypertext' as an organising principle and as a new pedagogical tool.

[10] This is true for the majority of the printed/written information with which we interact at present; the only exceptions being encyclopaedias and dictionaries (in which items are cross-referenced, and in which *cross-referencing* represents one of the organising principle); user-manuals (where the user 'jumps' directly to the section needed); and role-game books (in which the reader is asked to choose his/her own way through the narrated story). The examples stand valid for printed and on-line occurrences of the different items.

[11] For example, information, an idea, a concept, can be read from a text, listened to from a speaker, or watched on a video. The three media (text, sound and video), presented before on three different supporting platforms, are now integrated on the same platform (optical-digital storage device). *Digitalisation* is the process thanks to which it is possible to reduce different kinds of content support to sequences of 0s and 1s.

[12] Buchanan (1997, p.2).

hypertextual-multimedia can be considered, therefore, synonymous. Hypermedia can then be defined as information supported by different media and structured according to the hypertext principle. This working definition applies at the same time to the final product (a CD-ROM for example), to the concept (hypermedia as communication tool and as organising principle), and to the technology (hypermedia as software and necessary hardware). When the final product and the concept are at stake, hypermedia can also be regarded as a semantic network, built with links connecting chunks of multimedia information, centred on a given argument, topic or knowledge area. Hypermedia becomes then a different model to articulate meaning and knowledge.

The digitalisation process coupled with the enhanced capabilities of modern computers has made possible the integration of different ways of presenting information (multimedia), and giving this information a hypertextual structure[13]. In theory, it is possible to have a hypertext which is mono-media (for example a hypertext which is based only on written information[14]). It is also possible to have multimedia which are not organised and interacted as a hypertext (a film with subtitles can be used as an example of a multimedia non-hypertext object[15]). In practice all CD-ROMs produced are *hypertexual-multimedia* objects. All of them use a hypertextual structure to organise relationships among information presented.

When compared to printed texts, hypermedia present an important feature: they are interactive. To navigate through a hypertextual-multimedia, the user needs to choose continuously his/her way through the information contained in the hypermedia. In practical terms, this means jumping from one piece of information to another while making constant choices about what to see next and where to direct one's attention.

One more point concerning the difference between a printed text and a hypermedia tool is the quantity of information that the two devices can contain. A CD-ROM is a device that, when used to support hypertextual content, has a capacity of about one-hundred classics. Even if quantity is not necessarily synonymous with quality, it is difficult not to speculate about the potential of such a high storage capacity when coupled with an effective and well organised hypertextual structure. The combination of *interactivity* as using principle, of *different media* as supports for information, and of *hypertext* as organising/structuring principle is what makes the difference between hypertextual-multimedia and other, traditional, learning tools such as books, video and audio-cassettes. When educational and

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[13] Maragliano (1998, pp.11-14) provides us with an interesting distinction between *pre-digital multimediality*, based on more media used in a complementary way as platforms to support information (integrated use of press, radio, and TV to obtain information), and *digital multimediality*, based on the use of only one platform as a medium to transmit information (optical disk, Internet). He stresses as well the fact that for the continuous processes of linking together interconnected facts, our mind operates in (and is itself) a *multimedia space*.

[14] Without considering in this exercise the important role and influences of the graphical modalities of presentation on the screen and of the possibilities offered by the chosen interface. In other words, the comprehension level of the content transmitted depends also on the way content is displayed. When graphical and interface-related characteristics are concerned, simple facts such as the background colour, the colour of the different elements on the screen, the disposition of the information on the screen, the positions of the links on the screen, their position in relation to other content elements and their interconnections, start to play an important role in shaping the knowledge transmitted and in guiding the comprehension of the viewer.

[15] The content is in this specific case presented in written, audio and video format but it is not organised according to the hypertextual logic and the viewer is unable to decide what to look at and not to look at, and to interact actively with the information.

pedagogical characteristics are taken into consideration, all the problems and advantages of hypermedia artefacts stem from their different possibilities and degrees of combination.

Educational and pedagogical implications

Hypermedia tools present many challenging aspects owing to their characteristics of *interactivity*, *hypertextuality* and *multimediality*. These problems become particularly evident when they are used for teaching and, generally, to transmit knowledge.

There are three main sets of pedagogical and educational issues to be aware of. The issues related to the conception and usage (psychological and cognitive issues); those related to improvements of the technologies used to create and to visualise them (hardware and software issues); and the issues related to the integration of hypermedia tools into existing teaching and learning schemes (pedagogical issues). The reader should bear in mind this conceptual division when reading the following arguments.

The growing diffusion of the personal computer used to produce, read, store and manage information, has been changing our habits as readers. In other words, we are getting used to interacting with information that is conceived and organised as on-the-screen information[16].

With hypermedia, a fundamental editorial change is taking place. In this new approach to organising and using on-the screen information, depth and breadth or the choice of a given level of detail, are no longer an either/or option. The electronic space of the screen is emerging as a new reading and 'writing space' as Bolter (1991) calls it in his book *Writing Space.* As with every other writing space (pages, books, subtitles and spaces for advertising, for example) it defines a new way of writing and reading or, better, a new way of perceiving the composition and the use of written (read: displayed) information. Recently Bettetini *et al.* (1999) proposed an interesting and articulated analysis of hypertext. They identify three levels in the hypertext: the logical space, referring to the organisation of the contents within the hypermedia; the visible space, in relation to the display of the content on the screen; and finally the 'acted' space, in which the user acts over the content. The logical space has a semantic value, the visible space has a syntactic value, and the acted space has a knowledge value, since it is the user's actual knowledge space.

Computer literacy

In order to be able to interact with the new electronic space, the user must have a certain level of what is known as *computer literacy*[17]. Hypermedia demands of its reader new competences, different from those required for written information. The user of multimedia must be able to shift between the horizontal and linear presentation of verbal text, the bi-dimensional aspect of the screen (text integrated into an interface, text integrated and mixed with icons) and the tri-dimensional structure of the links among the different chunks of information. In this sense, the reader becomes co-author, since he or she is responsible, with one's navigational choices, to give coherence to the text. Reading multimedia means reading

[16] On-line manuals, CD-ROMs, interactive user-guides, are all examples of on-the-screen information.

[17] This term embraces competences that go beyond the competences required of readers and writers of written/printed information, and that enable the user to interact with potentially any PC using graphical interfaces.

and interpreting the information that is presented so as to be able to decide which path to choose within the information. A digital document is considered to be more difficult to read than a printed one. This is because of two different kinds of factors: technical factors and psychological-cognitive ones[18].

Technical issues

Technical factors are the brightness, the resolution and the curve of the screen. These factors generate a less accurate graphical definition of the screen when compared to printed documents, and they not only slow down the readability but also increase the cognitive effort of the reader. Hopefully these technical problems will soon be solved thanks to improvements in hardware equipment[19]. Other technical factors are related to the storage capacity and the computing capabilities of the machine we use to interact with hypermedia products. Video and sound data are demanding in terms of storage space and computing resources. As for the resolution and definition of the screens, these technological problems are well on their way to finding a solution. Compression techniques coupled with the augmentation of the storage capacity of portable optical storage devices will guarantee in the close future a practically unlimited possibility to transport content with us. The same optimistic prevision is possible for the computing capabilities of CPUs[20]. The augmentation in the computing potential is to play an important role in the relationship user/hypermedia. The shorter the gap between a command and its execution, and the shorter the time span and the memory of the user, the easier it is for the user to absorb and process the information therein. The more possible it is to integrate content-information and to store video and audio in a hypermedia, the richer the knowledge environment becomes for the learner.

Cognitive issues

Psychological and cognitive factors, on the contrary, are more problematic to solve. They are, in fact, solvable not only with technical and technological improvements in the hardware. They are connected to the fact that the reader is required to give a meaning to a complex information structure (the net of possible links generated between chunks of multimedia information). Multimedia is a matrix of different possible texts that become meaningful through the continuous process of selecting and activating the links which connect pieces of information together. Each reader can select and choose a different structure, each individual's reading is different from others which are technically possible[21]. Lévy (1995) calls this different actualisation of possible meanings a kind of non-logical deductibility of meaning from the information structure. It is the fact that the reader can 'create' new texts by

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[18] On this subject, Gluck (1989, p.15) defines as *superficial problems* those for which the solution depends on improvement in technology. He calls *deep problems* those for which the solution requires studies and changes in the writing and reading methodologies.

[19] A number of devices conceived to read digital books are, as a matter of fact, already commercialised by different producers. But their quality is not yet up to the level of the resolution and definition of printed material. Nevertheless, developers are confident that we are very close to being able to carry with us, on a device thinner than a small soft-cover book and with a displaying capacity of the standard of a printed book, the entire content of a library, e.g. the one we use when we do research, or the entire collection of our favourite novels.

[20] Accordingly to Moore's law, the storage computing capacity of PCs is doubling every 12 to 18 months while their price remains constant.

[21] *Learner control* is the term generally used to indicate when the user is responsible for the choice of his/her way throughout the information.

activating personal choices of links, and consequently new and different meanings for the same information, that the user/reader becomes by necessity a sort of co-author of the multimedia he or she is interacting with.

A quick overview of the major problems emerging from reading multimedia on the screen would include the following observations. When compared to a printed page, the screen displays less information (only one-third of a page can be displayed on a standard-size screen). This results in an extra cognitive effort for the reader, which is augmented by the necessity of having the content structure and the available navigation tools to get the required information under control at the same time. The fact that multimedia is not as tangible as a book or any other printed information gives the user a feeling of uncertainty. The reader has the impression of not having performed the action that he or she meant to perform (to activate a link, to jump, is perceived as a less concrete action than that of concretely turning a page). This uncertainty can also derive from the fact that the user does not really feel comfortable about his/her capacity to use multimedia and a computer to find the information he or she is looking for, even if he or she knows that that information is available in the CD-ROM in use. A reader does not feel lost with books but can feel lost when using hypermedia[22]. Moreover, Maragliano (1998) highlights an important distinction between multimedia learning tools and mono-media learning tools by stating that there is a different kind of learning emerging from the use of multi- and mono-media. Mono-media learning (from a book, for example) operates by *abstraction* (from reading to conceptualising what has been read), multimedia learning operates by *immersion* (from reading, listening and watching to understanding what has been read, listened to and watched at the same time). The relationship with the book tends to be more intellectual, that with multimedia more physical[23]. The effects of immersion for the reader are still largely unknown. This consideration brings us to the fact that, more and more, the new hypermedia, interactive and interconnected technologies are considered cognitive technologies[24].

New issues facing education and pedagogy

Hypermedia challenge and question the education environment and pedagogical models in use in contemporary society. According to Bonsiepe (1995, p.202) this new communicational technology requires a new approach to didactics, which he defines a 'radical' one. Often the term *infotainment* is used to indicate new hypermedia educational tools[25]. It describes a methodology and a logic of learning where the learner is offered a more attractive and personal exploration of the knowledge environment, with the possibility of becoming co-author. This is true not only, in a strong sense, when the software gives him or her the opportunity to edit notes, personalise trails or make marginal comments, but also, in a

[22] 'Did I get all the information I could get from the CD-ROM I am using?' 'Did I follow a chain of links from its beginning to its end?' 'How can I be sure of that?' are typical questions depicting the doubts of a hypertextual-multimedia user. These questions call for a thorough reflection on the appropriate length of knots of information (*granularity problem),* the appropriate number of links linking one piece of information to others and the appropriate interface to be used when dealing with a certain kind of information.

[23] Maragliano (1998, pp.20-21).

[24] See the interesting speculations by Lévy (1995), Bonsiepe (1995) and Maragliano (1998) about considering these new communication and information technologies as cognitive technologies.

[25] The concept, which has been developed in the area of studies concerning the communication-logic of television as a supplier of attractive information, became soon popular in the education environment. Some interesting and stimulating reflections on the subject are due to Postman in his book *Amusing Ourselves to Death*, and to Altheide and Snow in *Media Logic*.

weaker sense, when the only means given to the user is to move freely through the information. Exploiting the possibilities offered by hypermedia technology, with infotainment tools, learners are given a chance of being actively involved in the learning process through the choice of the pieces of knowledge they want to acquire and of personalising the paste of their acquisition. Here, the question is how to design a model for teaching and learning which takes into consideration the possibility the learner has to follow his or her own interests through the hypermedia, while still guaranteeing a common core of knowledge and conceptual cognitive instruments to all the pupils. The written text (and the teacher?) as the *auctoritas* and the *unicum* for learning is under question[26], together with the models that have the teacher at the centre of the learning action.

What kind of contents better fit this mixed model of teaching in which teachers provide guidance on knowledge spaces and students are responsible for what they learn, how and when? Some contents seem to better fit the hypermedia environment than others, for example hypermedia seem to be ideal when encyclopaedic, cross-referential and scientific content is to be transmitted and retrieved, rather than novels or philosophical content. The question remains open when we try to find the best equilibrium and complementarity between old and new tools, old and new pedagogical approaches. Here, there is a double challenge for teachers: how to integrate hypermedia tools in the education environment, and how to best integrate self -- and personalised learning with the traditional model of transmission of knowledge (*ex cathedra* lectures). These are not simple issues to address or simple problems to solve.

It is worth remembering that attending a class is an activity by which the rules of social interaction are learnt while the student is acquiring knowledge (interaction with the teacher and with the other students), whereas a student is mostly alone when interacting with a screen.

Some authors also express concern about the fact that hypermedia do not have a linear sequence of argumentation -- everything can be centre and periphery. In a learning environment where everything can be centre and periphery, we lose the *consecutio* as a principle along which to organise the coherence and the logic flow of the argumentation. This *consecutio* is lost when the organising principle of knowledge is the hypertext[27]. This is the reason why, from many sides, a quest for a new learning strategy, through ‘connection’, is advocated.

Some conclusive observations

Hypermedia and its consequences for teaching and learning are by all means a fascinating topic for further research. It is a domain, if it is to be effectively integrated into educational policies, should involve academic investigations coupled with public support for the proper appropriation of hypermedia educational tools.

When we look at the institutional answer given to the challenges posed by hypermedia used in education and training, we have the impression that only recently has there been a

[26] Bettetini *et al.* (1999, p.32).

[27] Sartori (1997, p.143).

proper institutional understanding of the challenges[28]. It is clear that much has still to be done to spread and diffuse the use of multimedia as learning tools and educational products. It is also clear that it is not an easy goal in a region like Europe where the imbalance between the different countries of the Union are so diversified and pronounced[29]. The fragmentation of the market for information technologies is what is concretely impeding the diffusion of multimedia as educational tools. The problem is also known as the *haves* and *have-nots* problem. When education is at stake, the problem becomes that of equal access to learning opportunities, not only to technology.

As far as pedagogical issues are to be taken into consideration, we can draw the conclusion that, if we really want to use and unleash the full potential of hypermedia for teaching and learning, research needs to be done in order to properly understand and use hypertextual-multimedia tools. The problems that an instrument which allows the reader to shift from movies to texts, from texts to sounds, from texts to images, and vice-versa may generate or solve, are as yet unknown. What the effect of an *immersive* medium on the learner will be is not clear yet, and needs to be further analysed. Only well-organised needs/user oriented research can help the multimedia industry to produce educational hypermedia which are up to the learning and teaching tasks they are asked for.

We should be conscious of the fact that the introduction of educational multimedia does not mean only investing in hardware in schools, but, more important and even more difficult to achieve, accepting new ideas about didactical methods. It is not yet possible to make reasonable forecasts about the final shape of the relationship between multimedia and teaching and training. It is clear, however, that mono- and multimediality belong to two different cognitive and teaching/learning paradigms. Whilst the opportunities, risks and pedagogical implications of monomediality (books and radio for example) are known, those arising from interactive multimediality refer to a new field that has only recently attracted the attention of the academic community. The integration of hypermedia educational tools, along with more traditional ones, appears then a challenge to be solved.

This becomes particularly true when we consider the evident and serious lack of training for teachers in computer-assisted education. In spite of the important problem of infrastructure, the "mentality problem" is determinant in deciding the future role of multimedia in education and training. Teachers have shown to be strongly resistant to adapting their style of teaching to new digital aids. Their resistance can be only partly

[28] This delay in the appreciation of this new medium for education and training led to a situation in which we are still very far from having implemented the recommendations set up in 1996 by the Task Force on Educational Multimedia to be fulfilled in year 2000: 1) Every teacher should incorporate multimedia materials in teaching practice, be entitled to easy access to the available networks, and benefit from good conditions of use and pre-training; 2) Every pupil should have access to quality multimedia learning resources at school, meaning that every primary and secondary school must have at least one multimedia computer per class, connected to a local and wide-area network; 3) Every adult should have access to quality multimedia resources for his/her personal and professional development; 4) Every university should have access to high-speed networks to exchange and use multimedia educational materials; 5) Every public library/arts-cultural centre should be able to offer, free of charge, opportunities for access to multimedia resources; 6) Every company (regardless of its size) should have access to a centre for quality multimedia educational resources, thus creating a virtual open university for industry (European Commission, 1996, pp.32-49).

[29] Statistics and research tell that in Europe, the diffusion of multimedia equipment, computers, and products vary greatly from one country to another. This situation reflects itself into a fragmented map of technological Europe (MESO, 1998).

explained by the unjustified fear that they will no longer play the role of the main transmitter of information (*ex cathedra* lectures) but that of coach and supervisor in the process of learning. Guiding students to search and find information, rather than being the only and incontestable source of knowledge, means embracing and adopting a different teaching role. It implies, for the teachers, different competences and skills from those involved in the provision of information. It does not mean being passive in the classroom and leaving the ground to computers and sophisticated teaching tools, but being active in a different and maybe more challenging way. It means being in control of a more complex and wider educational environment, being ready to question continuously their knowledge and, ultimately, being able to learn for and simultaneously with the pupils. In doing this, in guiding the students to find their way in a hypermedia and connected knowledge environment, they will transmit to them a broad 'semantic competence' which will enable them to give meaning to an interconnected ocean of information. This will prove useful not only in relation to their future working life, but, we believe, to their social and societal life as well.

Multimedia also open challenges and opportunities for lifelong learning: the above issues are not specific to young people in their initial secondary or higher education curriculum. They also apply to adults throughout their life. One might even imagine that adults could bring different answers to some of the questions raised. For example, once the computer literacy challenge is absorbed, the relation adults have with the structure of knowledge, with its coherence or with the organisation of its coherence (problem-solving activities) could well be quite different from that young people have in their process of "building coherence". But, the cognitive issue might also raise another equity problem: selection, structuration and coherence of information might well be strongly related to basic initial education and, more to the point, to its level. Attention should therefore be paid to paving the way of an "easy cognitive" access to knowledge for all: young and adults; educationally advantaged and educationally disadvantaged adults.

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The dynamics of non-formal learning and the opening-up of national learning systems

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For many countries in Europe, national authorities have explored the opening-up of the formal learning system to prior learning assessment as a possible way to increase the accessibility of education. The need for increasing accessibility has both a quantitative and a qualitative dimension: the actual labour market shortages and the growing need for the upgrading of skills throughout Europe's knowledge economy.

Prior learning assessment generally aims at closing the gap between learning and working. It makes competences achieved through non-formal learning visible. In this context, it is a very useful instrument for empowering individuals. It can also help organisations to articulate their learning-demands, thereby linking learning and working. On a macro level, prior learning assessment can structure national strategies concerning lifelong learning and employability. Since lifelong learning does not stop at the threshold of the school, authorities therefore look, very cautiously of course, at new ways of using the formal education system for non-formal learning.

I will first focus on the European knowledge economy in which lifelong learning is a necessity but also a privilege. Then, I will describe the anticipated benefits of non-formal learning and prior learning assessment. Finally, I will sketch the lessons we have learned so far in finding solutions for the problems Europe faces today.

The European context for opening-up national learning systems

We live in a world that is undergoing radical changes. These changes are primarily induced by the globalisation of society, technological and scientific advances and the breakthrough of the information society. Everyone in Europe is affected by this: at work, shopping, at home. You can be reached anywhere, you can pay with anything, and information is available in many different forms. You can reach the other side of the globe via the Internet.

Education and training are becoming increasingly important as a way of helping everyone to cope with this dynamic. Lifelong learning is an absolute necessity if we want to keep up with the speed of developments within society! However, nothing is more subject to change than knowledge. Knowledge is outdated with growing rapidity, knowledge intensity accelerates, working methods change and become more complex. In this dynamic global economy, Europe will increasingly be forced to compete on the basis of knowledge. In order

for this to succeed, we need high-grade know-how and people who can develop, transfer, acquire and use that know-how.

In this context, education and training must concentrate more on the updating and upgrading of knowledge and skills. Given the many unpredictable and changeable issues arising today, people cannot be expected to have a ready-made answer to everything. It is far more useful if they acquire the skills to find out the answer for themselves. Knowledge must therefore evolve into skills. Then knowledge will itself be upgraded. I refer to this as the knowledge spiral. Non-formal learning is having a major impact on this spiral.

Shortages

All across Europe an increasing number of companies have difficulties in filling in vacancies. Not only in information technology! The shortage of labour is the major problem experienced by companies. This is reflected by the increase of the average vacancy length and by the costs of recruitment. These growing problems mean that customers occasionally experience serious delays before their contracts are carried out and companies are forced to refuse orders. A further increase in the shortage of labour is expected over the coming years.

These bottlenecks in the European labour market have a qualitative as well as a quantitative dimension. This is reflected mainly in the fact that the share of vacancies difficult to be filled in depends on the level of training required for the job -- the higher the level of training required, the larger the number of unfilled vacancies.

For instance, in the Netherlands in 1999, almost 50 per cent of the companies experienced difficulty in recruitment. In mid-1999, there were almost 200.000 unfilled vacancies. Over 40 per cent of these were hard to fill in. This has brought the number of current vacancies to its highest level since 1971. These historically serious labour market bottlenecks are to some extent directly linked to the steady decline in the official unemployment figures in recent years. Furthermore, statistics show that the quality of the demand for labour is focusing more and more on the level of at least higher vocational education. In sectors such as information technology, many jobs require a growing share of academic skills (ROA, 1998).

The upgrading of skills: an anticipated development

Labour market bottlenecks are likely to worsen over the coming years because of demographic factors (the greying of the population) and a growing mismatch between labour market supply and demand. It is predicted that, even assuming modest growth, competition between employers to attract the most talented school-leavers and the most highly skilled workers will intensify. This problem is still mostly confined within the national borders. However, mobility of skilled people throughout Europe is expected to rise in the coming years and will cover all sectors, from health-care to information technology. It will, however, only be a small contribution to solving the recruitment problem.

These same employers will also be faced with another phenomenon which will have a major influence on the structure of their organisations: namely, the upgrading of skills. The economy becomes progressively more knowledge-intensive with the spreading of information technology as an “enabling technology” and the continuous growth of knowledge-intensive service sectors. Research shows that employers are therefore making increasingly high

demands of the skills required in their organisations. Also, 'soft' knowledge and skills become more important: i.e. the machine operator must be able to work as part of a team, must have a commercial awareness and a flexible attitude, must be able to sell, and so on. This latter phenomenon is known as the 'upgrading effect' within the working population. It further exacerbates the quantitative problems that employers experience in trying to find good quality staff. Moreover, the 'upgrading effect' can also widen the social gulf between the advantaged and disadvantaged sections of the working population.

The overall rise in the demand for more highly skilled workers must be offset by measures which contribute to the 'upgrading' of skills of people with lower qualifications. Only in this way will it be possible to prevent the gap between supply and demand on the labour market from widening still further, to generate some mobility on the labour market and to avoid the social division between skilled and unskilled workers.

This is the challenge Europe is facing in the new millennium. In many European countries there is strong support to use the assessment of prior learning as one of the major instruments to face this challenge. Therefore, it is vital to learn from the actions already undertaken in this field.

Benefits of non-formal learning and prior learning assessment

Non-formal learning is frequently mentioned in the context of the European knowledge economy. The theme appears in many future outlooks, policy papers, research. Especially the process of identification, assessment and recognition of non-formal learning is generally seen as a useful tool to assist lifelong learning and employability. Its basic premise is that initial education is no longer enough to keep someone employable for the rest of his or her working life. The recruitment of knowledge as such is thus becoming less important, and the acquisition of skills or competences is becoming ever more crucial.

The acquisition of skills can take place in formal learning processes, provided these are given a modern form. However, skills acquisition also takes place in informal learning settings such as in the workplace, at home, through voluntary work, hobbies, involvement with social organisations and through all types of courses. If these skills are comparable to formal qualifications, then it should be possible to recognise them. After all, there is little point in learning something that one already knows and has shown to master. Why not instead value these skills or competences and make them visible in one's personal 'luggage'?

Prior learning assessment is a procedure

This brings us to the heart of the matter: assessment of prior learning is quite simply a procedure for the formal recognition of learning through informal processes. This recognition of somebody's skills or, in other words, visualising someone's hidden abilities can have positive consequences for the individual, both internally (at organisation or sector level) and externally (at nation or qualification level).

Prior learning assessment, or better, the identification, assessment and recognition of competences incidentally does not focus on a person's lack of knowledge and skills but precisely on his or her existing knowledge, skills and attitude. I refer to this as *the bottle is half full!* A key element of this motto should be to provide advice on how to 'top up' the

bottle. Otherwise the assessment process would only reveal a snapshot of an individual's abilities.

Learning environments

Lifelong learning can be defined as a learning strategy that encompasses all purposeful learning activities, whether formal or informal, undertaken on an ongoing basis with the aim of improving knowledge, skills and competence. This definition implicitly recognises the need for fundamental changes in education and training systems. However, the debate has had insufficient impact on education and training system reform in the sense that relatively very little attention is given to the many recognisable learning activities that lie outside the traditional systems or policy frameworks.

Assessment of prior learning can be used as a strategy to bridge this gap between working and learning. Learning takes place in different situations: regular education, education for employees, explicit learning in the work environment, tacit learning in the work environment and non-institutional or independent learning in self-organised or chosen learning environments. It can be defined as formal and as non-formal learning. Formal learning is learning in the formal education field and normally leads to nationally recognised diplomas or certificates. With non-formal learning, I indicate all learning activities taking place outside the formal education system.

Two concepts: qualification and competence

One of the main problems in opening up the formal learning system concerns the existence of two approaches to the assessment of non-formal learning. The public approach focuses on the concept of qualification while the private approach builds upon the concept of competences.

The term qualification expresses the formal recognition of professional competences in the form of certificates or diplomas. The standard for this approach is any form of national qualification structure for vocational education.

Competences refer to individual qualities that can be developed in different ways. They may include professional know-how, skills, attitude and other personal qualities. This private approach is function-oriented and consists of gathering information on the employee through registration and assessment. The standard for this approach can be any given qualification structure but also enterprise-specific standards or even 'individual standards'.

In summary, one can say that competences are developed and qualifications are assigned. The public approach is therefore qualification-oriented and the private approach is job-oriented. The assessment of prior learning is essentially job-oriented but it aims explicitly at combining the best of the public and the private approaches.

Prior learning assessment: foundations and principles

In order to make proper use of the strength of a structure in which prior learning assessment forms the backbone, one should understand that the motto of *the half-full bottle* is based on a number of general principles**.** The foundation is that competences can be generated

in a variety of learning settings and that two principles are strongly needed: the external legitimacy as a key to recognition and separation of the training and assessment procedures.

One foundation is the recognition that learning at work or in other non-formal situations (learning by experience) can, in principle, generate the same competences as learning in a formal learning environment. This recognition entails the issue of certificates or diplomas on the basis of national standards, for instance for vocational education. Naturally, other standards that are relevant to the labour market, and that are regarded as relevant by employers and employees, are conceivable. The key principle for recognition is external legitimacy.

Prior learning assessment is not an end in itself. It contributes towards personal development and corporate improvement of human capital. It is an important tool for realising sustained labour market suitability and employability. For employees, the competences to develop are those that the employee does not yet have, but which are considered necessary by the employee and his or her employer. Prior learning assessment serves as a reliable system for measuring the competences that individual employees already possess. On the basis of this measurement, a personalised training or development plan is drawn up. Rational investment in training by companies and society as a whole assumes knowledge of the competences already available, or of the stock of competences in the company and society. Prior learning assessment procedures can determine existing competences, so that rational decisions can be taken on necessary investments in training.

Prior learning assessment procedures enable the return on training to be defined by expressing the results of training efforts in terms of a general standard. The provision of flexible training courses and personalised training programmes assumes that the standard of would-be students can be measured. Flexible training courses assume that it is possible to determine how full the individual competence 'bottle' already is, and with what. Prior learning assessment is designed to assess professional performance. The results provide valuable feedback on the contents and methods of formal training courses. Course organisers receive direct information on their level of success in preparing students adequately for professional practice. This effect is even stronger if a distinction is made between training and assessment.

Objectives

Building on these principles, the assessment of prior learning focuses on connecting formal and non-formal learning. Within every national context, specific objectives are chosen to make the connection. These objectives are varied and can be an increase in flexibility, optimisation of other forms of learning, improvement of employability and steering demand.

Make learning more flexible. Assessing prior learning provides an incentive for further learning. This is because the identified competences can lead directly to certificates or diplomas. The wish to optimise the use of these competences raises the issue of making learning more flexible: the customer, the one who learns, will not only <u>want</u> to learn but will also have a better idea than at present of how, what, why, by whom and when to learn. In this way making learning more 'made to measure' is an important step in opening-up the learning system.

Optimising other forms of learning. Other learning environments and forms of learning must be better utilised. The assessment of prior learning will inevitably lead to changes in the existing knowledge infrastructure of countries. Knowledge and skills acquired in non-formal settings are not always consistent with the competences described in the existing learning tradition. They will therefore have to be described separately in order to gain a place in the national education system.

Improving employability. Better use of human potential is one of the main engines of prior learning assessment. It increases individual labour market opportunities by demonstrating the individual's existing competences and showing how these competences can be utilised and strengthened.

Steering demand. Another main objective is to improve the match between the education system and the labour market. The existing education system needs to become more transparent, more demand-driven and more flexible in order to provide the required personalised services to individuals and the labour market. Learning should be 'made to measure'.

The overall purpose of these objectives is to recognise and evaluate visible and still hidden competences. The main focus should not be on knowledge and skills that are lacking, but precisely on those that have already been acquired: *the bottle is half-full and not half-empty!* In this way, prior learning assessment contributes towards personal development and corporate improvement of human capital.

Who would benefit?

Recognition method can have many benefits. It can provide a structure that focuses on the qualities that individuals already possess, and on which it is possible to build an effective and accessible training programme. The supply of training can then be matched more closely to changing demands for knowledge and skills in the labour market. More specifically, the development of prior learning assessment should generate benefits for individuals, companies, the education sector, the social partners and the government.

For the individual, it should demonstrate a person's competences, link these with any competences still to be acquired, provide identifiable competences/qualifications and so lead to a personal career path or to employability.

For the company or organisation (public and private sectors), it should demonstrate the competences of the staff members and thereby their employability. The next step is a company or organisation policy to invest in training with a link to the corporate strategy. After all, from now on, investments in training can be made effective and profitable. Prior learning assessment provides a tool for closer co-ordination of training plans with the current and required quality of the staff. The competences should be described in the context of the individual company or organisation.

For the education sector, prior learning assessment helps in the formulation of personal training plans (personalised training). The supply of training will become more flexible and more demand-driven. It also offers new forms of training, which will be attractive to many employers and individuals because of the possibilities for personalised services and time savings, a chance to mature.

For the social partners, in light of their responsibility to promote a close match between education and the labour market, prior learning assessment procedures offer a tool to encourage sectors to communicate their needs to educational institutions. In concrete terms, this means primarily encouraging sectors to do so.

For the government, prior learning assessment provides opportunities for more effective deployment of policy and resources at the level of training, lifelong learning, employability and labour market policies.

Intermezzo

Two examples can be given of different ways of dealing with the issues of the knowledge economy. Both examples are national-oriented and deal with the challenge in an integral way which encompasses all types and levels of learning and working, participants and responsibilities.

The Norwegian example

Norway sets a good example of an integral strategy to tackle labour market problems. Prior learning assessment is a crucial element in this strategy. On 19th January 1999, the Norwegian parliament, the *Storting*, considered the Competence Reform and passed a resolution establishing a system to enable adults to document their non-formal learning (Ministry of Education, Research and Church Affairs, 1999). The principal objective of the Competence Reform is to meet the needs for competences in the workplace, in society and of the individual. The reform will embrace all adults in and outside the labour market and it will have a broad, long-term perspective.

Prior learning assessment will play an important role on different levels. By adapting educational programmes to the needs of adults, by means of, among other things, open and flexible forms of training. It will contribute to pave the way for an individual right to leave of absence that will help to develop collaboration between employer and employee. Prior learning assessment could help to organise framework conditions in the best way possible, to ensure competence-building for the individual and to produce innovation and continued development of the market for continuing education and training.

Therefore, a national system for documenting and evaluating non-formal learning of adults will be established with legitimacy in the workplace and the education system. This means, for instance, the development of a scheme documenting non-formal learning attained through paid and unpaid employment, training, organisational involvement. It will help to raise the level of competence and awareness of the skills, knowledge and attitudes required for participation both in the workplace and in society in general. It will also give all adults who have not completed their initial education a second chance.

Finally, it will help to adapt the educational programmes offered in the public education system according to the wishes and needs of society, and make the system capable of developing and offering more competitive programmes within continuing education and training. It will also ensure the availability of bountiful information about educational options as well as of a good guidance service.

Crucial for a successful Competence Reform is the implementation as a process in which employers, employees and the government are strongly committed and will have to make active contributions.

The Dutch example

With the presentation of the National Action Programme on Lifelong Learning in 1998, the Dutch government picked up the theme of prior learning assessment. The programme stated that "places of work must be used more often as places of learning. The experience acquired should be made visible as informal and non-formal competences. The Cabinet wishes to promote this by setting up a system in which informal and non-formal knowledge and experience, i.e. acquired outside the education system, can be tested and accredited." (Ministry of Education, Culture and Science, 1998).

The first concrete step towards this wish was taken in 1999 when the Minister of Economic Affairs formed a working group together with other departments and the social partners. This was the start of an integral approach to deal with the following issues:

- What are the benefits of a prior learning assessment system for all parties concerned?
- How should the different system requirements be defined?
- Who will be responsible for which part of this system?

The answers to these questions were given in the summer of 2000 by means of the publication of a tripartite -- government and social partners -- vision concerning prior learning assessment (Ministry of Economic Affairs, 2000). The shared vision entails that prior learning assessment could make a positive contribution to the functioning of the labour and training markets, particularly for individuals. Implementation of the method will have to correspond to the existing structures and the implementing costs will have to be borne by the parties concerned.

To support implementation and in order to be able to learn from existing practice on non-formal learning, the Dutch government then decided to establish a national knowledge centre. The Dutch knowledge centre opened in January 2001. This knowledge centre will not interfere with existing activities but will seek to tie in as closely as possible with the existing structure. The main focus should be on addressing the benefits of prior learning assessment on the meso level of branches and sectors. The major goal of the centre is therefore to stimulate the use of a system for the accreditation of prior and non-formal learning in the Netherlands.

The knowledge centre involves gathering knowledge and examples of good practice, disseminating and explaining, encouraging and advising those concerned to set up their own assessment procedure. Its main functions are to collect and classify relevant national and international information on current and planned training courses that make use of *prior learning assessment*; to act as a support point to facilitate and help existing and potential processes; to provide information on developments relating to non-formal learning; to promote the exchange of knowledge on/between projects and to match theory with good practice; to bring together potential project partners and prevent duplication of efforts; to advise the government on policy measures and especially develop cross-sector policy to promote the utilisation of *prior learning assessment* that can be operational on the labour market.

What lessons have we learned so far?

Looking at the many projects and programmes concerning the introduction or the use of prior learning assessment around Europe, several lessons can be learned with regard to various aspects of application in the 'practice of society'. They concern: the creation of support, the objectives, the return on investment, the role of intermediaries and content providers, the reform of education, the discrepancy between teaching and assessment, the exchange of competences, transparency, competence-based learning in companies and procedures.

1. The *creation of support among involved parties*, especially employees and employers, is an absolute precondition for starting up prior learning assessment. However, this dimension is easily underestimated, particularly considering the amount of time it requires;
2. The *objective* and the value of prior learning assessment for employees and organisations must be clear from the start. Too many projects started using prior learning assessment without setting clear and attainable goals;
3. There will always be moments during the process of implementation when employees or management are ready to give up. The role of an *intermediary* is indispensable in the use of such a sensitive instrument. An internal or external intermediary can be used;
4. The *return* on investment -- money, time -- for the individual and the organisation involved is difficult to define in concrete terms in advance. After all, the measurement of competences costs time and money. The return must lie in the fact that after assessment of prior learning, learning can take place more effectively and efficiently, in the interests of organisations and individuals;
5. At present, support for the assessment and granting of exemptions based on prior learning assessment can be obtained from *providers of education* up to a certain level. The education sector is open to other forms of training and learning environments to a certain degree, and is not always supportive of accreditation of competences that are not acquired in the classroom. The predominant fear is that its own supply of training will be overtaken;
6. Effective lifelong learning calls for a *reform of education* with the aim of empowering individuals to continuously update their knowledge and skills. Individuals should not consider their diploma or qualification as a lifetime achievement;
7. There is a *discrepancy* between the functions of assessor and teacher. In most national systems, the teacher also operates as the assessor of prior learning. For the sake of reliability and independence of a learning system in which prior learning assessment is the key to effective learning, one understands that both functions should be fulfilled by different persons or organisations. For the function of assessor, there should be an accreditation procedure;
8. An *exchange* of competences relevant for one sector or branch with the competences of other sectors is possible, but there is little enthusiasm for this. It still requires a significant change of culture within organisations and sectors to dare to look to the benefits considering the existing fear to lose personnel to another sector;
9. Cross-sector use of prior learning assessment demands much more *transparency* of the standards in which competences required for certain functions are described;
10. Organisations that are active on the labour market have to learn to think in terms of competences when they look at their own structure. The approach to working and learning should be more *competence-based* so that organisations and the education sector are able to adapt quickly and efficiently to changes on the market. In that

context, prior learning assessment is a very useful method if only as an early-warning device!

11. In principle, the *procedure* for prior learning assessment can be developed in clear, abstract steps, but its implementation within a company requires customisation.

To conclude: commitment as a key to future implementation

Taking all these lessons into consideration, a successful system for prior learning assessment able to open up the traditional learning system will at least have to comply with three conditions. The assessment standards should aim at 'civil effect', the quality assurance of the assessment procedure has to be efficient, clear and transparent, and, finally, access has to be easy for individuals**.**

An assessment standard aiming at 'civil effect'. Assessment standards must meet the requirements of validity, acceptance, feasibility and functionality. Standards must be the 'property' of employer and employee. Correspondence with existing national qualification structures for vocational training should be sought. This offers the best possible assurance of the civil effects of qualifications acquired through prior learning assessment procedures, ranging from admissions to and exemptions from particular training courses to further steps in the career development path.

This will help education systems to open up and to respond quickly to required changes. For example, the design of standards for assessment is more and more competence-driven. The standards are linked both to the competence requirements of professional practice and to the content of the supply of education and training. Cross-sector competences important to employability can also be defined. The capacity to define these assessment standards will also encourage the development of course-independent tests and examinations. The existing tests are rarely course-independent. Finally, the development of a recognition procedure for assessors creates confidence in the value of the accreditation procedure.

An important condition to create such an open situation is that the standards are made more industry-driven. The labour market should preferably decide for itself which competences are required for accreditation as a practitioner in a particular profession. This relates not only to knowledge but also to skills and attitudes. In this case, the accreditation must be integrated into the corporate strategy.

Quality assurances of the assessment procedures. In most countries, the government is directly or indirectly responsible for assuring the quality of the assessment standard. The quality of the standard can be controlled by establishing procedures for standard development and by using a programme of requirements for the design of standards (or qualification structures). The key quality criteria are validity, acceptance, functionality, transparency and comparability of structures.

The quality of prior learning assessment affects various parties with an interest in the assessment results. The government must supervise the quality (validity, reliability and fairness) of the assessment results. It can delegate these responsibilities to third parties, but remains answerable for quality supervision. The design of the quality assurance system could include an auditing of the assessment centres' internal quality assurance systems (as in the case of ISO certification), together with a system of random investigations of the validity and reliability of assessment results, conducted by independent research institutes. Criteria for the

quality of assessment results can be drawn from the general requirements for assessment: validity and reliability. Naturally, both concepts must be operationalised specifically for prior learning assessment procedures.

Accessibility of procedures. Prior learning assessment procedures must be accessible to individuals and companies. Accessibility is determined by the recognition and acceptance of the accreditation. It is also determined by the accessibility of the organisations that implement the assessment procedures and their affordability. Access to competence recognition systems is determined by the features of the system itself and by the availability of financial resources. Decentralised supply of assessments increases the accessibility of the system. 'Decentralised' refers to the regional distribution of prior learning assessment and implementation of the procedures at the employee's place of work or training course.

Another condition for accessibility is that the system is workable and efficient for users. Time-consuming and bureaucratic procedures are disastrous to accessibility. The funding of prior learning assessment procedures is a fundamental condition for the use of the system. A decentralised and workable system that nevertheless costs the users too much will reduce access to the procedures.

To conclude, when these three conditions are met, commitment takes it full role. There will be plenty of space to build strong commitment for new ways of learning, both within circles of government, education sector and social partners. Commitment after all is the most essential precondition for making use of prior learning assessment and thereby changing the 'looks' of the formal learning system. Commitment means that all parties involved will take up their own responsibility. For the education sector, this will not be very easy since learning is traditionally more supply-oriented than demand-oriented. Competence-based learning and prior learning assessment will however make learning more a matter of fun again, since learning will be made more to measure. The motivation of the learners will therefore be much higher. For teachers and schools, this will then also be very stimulating and inspiring. In this sense one could state that learning will not only be a matter of employability but also of enjoyability!

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CHAPTER 2: INNOVATIONS TO PROMOTE LEARNING IN NON-FORMAL SETTINGS

Learning is everywhere

Danielle Colardyn

As the previous chapter has shown, education and training systems evolve and attempt to become more flexible and open, in particular by assessment (and recognition) of prior learning (PLA). PLA appears to be an interesting tool to help education and training move forward. It can ease the access for a variety of groups who otherwise would encounter difficulties in entering post-compulsory education and training, at secondary or tertiary level. However, several questions arise. How effectively does PLA work? How many individuals enter (or re-enter) education and training by using this device? In some countries, it is too early to find out, but in others, time could be ripe to analyse the available statistics. At the present stage of the debate, it would be essential to know more about the results brought about by the opening-up of the formal system. Is PLA only a convenient managerial tool to improve institutional flexibility with only limited effects on education and training levels of the population? Is it a way of dealing with the demanding task for education and training to adapt to technological change? Or does PLA reach its declared objectives for adults: having their skills and competences recognised? In brief, is PLA enough to make it?

The growing interest in non-formal learning makes it essential to answer these questions. Large positive results of PLA, that is, a visible increase in educational and training levels of the population, could encourage public authorities to face the challenges of the knowledge society. On the other hand, it would imply that more experiments, analyses and resources have to be devoted to understanding non-formal learning issues. To link formal and non-formal learning first requires having a clearer picture of the state of the art of both, as well as a better understanding of their respective benefits and limits.

This chapter presents some innovations in capturing learning in non-formal settings and usually defined as non-formal learning. It is important to examine first some fundamental questions about non-formal learning in order to capture it better. How to assess? How to certify? How diverse and legitimate are assessment and certification procedures? What do they represent for individuals? How are providers and stakeholders involved? How can assessment of non-formal learning deal with more than just economic recognition?

A diversity of recognition procedures emerges that involves a variety of actors and partners. How possible is it to integrate these emerging trends and to construct and design lifelong learning policies? The contributions in this chapter will first examine the diversity of recognition procedures, methodological issues and their consequences for individual roles and responsibilities. Then, the involvement of new providers, beyond ministries of education and labour, will be looked upon, not only States and the European Union, but also regions and enterprises that bring new dimensions to the common construction of lifelong learning.

Diversity of recognition procedures

All over Europe, member States are developing methodologies to identify, assess and recognise non-formal learning. In his contribution, Jens Bjørnåvold examines assessment methods intended to be innovative. Are these methodologies fundamentally new or are they simple reproductions of existing and traditional assessment approaches? Does assessment of non-formal learning raise expectations? A brief presentation of seven experiments emphasises two criteria in innovative assessment: the level it operates at (European, national, sectoral, enterprise) and its degree of integration into the formal education and training system.

Each of the seven experiments highlights particular sets of issues. It appears that aims, quality and legitimacy of measurement are not to be neglected, even with computerised assessment or PLA conducted at national level with a major focus on formal qualification. The challenge of designing tools must be included into a political and institutional framework, and quality assurance has to be part of it, even if it means adding some complexity. This raises an issue fundamental for learning in formal and non-formal settings: the boundaries of the learning experience to be assessed.

At present, there is a provisional question to ask about the function of non-formal learning assessment. Does it have a formative role and give feedback to learning processes, or does it bring evidence (certification of the learning assessed), therefore taking on a more summative role? Reflections are given to the theoretical construct of key qualifications as a common set of standards, which could help link formal and non-formal learning. This leads to another fundamental question: should the standards common to formal and non-formal learning be education and training standards (as key qualifications would) or should these common standards be employment standards (as some job descriptions are)? In any case, it is generally agreed that common standards are needed. The choice between education-based and employment-based standards relates to the political aims assigned to lifelong learning. For example, second chance or mobility could have different implications for the common standards.

Quality is also a major issue: quality of assessment and quality of certification. Quality has to ensure reliability and validity of the measures. Regardless of formal or non-formal settings, these requirements remain as they are related to the measure and not to the setting. These quality issues are crucial for individuals, enterprises, education and training institutions, and public authorities. They give value to the recognition. The importance for individuals is stressed and discussed in Asa Sohlman's contribution. The knowledge society has various consequences for the individual. The contribution examines the changes in working life and the emerging tendencies. All over Europe and the OECD area, changes in the workplace give individuals more influence over their working conditions. This is one of the factors that stimulate individual responsibility in lifelong learning.

Sweden is an illustration of how these trends, together with political initiatives and innovations in the Information and Communication Technology sector, lead to increased investment in individual learning. Three areas seem to be particularly propitious for individuals to engage in lifelong learning: infrastructure, financing and computer-assisted learning. At the national, regional and local levels, the State and public authorities have to take initiatives to encourage individuals. Some of the most significant aspects concern the high quality of foundation learning for all (young people *and* adults): the efforts of municipalities to provide quality learning infrastructures: the financial systems allowing

individuals to take their own decision as to learning, education and training; finally, the provision of flexible learning programmes, including on-line distance learning (e-learning), is underlined as a very promising opportunity.

All these issues and initiatives are being discussed in many countries. Given that reasonable adjustments are made in these respects, individuals will be able to take command over their lifelong learning paths, and groups with special needs can be integrated in social and economic development.

The emergence of new partnerships

New partnerships are often quoted as useful in the creation of innovation, where regional actors play a leading role. Thomas Stahl discusses the learning region concept, its success in promoting local changes, in empowering SMEs through networks and partnerships and, in general, in fostering innovation. Several of the concepts could prove to be suitable to deal with lifelong learning issues, especially considering that SMEs are consumers of education and training with particular requirements and constraints.

Some of the issues raised by the development of the learning region, relying on networks and partnerships with SMEs, are very similar to the critical questions posed by lifelong learning. A common feature is the productive confrontation of different reference systems to generate what the author calls “innovativeness”. Lifelong learning also implies the coexistence of very different reference systems such as various ministries or departments, social partners, education and training institutions. If only limited to the various ministries or departments, a productive confrontation could be wished and hoped for between education, labour, industry and finance.

Another concept that deserves reflection on lifelong learning concerns directly the regional and local levels of action. The learning region concept, as the author mentions, increases and exploits bottom-up potentials. Partnerships and networks at local and regional levels could certainly stimulate new experiments, actions and directions for lifelong learning. Some of the European programmes, such as Leonardo da Vinci, show that important practices and concepts can emerge from different starting points, similar structures and common objectives, provided that lessons can be drawn and placed into a holistic view. In addition, the strong emphasis on SMEs is interesting for lifelong learning policies. SMEs are the backbone of economic life and, as far as education and training are concerned, they present what is always considered as particularities. Since SMEs are central to our social and economic development, how should lifelong learning policies be designed to respond to the realities and conditions of SMEs? They create employment, they urgently need employees with up-to-date knowledge, skills and competences. It is crucial for SMEs to evolve and to survive. How long can they remain the “special requirement case” none of the education or training providers can really and fully satisfy? How can their needs and constraints be taken into account in lifelong learning policies?

In his contribution “Towards a framework for assessment practices in the context of work and learning”, Jan van Ravens advocates decentralised, diversified processes of decision-making, involving many providers or stakeholders. Frameworks should be conceived to enhance transparency and accountability. He gives interesting examples of frameworks: the Internet, linguistic systems (alphabets); monetary systems (exchange rates); metric systems (length, weight). A framework helps exchange of information. In assessment and certification,

exchange concerns knowledge and competence of human beings. The slow emergence of such a framework, evidenced by trends and examples, is the centre of that contribution.

Traditional instruments to disclose information on human competences are reviewed: namely, diplomas and résumés. But, things are changing as the labour market becomes more dynamic and flexible, as education and labour markets become more international, and as the awareness of the important role of non-formal learning grows. In that respect, financial issues are mentioned. Some argue that financial instruments should focus on learning outcomes rather than on inputs. This would encourage the employer to develop a good learning environment and the individual to make use of all the learning opportunities available at work (or elsewhere).

Several contrasted assessment practices are examined: knowledge management in enterprises, certification based on quality assurance systems (ISO), intellectual capital reporting, more traditional recognition of competences by educational institutions (as in the dual system or as prior learning experiences). Portfolios and records of achievement used by educational institutions may contain concrete proofs making explicit to any actor on the labour market what the actual competence acquired is. They are also used by employment services for the unemployed and job-seekers.

These assessment and certification practices carry benefits for individuals, enterprises and nations. Portfolios, intellectual capital accounts and National Competency Accounts should be tools through which the importance of knowledge and learning in our present and future society is being recognised.

The growing attention given to non-formal learning addresses equity issues as the value of learning modes other than traditional and theoretical is being recognised. Jan van Ravens' opinion is that recognition of non-formal learning can be regarded as one of the basic human rights each individual can demand: competences should be recognised, regardless of where and how they have been acquired. The author believes this "new human right" is an unavoidable implication of the knowledge society.

Assessment of non-formal learning: A link to strategies for lifelong learning?

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Key words: assessment, standards, reliability, validity, legitimacy, formative, summative.

Several of the member States of the European Union are in the process of developing and implementing methodologies and systems for the identification, assessment and recognition of non-formal learning[30] (Bjørnåvold, 1997, 1998, 2000). These efforts are partly linked to the growing attention attributed to lifelong learning; a focus emphasising the importance of linking together different forms of learning in different areas at different stages of life (European Commission, 2000a). Setting up cost-effective and high-quality assessment instruments is an important part of a strategy aiming at learning throughout life. In order to give individuals due credit for learning at work as well as at school, in voluntary organisations as well as in formal training, methodologies for the "measurement" of competences become crucial. Flexible individual learning careers presuppose some sort of 'common language' or 'common currency' making it possible to accumulate diverse learning outcomes (Laur Ernst, 1999, 2000). The issue of identification, assessment and recognition of non-formal learning needs to be understood in this context.

Assessment of non-formal learning: the issues

Assessments have traditionally been understood as a way of judging and/or measuring the learning and performance of individuals within formal education and training settings (Airasian, 1991). Following the growing attention towards learning taking place outside formal education and training institutions, this traditional role is currently undergoing substantial change. The tasks faced by a new generation of assessments are very different from those faced within formal education. Instead of operating within a (relatively speaking) limited institutional context where learning goals and forms have been (more or less) pre-defined, assessments of non-formal learning have to face a vast variety of learning forms and outcomes. A field where activities previously defined as "work", "hobbies" and "family life" are being redefined as "learning". A positive interpretation would be that this gives access to a huge reservoir of knowledge and competence only marginally and unsystematically "tapped" (Dehnbostel *et al.*, 1999). A negative interpretation would be that this is an intrusion of measuring and testing into social areas until now only marginally affected by such techniques. In order to understand the ambiguous developments, several issues have to be examined.

Which methodologies have been introduced in order to expand assessment and

[30] By non-formal learning we mean the learning outside formal education and training. An important part of this is the unplanned learning that takes place as part of other activities, in work, at home, etc. Another important part is the planned learning taking place as part of work and other activities, but not formally recognised within the setting of the education and training system. It is thus important to emphasise that non-formal learning is not a simple substitution of the term informal learning, but covers a broader field of activities.

measurement techniques into areas of non-formal learning? A limited number of cases will be presented so as to capture and exemplify these developments. They have been chosen according to the geographical and institutional level they are operating at and according to their "owners" who are they actually serving? This enables us to discuss whether we face a fundamental change of methodological direction or merely a prolongation of already existing approaches.

What are the main motivations behind these efforts to introduce assessments of non-formal learning, which expectations are they supposed to meet and are they able to respond? Policy documents, both at national and European levels, present a diversity of motivations for entering into the field of non-formal learning. In this context, it will not be possible to present an exhaustive list; we will instead pay attention to the links between the new assessment methodologies and strategies for lifelong learning.

New methodological directions in assessment

The issue of identification, assessment and recognition of non-formal learning is commonly treated as exclusively linked to national and public level (Klarus, 1998; Bjørnåvold 2000), reflecting the active role of national and public authorities (Ministries of Education and Ministries of Labour). This is too narrow a focus. Both through the presentation of the White Paper on "Teaching and learning" in 1995 and through the Leonardo da Vinci programme (1995), the European dimension of the issue has become more apparent. In addition to this, and sometimes supported through European programmes (Bjørnåvold and Pettersson, 2000), initiatives at sector, branch and enterprise level have added to the complexity and richness of the matter. While these initiatives share an interest in assessing learning outside formal education and training, aims and instruments vary.

We have based the selection of these cases on two criteria. First, assessment approaches can be sorted according to the level they operate from. A methodology designed to operate from a European level must necessarily be different from one operating at national, sector or enterprise level. While facing some of the same problems in terms of reliability and validity, economic and organisational constraints will differ substantially. Secondly, the new generation of assessments can be sorted according to control, who are setting the terms. The bulk of methodologies proposed and developed at national level during the last 5-10 years have been closely integrated into the formal education and training systems, making it possible to earn a formal certificate (partly or completely) through the recognition of non-formal learning. Often presented as a more flexible approach to education and training, the main emphasis is still directed towards the established formal qualifications, and only those parts of the non-formal learning defined as relevant within this setting are recognised. A contrast is offered by methodologies defined within a labour market or enterprise setting. In these cases, focus is not on formal qualifications, as defined by the education and training systems, but on identification of competences relevant in the context of individual careers (within or between enterprises) or in the context of human resources management.

While systems linked to formal education have dominated, at least in terms of actual implementation, the number of approaches linked to labour market/enterprises seems to be growing. This will be further elaborated in the following sections.

The European Personal Skills Card

Although not made operational, the proposal from the European Commission to introduce a European Personal Skills Card (PSC) (European Commission 1995, 1996, 2000b) may serve as a suitable starting point. The idea was to develop and introduce an instrument able to assess and recognise formally as well as non-formally acquired knowledge and know-how. Areas like "core knowledge", "vocational/technical knowledge" and "key skills that cut across disciplines" were introduced as potential reference points for this exercise. It was envisaged that a range of user-friendly validation software packages (accessible on the Internet) would make a large-scale approach possible. The aim was not to create a single European test covering all core areas, but to establish a common framework where a multitude of instruments should be utilised.

The idea of a PSC has influenced European debates and developments. The large-scale experimentation initiated by the Leonardo da Vinci and Socrates programmes from 1995 onwards can partly be viewed as a reflection of the original PSC-idea (Bjørnåvold, 2000, p.146). Even though some interesting results have been obtained, this experimental activity has also uncovered the weaknesses of this approach. In a report, independent evaluators (Guildford Educational Services, 1999; Cullen and Jones, 1997) conclude that it is generally difficult to develop computer-delivered tests that are valid and reliable to a number of different countries at the same time. Even when an agreed common core is identified, the test questions must be "localised" ("contextualised") to take into account the differing conditions in the various countries. Furthermore, the challenges of establishing common reference points and proper definitions of the competence domains have not been fully solved. Properly functioning software as well as an administrative infrastructure supporting the tests were also factors not satisfactorily met by the projects[31].

An issue only marginally touched by the White Paper (indirectly through the reference to a common 'framework'), and even less by the experimental projects themselves, is that of legitimacy and acceptance. Assessments, irrespective of the validity and reliability achieved, are worthless unless they are accepted by the labour market and relevant educational institutions. This applies in particular to approaches operating at European level, highlighting the question of who should 'stamp' the document resulting from the process and whether already accepted European, national or sectoral standards could be used. The question of legitimacy is inter-linked with the level of validity and reliability of the tests/assessments and has clearly not been settled in all the experimental projects conducted so far.

Some of these problems can be linked to lack of clarity in the original aims of the projects. A major problem lies in the choice between summative (leading to a certificate, a course or a job) and formative (aiming at feedback in order to improve learning) assessment approaches. The question is how to embed such methodologies and technologies into an appropriate legal, institutional and organisational framework. So far, the effort seems to suffer from what we may term a technological/instrumental bias. While it makes sense to look into the potential of expert systems and automated assessment solutions, basic concerns related to the aim (summative or formative), quality (reliability and validity) and legitimacy (legal and political integration) of the assessments in question should not be overlooked.

[31] Eighteen different projects were selected to follow up the idea of 'automated assessment', belonging both to the Leonardo da Vinci and the Socrates programmes.

Integrate 'external' knowledge in formal education and training

In several European countries, individuals, on the basis of their non-formal learning, are given the right to take part in ordinary tests and assessments administered by formal education and training systems. In these cases, assessment and testing methodologies have been developed within the setting of formal education and training systems and are used on competences acquired outside the formal systems, at work and elsewhere. The German (Cedefop, Collingro *et al*., 1998) and the Norwegian systems (Cedefop, Pape,1999), illustrate these approaches well.

The *Externenprüfung* has been a permanent element of the dual system for decades. This test provides experienced workers the right to take part in the final crafts examination (*Abschlussprüfung*) together with those having followed the ordinary route through the dual system. As indicated, the *Externenprüfung* provides access to a test, it does not provide any independent methodology aimed at the identification and assessment of the specific experiences. In this respect, the *Externenprüfung* is designed according to the content, principles and structure of the formal pathway. The competences acquired outside the formal system, irrespective of how different they are from those produced in the formal system, have to be presented and restructured (by the candidate) according to the principles of the formal system. Every year, approximately 5 per cent of examinations within the German system are based on the *Externenprüfung*.

In Norway, a candidate may take a final examination for apprentices (crafts examination) based on his or her practical work experience. This arrangement was introduced as early as 1952 in the Act on vocational training. Section 20 of this act stipulated that "the crafts examination may be taken without any contract of apprenticeship by those who have not less than 25% longer general practice in the craft than the period of apprenticeship". During the 1970s and 1980s, the utilisation of the scheme was moderate while it exploded during 1997-98. Approximately 14000 candidates attended in each of those years out of a cohort of approximately 60000. This means twice as many as in a "normal year". The popularity reflects the relatively low level of formal training in certain areas and the general pressure towards formalising qualifications, for wages and security of employment reasons.

In both countries, these tests and assessments are controlled by the formal education and training system. They are looked upon as necessary links between the non-formal and formal systems.

Linking education and work: output-based assessment for vocational education and training

Although controversial at home, the United Kingdom National Vocational Qualification (NVQ) system has been instrumental in drawing attention to assessment of prior and non-formal learning. This is closely linked to the emphasis on output or performance, --what matters is what you have learned, not how or where you have learned (Eraut, 1996; Wolf, 1995). Instead of treating non-formal learning as a residual factor to be integrated into the formal system in a flexible way, a performance-based system should in principle treat these different forms of learning as equal. This requires that all forms of learning can be judged in a proper way, underlining the critical role of assessment tools in this kind of education and training approach. During the 1990s, and partly influenced by the NVQ system, several European countries have introduced performance-based systems for vocational education and training.

The Dutch assessment of non-formal learning can be traced back to 1993 when the Ministry of Education set up a commission on *Erkenning Verworven Kwalificaties* (EVK). In a report *Kwaliteiten erkennen* ("Recognise Qualities"), the commission recommended the development of such a system. Based on substantial experimentation in a number of sectors (Cedefop, Klarus and Nieskens, 2000), a procedure has been developed: a candidate wishing to have his or her non-formal learning recognised must first gather all available documentation in a portfolio (formal certificates, statements from employers, examples of work carried out). This documentation is compared with the requirements in the national qualification structure and a decision on partial qualifications may be reached. This portfolio is followed by a practically oriented assessment aiming at formal certification. The methodology is centred on a practical task to be solved and consists of three distinct stages: planning, execution and evaluation. It illustrates the strong dialogue-character of the approach; success relying on formal procedures and descriptions, as well as on the abilities and experiences of the assessors.

The assessments are linked to the qualification structure introduced in1996 through the Educational and Vocational Training Act (WEB). The Dutch qualification standard is based on job and task analysis and can be characterised as enterprise-driven. The social partners take part, at all levels, in the definition of the standards.

The problems related to the formulation of qualifications and standards immediately became one of the main concerns: to be broad enough but not too broad. This issue -- in general assessment theory referred to as the problems of "criterion" and "domain referencing" (Popham, 1978; Black, 1998)-- has been faced by all the different countries trying to develop and implement systems for the assessment and recognition of non-formal learning. Black describes the challenge as: "*The definition of a domain can only be adequately specific if it can express the boundaries, both of the content and of the ways in which this content is to be expressed, or manipulated or put to use by a candidate.*" (Black, *op.cit.*, p.65). Black comments that the wider the domain, the more difficult the assessment task becomes. This applies of course fully to the new outcome-and performance-based systems for education and training where the definition of qualification domains (part-qualifications and/or modules) is a crucial part of the exercise.

Career-and labour market-oriented assessment: the Bilan de compétences

In France, the *Bilan de compétences* is a right strengthened through the Law of December 1991. It states that employees are entitled to educational leave (24 hours or three working days) for an assessment. The aim is to permit employees to understand their professional and personal competences, motivation and aptitudes to facilitate their professional and educational plans and careers. Individuals are not assessed "against" national qualification standards of vocational education and training. The focus is rather on the labour market and the enterprises. The user of the *Bilan de compétences* should, trough the confrontation with the occupational context (the enterprise or the labour market in general) and his or her own abilities, be enabled to make occupational priorities, make better use of own strengths in career development. In general make maximum use of own resources (Drexel, 1997, p.229).

The *Bilan* has a formative role. It gives feedback to the employer or employee on his or her competence in order to support further learning or career development. More than 700 organisations and institutions have been accredited as *centres de bilan*. The profile and

professional basis of these organisations vary strongly. As a consequence, the methodological approach varies. In general, there is a first preliminary interview to clarify the motivation and needs of the employee and to present the procedures and methodologies of the *Bilan*. The voluntary character of the process is emphasised. Secondly, motivation, personal and professional interests as well as personal and professional competences are analysed and mapped out. Finally, the results of the analyses are presented to the candidate and used as a basis for dialogue on future training and career plans. To a certain extent, this part of the process may be compared to occupational guidance, though based on a stronger foundation of information on the competences of the individual in question. A synthesis document is established. It remains the property of the candidate.

The *Bilan de compétences* does not aim at formal recognition of competences according to a qualification standard. This makes it distinctly different from the systems presented above. The main references are individuals and enterprises. If we use summative in the sense of "summative for the accountability to the public" (Black, 1998), the summative role of the *Bilan* is weak. This is not, however, a role it is supposed to play in the French system.

Enterprise- and sector-driven approaches to assessment

There are clear, although incomplete, indications that sectors and branches are becoming more active in identification and assessment of competences. The focus on non-formal learning is often explicit and there is a tendency to initiate work across national boarders, focusing on the sector and the branch rather than the nation.

The experiments of the French Chambers of Commerce and Industry exemplify this "push" coming from working life. Using the procedures defined by the "European Accreditation"[32] through the European Norm EN45013[33], an effort has been made to develop assessment as an approach independent of formal education and training. It is argued that the EN45013 makes it possible to establish a clear and transparent process for assessment. The aim is to ensure that the interests and viewpoints of all involved parties are reflected, illustrated through three main principles: the representation of all interested parties, the separation of training and certification, and the assessment and certification by third party.

The paradoxical character of existing national systems is, according to Colardyn (1999), the main reason why an independent system for the assessment and recognition of non-formal learning is necessary. While education and training systems have been made more flexible through the opening-up towards non-formal learning, the reference point is still formal education and training: "*…recognition of learning is completely linked to the content of diplomas….individuals and in particular adults and experienced workers not interested in passing an additional diploma cannot get their prior learning or experience recognised."* (Colardyn, 1999, p.4)

The objective of the Chambers has been to develop a methodology and a system for the assessment and recognition of what an individual can actually do in a work situation, independently of any teaching setting. The aim is to capture the results of various learning processes undergone by an individual in a working environment. To achieve this, an

[32] An association consisting of private and semi-public accreditation bodies from the EEA countries.

[33] Standards for bodies operating certification of personnel.

independent certification body, the "Association for the certification of vocational competences" has been set up. The various Chambers are represented in the governing board and in order to include all parties (employers and employees) a "Committee for certification" has been set up. All elements concerning the assessment process, including assessment standards and proofs, have to be submitted to this committee.

Standards consist of a definition of the competences (which domain is covered, which are the elements) and a list of examples of possible proofs, drawn from the work situation in enterprises. It is interesting to note that the proofs, although collected in single enterprises differing considerably from each other, tend to appear again and again. As it is said: "*The nature of the proofs extracted from the work situation contribute to support the idea that certified competences are transferable from one work situation to another."* (Colardyn, *op.cit*., p.11).

Assessments of non-formal learning must be based on a high degree of transparency; all steps taken must be clearly communicated to all participants. The work of the French Chambers of Commerce and Industry is valuable by touching upon the problem of reliability. Because of the heterogeneity of the individual learning experiences encountered, traditional criteria for reliability are difficult to apply. An approach providing transparent procedures and systematic quality assurance at all levels and stages may, however, counteract this weakness.

Enterprise internal assessment of competences

Most managers would not immediately look upon identification, assessment and/or recognition of non-formal learning as directly relevant to their day-to-day activities. However, while the vocabulary might be unknown, efforts to identify and measure employees' skills are common and well known. In the area of human resources management, tools for "competence measurement" in some form or another are of crucial importance. Without an overview of the actual competences held in an enterprise, a systematic improvement becomes impossible. The instruments used in order to obtain this information range from traditional personnel files (containing information on formal education and former experience) to sophisticated techniques for testing and self-assessment. The exchange of experiences between "the school(s)" of human resources management and the "school(s)" of assessment has not been systematically developed. With a few exceptions, we talk of closed systems kept apart by solid walls of mutual suspicion.

We will illustrate this inter-relation between different "schools" through the case of Mercedes Benz (now Daimler Chrysler). In 1993, Mercedes Benz announced a plan to build a new car-manufacturing plant in Alabama (United States), a region characterised by weak industrial traditions, with few people skilled in car building. The enterprise faced a basic challenge: to recruit good workers whose actual competences had been developed in different contexts. A total of 60000 people applied for 900 available jobs. Traditional information on knowledge and competences, diplomas and certificates, was of limited value in this situation. The question was how to measure competences and their validity relative to the requirements of production.

The enterprise, in co-operation with the University of Alabama, designed and developed "from scratch" a twelve levels process. The basic objective was to find "generalists able to learn". The assessment was thus focused on attitudes, abilities to communicate, approaches to problems rather than predefined, non-disputable areas of knowledge.

The case also illustrates that there is a limit to the degree of simplification and standardisation introduced in assessment methodologies. The approach puts a strong focus on learning abilities and learning context. These elements cannot be captured through standardised and automated tests alone, but require tailored solutions able to reflect the uniqueness of individual learning experiences and competences.

Technology-specific assessment approaches

At the European level, the catalogue of Leonardo da Vinci projects provides us with an interesting list of efforts to assess competences linked to specific tasks or technologies. These are in some cases linked to the needs of enterprises, in other cases not. The "European computer driving licence" (ECDL) is an example of this, partly implemented by enterprises (notably Volvo), partly an instrument promoted at European level (as part of the conclusions of the European Union summit at Lisbon in 2000).

The idea of a computer driving licence originated in Finland in 1988. The scheme was introduced in 1994 and the ECDL Foundation was set up in 1997. A computer driving licence is awarded to candidates who pass tests in seven modules. One of the modules test theoretical understanding of the issue, while the remaining six assess the practical abilities to use different types of software (operating systems, word processing and spread sheets). As the ECDL is partly financed through the Leonardo da Vinci programme, an evaluation of its progress was made in mid-1998 and concluded that in several respects it had been successful. Candidate numbers have been steadily growing (more than 150.000 at present). The following strengths are to be emphasised. The ECDL has a defined purpose and a defined target group and is clearly meeting a need. There is a clear syllabus specifying the knowledge and skills to be assessed (although more work is needed on this point). The option to use two versions of the test is judged as sensible, and gives the possibility of serving smaller groups with particular needs. The relative success of the ECDL, based on a clear definition of the domain to be assessed and an efficient institutional structure, encourages reflection on future strategies in this area.

Will the development of a multitude of isolated assessment methodologies, linked to narrow tasks and technologies, provide a better solution than the development of general methodologies at national (or even European level)? The ability to define the boundaries of the domain to be tested has been presented (Black *op.cit*) as a prerequisite for reliable and valid testing. Can the example of the ECDL, and other task --or technology-specific approaches, clearly having followed this principle, give rise to a "bottom-up" approach to the identification, assessment and recognition of non-formal learning? This would leave the development of assessment methodologies partly outside the control of public authorities, and in particular outside the control of formal education and training. It might be argued that approaches like the ECDL only operate in the "periphery" of the huge reservoir of competences developed through non-formal learning. It might also be argued that the ECDL and other related projects are addressing areas which can be easily measured in an almost objective way (as true or false). Such a criticism implies that crucial competences, for example related to communication, co-operation and problem-solving, remain invisible. Finally, there is the question of how to link these specialised tests together, how to support transferability between different sub-domains.

What is the added value of assessing non-formal learning?

The examples illustrate a highly diversified push towards methodologies and systems for identification, assessment and recognition of non-formal learning. Common to all approaches is a wish to include and utilise the learning taking place outside formal education and training. While no single solution is offered by these initiatives, the importance attributed to the bridging and linking of various areas of learning is strong and shared by all involved.

But what is the 'added value' expected to emerge from all these bridging efforts? This is, strangely enough, an issue given only scarce attention. It is generally taken for granted that 'a broadening of the knowledge base' (European Commission, 1995) will make everybody, from the individual to society at large, better prepared to handle rapid change, technological developments and an increasing globalisation, to use some of the most frequently appearing buzz-words.

One way of approaching this question of content is to link onto the ongoing debate on key qualifications. Although normally treated as two separate issues, the question of how to define, identify and develop key qualifications and the challenge of how to assess non-formal learning are closely related. We will argue that these two debates reflect different aspects of the same issue.

In both cases, we can observe an increasing attention towards learning and knowledge requirements in a society characterised by unprecedented organisational and technological change. Irrespective of the many and partly conflicting interpretations of key qualifications (Kämäräinen, 1999) and non-formal learning (Bjørnåvold, 1998), a common concern is about elements of knowledge and competences that transcend specific organisations and/or technologies. The ability to face new settings and unexpected problems is presented as of particular interest, to prepare people for uncertainty by broadening the basis of knowledge and experience. Dieter Mertens (1972) formulates this concern in the following way: "The mental capacity should not only be used to gather factual knowledge, but rather be looked upon as a transfer point (*Schaltzentrale*) for intelligent reactions. In this context, education should first and foremost support handling and solving of problems." (p.15).

In his effort to define and delimit key qualifications, Mertens identifies a number of elements, thus adding substance to this common concern. Key qualifications are less about knowing facts, theories and rules (knowing that) than about applying them in social, organisational and technological settings (knowing how)[34]. While an important basis can be laid through formal education, the principal arena for developing key qualifications is thus outside formal systems, at work, in the home and in voluntary work. In the decades since the publication of the work of Mertens, this emphasis on basic, horizontal and transversal knowledge has been transformed into policy statements in most European countries as well as at European Union level. The attention given to the issues of key qualifications and non-formal learning can be interpreted as a reflection of the general demand for a broader and multi-dimensional knowledge basis. Applying this perspective to the two issues, their inter-linked roles become apparent.

[34]Key qualifications are thus related to the development from novice to expert described by Dreyfus and Dreyfus (1986) and can be said to be a transition towards intuitive and involved skilled behaviour based on accumulation of concrete experiences (p.35).

Key qualifications can be looked upon as a set of learning objectives, applicable at various levels and thus relevant both to individuals, enterprises and schools. Key qualifications are intangible in the sense that they are "metaphors" or "theoretical constructs" drawing our attention to certain aspects of human action, communication and learning. Instead of considering key qualifications as "packages" of knowledge to be listed wherever appropriate, they should be seen as guiding principles for learning. If key qualifications are to become something more than topics for academic debate, this guiding role is of critical importance. By drawing attention to these less visible aspects of human competences, practically oriented support strategies may be developed.

Methodologies and systems for identification, assessment and recognition of non-formal learning can be looked upon as tools for realising such a practical strategy. The terms informal and non-formal learning cannot, however, operate entirely on their own. Non-formal learning is a "negative" concept in the sense that it is a negation of something else, covering what is not included in formal education and training. It gives no positive indication of content, profile or quality. The concept is important, however, by drawing attention to the rich variety of learning areas and forms available outside formal education and training. A closer link to the key qualification issue might be useful and give the exercise more direction. The linking of formal and non-formal learning domains can thus be viewed as a way of realising and materialising the objectives expressed through key qualifications, objectives which are crucial to any strategy promoting lifelong learning.

Old tools and new challenges: how to ensure relevance and consistency of non-formal learning assessments?

Our final question can then be formulated in the following way: Are current methodological approaches to the assessment of non-formal learning able to respond to the expectations they are confronted with?

We are tempted to conclude that the problem is not so much about methodologies as it is about the ability to clarify the challenges and paradoxes ahead. In the different cases, we have seen all known variants of testing and assessment methodologies used: from computer-assisted fixed response (multiple choice) methodologies in the Personal Skills Card experimentation to authentic work-based assessment involving planning, observation and evaluation in the Dutch case. The German and Norwegian cases combine performance assessments with traditional essay type testing while the Computer Driving Licence leans heavily on closed response assessments. The *Bilan de compétences* exemplifies an approach where the whole range of traditional testing methodologies are combined in various ways, depending on the institution in charge. Compared to the state of the art in testing and assessment in formal education and training (see Black, 1998), the focus on non-formal learning has so far not led to major methodological innovations. The complexity of the task has, on the other hand, resulted in diversity.

A positive interpretation would be that this diversity secures a richness of approaches necessary in order to deal with the highly contextual and partly tacit character of non-formal learning. A negative interpretation would be that diversity leads to heterogeneity and lack of consistency. Both interpretations are possible. If richness rather than heterogeneity is going to be achieved, the following four questions may give some indication of important clarifications to be made in the coming period:

Which functions are to be fulfilled by the new methodologies (and institutional systems) for identification, assessment and recognition of non-formal learning? Do we talk of a formative role where the instruments and tools are used to guide the learning processes of individuals and enterprises, or do we talk of a more limited summative role where non-formal learning is tested for possible inclusion into the setting of formal education and training? Do we talk of a summative role where accountability is at stake, focusing on the utilisation of competence resources at various levels? The purpose of the assessments, in the non-formal as well as in the formal domain, is decisive for the methodological choices to be made and for the ultimate success of the exercise. As illustrated in our discussion, these functions are not always clearly separated. In many cases, we see a wish to combine the formative and summative roles, the European Personal Skills Card being a good example of this. A successful development of methodologies and systems in this area implies that these functions are clearly understood and combined/separated in a constructive and realistic way.

The diversity of the learning processes and learning contexts makes it difficult to achieve the same kind of *reliability* as in standardised (for example multiple choice) tests. The question is how (and which specific kind of) reliability should be sought in this new domain. Is it possible to envisage reliability based on optimal transparency of the assessment process as well as on the implementation of systematic quality assurance at all levels and in all functions? The experimentation conducted by the French Chambers of Commerce are interesting in this context, emphasising the importance of procedures for quality assurance and quality control. This kind of thinking has not been given much priority in the various approaches to assessment of non-formal learning, a deficit which eventually may threaten the legitimacy of the approaches as such.

The highly contextual and (partly) tacit character (Polanyi, 1967) of non-formal learning complicates the quest for *validity*. There is an acute danger of measuring something else than what is intended. The main thing is to avoid a distorted picture of the candidate and the domain and to strive for authenticity. An intriguing question is whether the new methodologies are working according to content or construct validity. In the first case, the objective would be to represent a precisely defined task in the best possible way. In the second case, the objective would be to capture some constructed entity, for example key qualifications, communicative skills or co-operative abilities. As these are theoretical constructs rather than empirical entities, assessments must be based on indirect evidence. As we indicated earlier, the search for key qualifications is indeed an important part of the exercise. In the same way as intelligence testing has become subject to close scrutiny (what is the entity "intelligence"), constructs like key qualifications and communicative skills should become subject to the same constructive criticism. This is necessary in order to achieve sufficient validity.

The reference or "standard" is a key issue for assessment of formal as well as non-formal learning. While norm referencing (using the performance of a group/a population as point of reference) has not been seriously discussed in the context of assessing non-formal learning (because of the diversity of the competences in question), the issue of criterion or domain referencing lies at the heart of the matter. The definition of boundaries of competence domains (the size and content) and the ways competences can be expressed within this domain are of critical importance. The wider the area, the greater is the challenge involved in designing authentic assessment approaches. An issue is also whether the purpose is to test a minimum performance or whether a precise marking of different levels of performance is sought? Assessment of non-formal learning cannot succeed without the development of these

reference points. This leads us in many ways back to the question of functions to be fulfilled; do we want to give feedback to learning processes or do we want to produce proofs (papers of value). Both purposes are highly legitimate and useful. The setting-up of reference points will, however, differ considerably according to the purposes selected.

The question is thus not so much whether new or old tools are used but more whether the challenges, problems and paradoxes faced are properly understood and treated with the seriousness and commitment required.

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Roles and Responsibilities of the Individual - Opportunities and Threats

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Key words: Individual learning; infrastructure for learning, financing individual learning, flexible learning.

This contribution discusses the renaissance of individual learning. It is seen as a consequence of progress towards a knowledge society and most importantly of a changing working life. Political initiatives (promoting the development of local learning infrastructures and new facilities to finance individual learning) as well as innovations (in the areas of ICT and e-learning) facilitate this development. From a policy point of view, important questions are how to create the necessary preconditions for individuals to be able to efficiently assume responsibility for their lifelong learning trajectories and how to integrate the trends in formal and non-formal learning into a coherent policy for lifelong learning.

The knowledge society - a changing working life

Globalisation, internationalisation and technological progress are rapidly changing the conditions for social and economic development. As a simple illustration, the number of computers per inhabitant can be mentioned. In the United States, there were almost one computer per two individuals and in Sweden and Denmark one in three in 1997 (IMD, 1998).

There are many forces behind these changes. The knowledge explosion, information and communication technologies (ICT) and trade liberalisation are examples. Commentators rank and describe explanatory factors in different ways. To give one example: "Knowledge is the content, information the medium. The content is driving change, facilitated by the medium" (Chichilnisky, cited in OECD, 1999b).

As new knowledge is constantly produced and distributed at an ever increasing speed, one effect is anyhow indisputable and that is that initial education, even at university level, is not enough to serve the needs of individuals for knowledge for the rest of their life. A lot of knowledge an individual will need after school has not even been produced at the time of his or her initial education! This is a fundamental reason for the necessity of lifelong learning.

The knowledge expansion is also an explanation why enterprises have to engage in 'knowledge management'. To remain competitive firms have to continuously tap the flows of new knowledge. This can be done in different ways, by recruiting newly trained individuals from the education system or other firms, or by investing in their own employees. With increasing needs for human capital and an ageing population, the former solution will be both insufficient and inefficient.

Knowledge-based and flexible production also has important implication for the organisation of work. Modern high-productivity workplaces are characterised by decentralised decision-making, team-working and competence building. The types of skills needed at workplaces are therefore also changing. Enterprises need multi-skilled employees -- both generalists and specialists, in technical as well as in other fields. To be able to control the information flood, employees have to work together in networks. The networks the employees participate in will not only consist of networks internal to the firm but also of external networks including R&D actors, suppliers and customers. This means that the employees have to develop social competences, such as a capacity to communicate, to inspire confidence and to co-operate, as well as their ability and interest in learning new things. The difference between entrepreneurs and employees becomes blurred. Employees are expected to plan and take initiatives of their own. The requirements include individual management of forthcoming learning needs. As the workplace becomes a more and more important arena for acquiring new competences, a number of new issues will be raised.

With high productivity, decentralised workplaces, the demand for learning, education and training stemming from working life will be expressed in terms of individual learning needs. There will certainly be a role to play for traditional courses provided by the formal public and private sector, but also for self-directed learning at the workplace and new types of non-formal learning activities. The challenge for the state is to have both an equitable learning society and an efficient economy.

While lifelong learning will be as important for social development as for economic development, the driving forces for social purposes will be weaker than for economic purposes. Still, even in the social field, individual learning and individual responsibility will appear as inevitable effects of the diversification of learning needs and prior learning experiences. As for the firms, the State has an interest that they remain competitive using broad approaches, i.e. involve as many employees as possible in as broad a competence building as possible. For the individuals the challenge is to be able to realise their own personal development plans in spite of the requirements made by employers and also by the authorities in charge of social and unemployment benefits.

These emerging tendencies -- including the necessity for lifelong learning and the inherent individual responsibility for lifelong learning -- while generally acknowledged, are still at an early stage. We will first briefly look at some international comparisons and discuss what factors will influence the development of individual investments in learning. What opportunities and threats are implied? What policy actions seem promising?

The renaissance of individual learning

To what extent do we really have flexible competence-based workplaces? Are such enterprises actually more competitive than others?

The workplace: need for more competences

A general indication of the extent to which working life has become more competence-oriented is found below (Figures 1 and 2). In two European countries, more than 80 per cent of the workforce has an influence over their working conditions (Figure 1). In six

other countries, more than 70 per cent have similar possibilities. The share of the workforce that participates in employer-sponsored training lies around 45-50 per cent in five European countries (Figure 2). In the other nine countries the figure is below 30 per cent and goes as far down as about 10 per cent.

These results were based on interviews that were carried out in 1995/1996. The reference period for participation in training was the previous twelve months. Participation, of course, does not say anything about the outcome or the duration of the training period. There are some indications that the duration may be negatively correlated to volume of training (OECD, 1999a). However, for additional details more analytic material has to be used. A comparative Nordic study reports on flexible enterprises, productivity and training (NUTEK, 1999). In this study five criteria were used to classify enterprises as "front-runners" -- delegated responsibility, organised human capital development, the use of teams, organised job rotation and productivity-based compensation systems.

Sweden had the highest number of front-runner workplaces. Still the share of such workplaces was only 13 per cent. The front-runners were found to have higher productivity than other workplaces. Controlling for other productivity-related factors, the front-runners in Finland and Sweden were found to have 20 per cent higher productivity than other workplaces. The front-runners were also characterised by their workforce having a higher level of formal education, by more often belonging to knowledge-intensive sectors and by being more innovation-prone than other workplaces.

A conclusion from this brief survey is that modern competence-based enterprises are being introduced, that they are more competitive and train more than other enterprises. The speed of introduction is, however, rather slow and uneven and there seems to be much scope for productivity increases even in the more advanced countries. This also means that it is time to reflect about the training system and how public policy should react to the emerging tendencies.

Education and training as a market

If current workplace changes in the OECD countries stimulate lifelong learning and individual responsibility for lifelong learning, it would be interesting to know: how do enterprises train and how is this training related to other types of adult education and training? To answer these questions we will use Sweden as an example. Not that Sweden is unique. On the contrary, as will be hinted at below, similar tendencies are found in many other countries but it is easier to give an overview with a case study type of illustration.

Adult education in Sweden mainly consists of municipal adult education, employment training, employer-sponsored training, popular education (including the folk high schools and the study circles of the study associations) and post-secondary adult education. The number of (full-time, full-year) participants in these different types of adult education are shown in Table 1. To illustrate the relative importance of the figures it can be mentioned that one age cohort in Sweden consists of roughly 100 000 people. Both municipal adult education (primary and secondary level) and adult education at university colleges and universities thus currently provide education for more than one age cohort. Employer-sponsored training is also at the level of 100 000 participants. This is, however, an underestimate as 15000 of the employer-sponsored participants are included in these figures.

Furthermore, the following observations ought to be added:

- Municipal adult education includes the Adult Education Initiative (AEI). It is a five-year programme that started in 1997. The target group is in the first place the unemployed and those employees who lack, or have only partial, upper secondary education. Municipalities can apply for special State grants that cover the costs of providing approximately 100 000 full-time full-year study places. There are also State grants for the folk high schools to provide 10000 study places of this type. Special financial facilities (at the level of unemployment benefits) are offered to adults participating in the AEI. The very positive reactions to this programme from municipalities and individuals can be taken as an indication of a new awareness of the need for this type of foundation and lifelong learning. Municipal adult education had earlier been on the decline in Sweden.

- Formal and non-formal education are coming closer. Earlier municipal adult education was considered formal education and the folk high schools non-formal education. Nowadays students attending education of both these types are eligible for university education.

- The KY programme is also a new programme. In Sweden like in many other countries, a special form of advanced vocational training at post-secondary level is developing. The courses under the KY programme are planned and arranged as a partnership between educational providers and employers. Normally they last for two years and one-third of the time is supposed to be spent at a workplace.

- Educational providers in the case of the AEI are not only the traditional public providers of the municipalities. The "external" educational providers stood for almost 25 per cent of the volume of education in 1999. Earlier external providers were hardly used at all. They come from the private sector and popular education and bring new impulses to the traditional municipal units with respect to the organisation of education, types of courses and teaching methods.

- The educational providers in the KY programme are universities, educational providers from the private sector, municipal adult education, popular education and enterprises not normally specialising in training.

- The Public Employment Services nowadays also buy training for the unemployed from different public and private providers and not just from their own special provider LERNIA (former AMU). LERNIA also offers courses to the AEI and the KY programme.

- The employer-sponsored training is mainly organised by the enterprise itself but also by other enterprises and private as well as public providers.

The effect of all these changes is that education and training after the individual has left initial youth education (including university) has become much more of a market. Many providers compete on the same market and most of them on many markets.

Similar tendencies can be found in many other countries. In most countries, policy actions are taken to integrate groups with low educational levels in the training system. In many countries, a strong public and private vocational education sector at post-secondary level is developing. It is also interesting to add that in one investigation in the United States, the 55 “Leading Edge Training Enterprises” were found to use external providers to the extent

of 30 per cent (Bassi and van Buren, 1999). As for formal and informal learning in enterprises, a German study noted that 48 per cent of the age groups 19-64 year-olds participated in formal vocational training in 1997, while as many as 72 per cent took part in informal vocational training (BMBF, 1999).

Innovations and political initiatives promoting individual learning

Technical innovations and other policy initiatives also influence individual learning opportunities on the developing learning and training markets. Three areas seem to be especially important for the individuals and their possibilities to take responsibility for their lifelong learning: local infrastructure for learning; individual financing of lifelong learning - individual learning accounts; and e-learning.

Local infrastructure for learning

As part of their normal educational activities, municipalities in Sweden are expected to engage in information, guidance, counselling, recruitment and outreach activities as well as the assessment and recognition of prior learning with regard to primary and secondary education. With the AEI programme, these activities have often been linked to new bodies such as Infocentres, Knowledge centres, Educational centres. They also frequently offer open-house learning activities and serve as a basis for flexible/distance learning. Some municipalities have several local study centres with modern ICT equipment and use them for studies at different educational levels – primary, secondary and tertiary. These centres will also often work out the individual study plans that are required in the AEI and handle the assessment and recognition of prior learning.

Similar local learning/service/resource centres are also found in many countries. They can fulfill four very important functions. They serve the information, guidance and counselling needs of individuals and of small and medium-sized enterprises (SMEs); they assist with the assessment and recognition of prior learning; they respond to the training needs of individuals and of SMEs either directly or as brokers linking the demand for training to different educational providers, and they open access to ITC-based education, offering different combinations of flexible pedagogical and social support.

While the development at local level is very dynamic in Sweden as well as in many other countries serving the needs of individuals and SMEs for learning and training at primary and secondary level, the development at university level seems to be more hesitant. This goes both for recognition of prior learning, flexibility in the organisation of education and training, and the supply of courses. This is mainly at the detriment of locally-based individuals working in SMEs. For lack of sufficient response from the universities, big enterprises are developing their own corporate universities or training centres.

Individual financing of lifelong learning - Individual Learning Accounts (ILAs)

In Sweden, public adult education is free of charge and adults can apply for various types of study grants. Employees also have a right to leave of absence in order to study. The next step considered by the government in this area is the introduction of Individual Learning Accounts. Money has already been set aside in the State budget for the coming years for this purpose. According to a proposal that is now circulated for comments, individuals saving for

education are to be rewarded by an income tax deduction. To stimulate the use of ILAs, it is understood that individuals with low incomes opening an account should receive a special subsidy and that a tax reduction should be given temporarily to employers for the part they contribute to the ILAs.

The interesting aspect with ILAs is that they can to a certain extent make the individuals free to decide for themselves what type of training they want to engage in. In most countries where adult education is publicly provided and financed either as to study places or study grants, individuals have to apply for participation and grants and there are selection processes, waiting lists and restrictions as to choices. The situation is similar with employer-sponsored training. A prerequisite for genuine individual responsibility for lifelong learning seems to be financial systems providing adequate possibilities for the individuals to decide for themselves.

The weak point with ILAs is that they may not achieve massive adherence. The evaluation of the continued experiences of ILAs in the United Kingdom and later on in Sweden, and of the tax deduction systems in various countries including the United States, will be very interesting to follow.

E-learning

Flexible learning involving various amounts and forms of Internet, computers, personal encounters with teachers and fellow students is often seen as a necessary prerequisite for the real breakthrough of individual lifelong learning. A large part of lifelong learning is expected to take place in combination with other activities -- work, family and leisure activities. For virtual learning to become an important ingredient in lifelong learning, two requirements have to be fulfilled. All individuals have to have a good technical access to the Internet and the pedagogical quality of e-learning has to improve. The same holds if virtual guidance is to develop on a large scale.

Intensive activities have already started in certain areas:

- At big universities. Whether traditional distance-learning universities or not, many big universities are now supplying more and more of their ordinary courses on-line to students as well as special on-line courses to companies.
- At large enterprises. They are increasing their use of computer-based training for staff instruction. The figures for the Leading Edge Training Enterprises mentioned above was 78 per cent classroom and 12 per cent computer-based training.
- At expanding commercial e-learning companies that mainly produce training for companies.

Accordingly, the Commission for the Promotion of Adult Education and Training came to the conclusion that for Sweden; with an internationally and commercially small language, if e-learning is to benefit lifelong learning, the State has to play a leading role. The State has to stimulate investments in technical infrastructure and development of pedagogical quality. Even so, commercial interests will probably not be sufficient to provide courses in narrow subjects and for groups with special needs (Ministry of Education and Research, 2000).

Conclusions - threats and opportunities

Lifelong learning is developing and individuals take more responsibility for their own learning. However, both the volume of learning and its distribution among individuals might not be optimal from a social or economic point of view without the active support of the State.

First of all and most importantly, the State has to guarantee a high quality foundation learning for all individuals. Education up to the secondary level for young people as well as for adults seems to be a realistic goal to aim at. No one should be left behind because of class, gender, ethnic origin, region or age. Special needs caused by e.g. dyslexia have to be identified at an early stage.

The local learning infrastructure has also to be developed. Figure 3 illustrates important elements that the individuals need to have access to close at home. It should be added that these aspects are also factors in the choice of localisation of enterprises and individuals (for themselves and their children). Municipalities interested in economic development should thus also be concerned with the quality of their learning infrastructure.

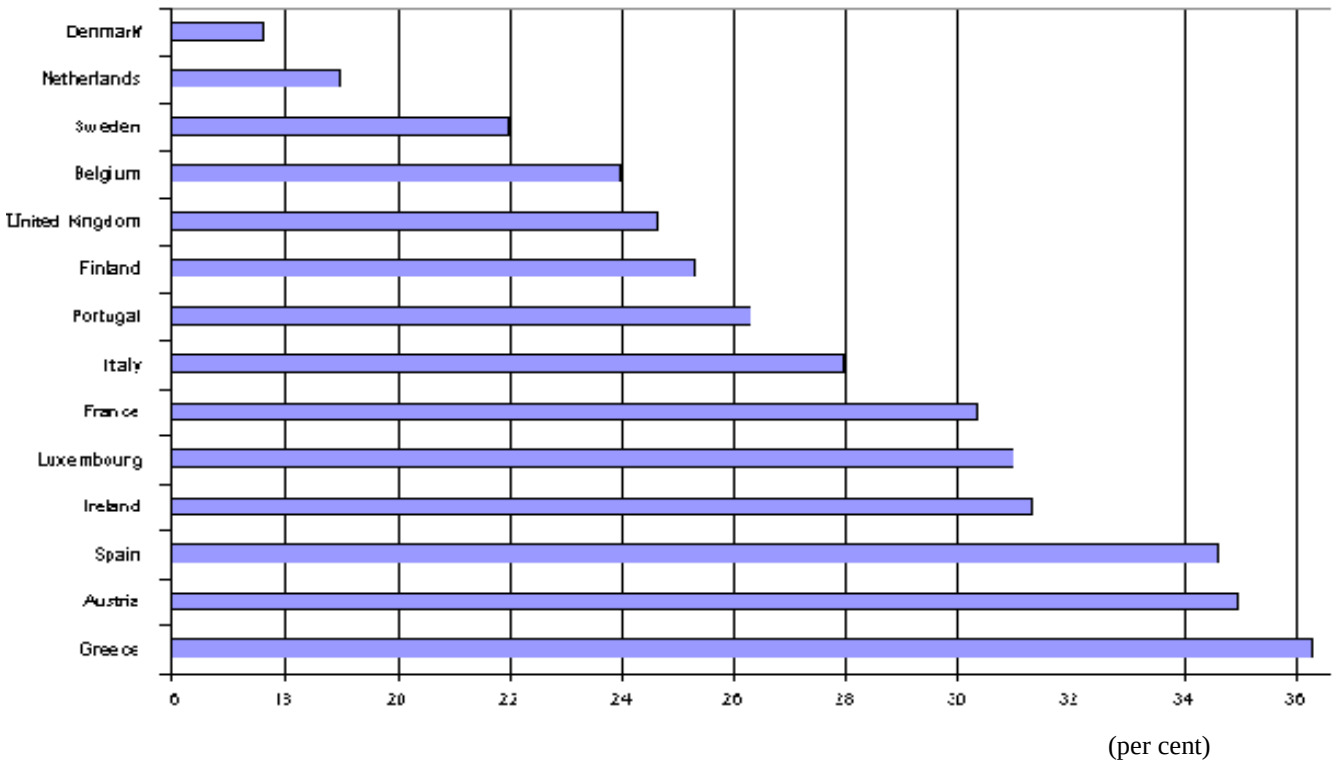
Another prerequisite for genuine individual responsibility for lifelong learning seems to be financial systems providing adequate possibilities for the individuals to decide for themselves. Individual Learning Accounts may turn out to be a good solution in this case. Flexible learning opportunities, including on-line distance learning, are also important for individual lifelong learning. The State has to stimulate investments in technical infrastructure and pedagogical quality.

Finally, if the public education system in a small country like Sweden is not to be marginalised, the State has to help it to develop in a way that supports lifelong learning. This is especially important for the university system, but here we have seen fewer adjustments than at other educational levels.

There are several risks that seem to threaten individuals and their personal learning plans: the inconsistent requirements from employers and authorities in charge of social and labour market policy; the assessment and recognition of prior learning in combination with a modularisation of learning paths that make coherent learning difficult for lack of integrating pedagogical principles; lifelong learning for working life is made impossible because of spells of unemployment, of working in job offering few learning opportunities and of being at the margin of working life; lifelong learning for social and personal development becomes impossible when initial education and work experience is of the wrong kind.

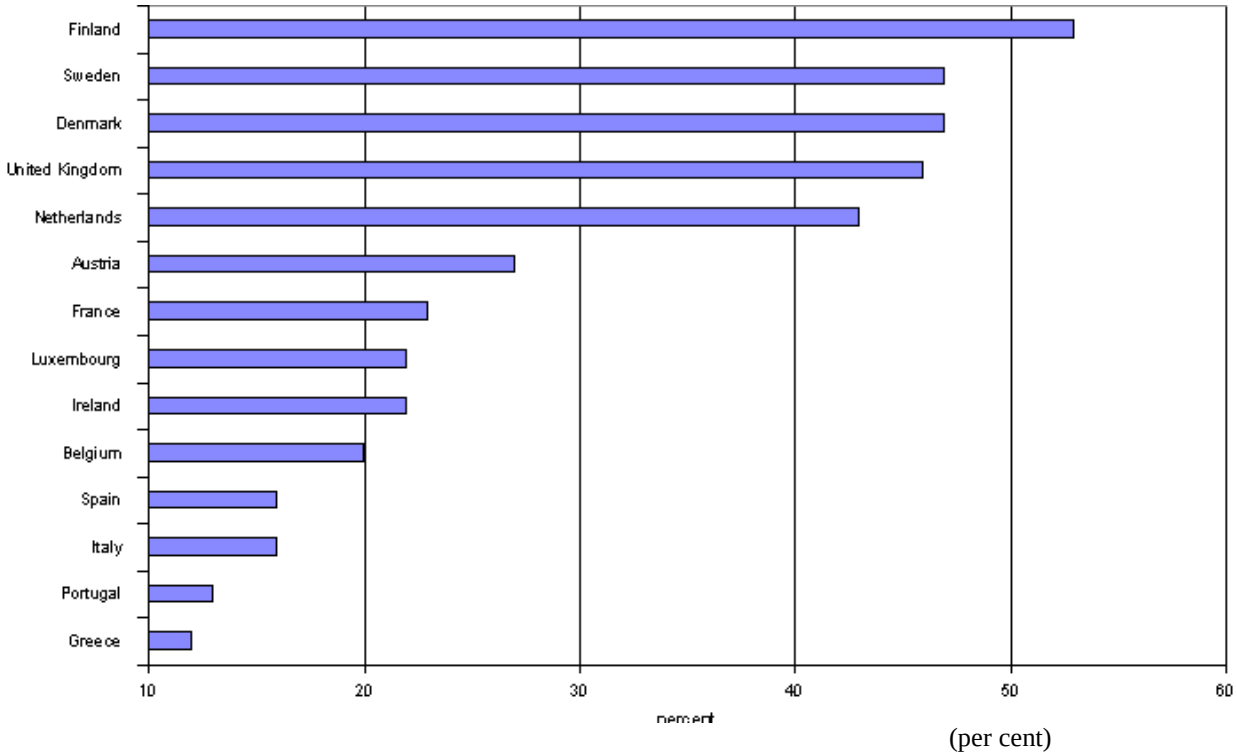
High quality foundation learning, local learning infrastructure, individual financing devices and flexible learning opportunities may to a large extent eliminate these risks. But it is also necessary that enterprise training be stimulated to become as broad and inclusive as possible and that the public education system be encouraged to become a cost-effective support of lifelong learning not just a drag on financial resources. Given reasonable solutions are found to these questions, individuals will be able to take command over their lifelong learning paths and groups with special needs can be integrated in social and economic development.

Figure 1. Percentage share of the labour force lacking opportunities to influence their work situation



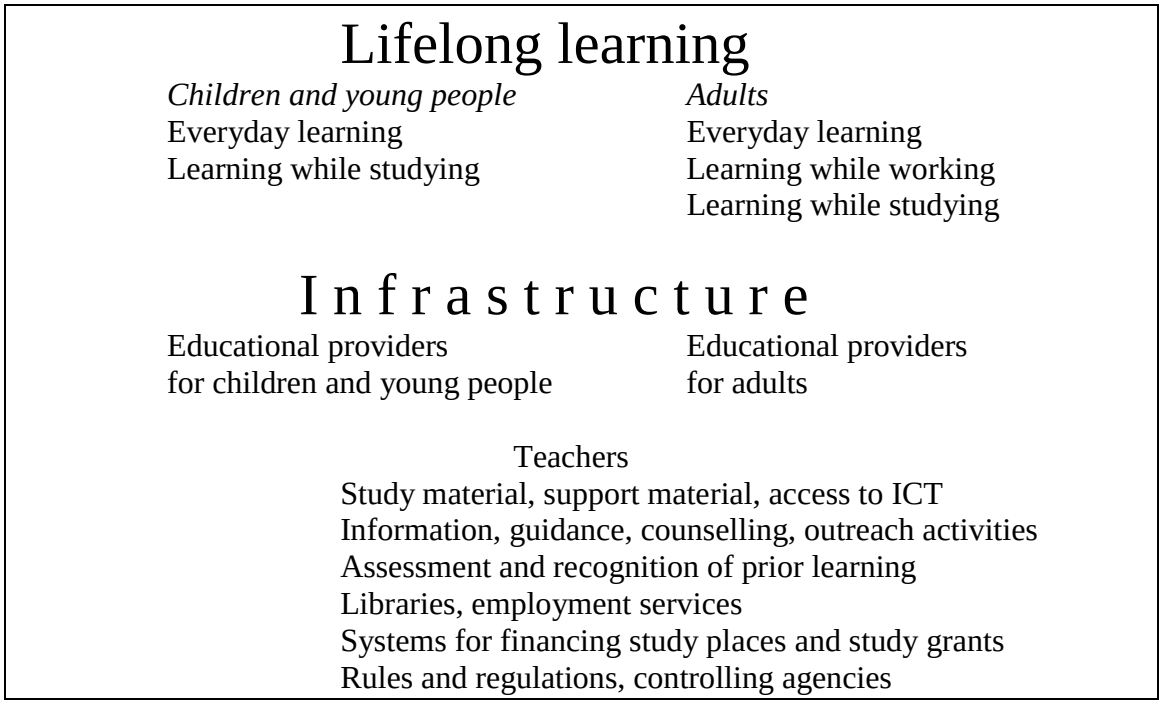
Source: European Foundation for the Improvement of Living and Working Conditions as cited in Benchmarking av näringspolitiken, *Ds* 2000:12, Ministry of Industry, Employment and Communications, Stockholm.

Figure 2. Percentage share of the labour force that participated in employer-sponsored training during the last 12 months



Source: European Foundation for the Improvement of Living and Working Conditions, as cited in Benchmarking av näringspolitiken, *Ds* 2000:12, Ministry of Industry, Employment and Communications, Stockholm.

Figure 3. Infrastructure for lifelong learning



Source: Ministry of Education and Research, Kunskapsbygget 2000 - det livslånga lärandet. *SOU* 2000:28, Stockholm.

Table 1. Adult education in Sweden, full-time and full-year participants as estimated for 2000

Municipal adult education	175 000
Folk high schools	35 000
Other State-financed adult education at primary and secondary level (including education for immigrants)	18 000
Study associations	90 000
Adult education at university colleges and universities	117 000
KY programme (post-secondary vocational training)	12 000
Employment training	38 000
Employer-sponsored training	85 000

Source: Ministry of Education and Research, Kunskapsbygget 2000 - det livslånga lärandet. *SOU* 2000:28, Stockholm.

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The learning region and its potential roles in lifelong learning

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Key words: learning region, innovation, networks, SMEs.

The critical review of local experiments conducted in the 1990s stresses that local development contributes to economic and social cohesion, to greater efficiency in Community finance in the context of regional policies, and to the reduction of the democratic deficit. Several specific strength, of local development strategies to master industrial changes can be noted.

Promoting innovation

Local development promotes the establishment of a public-private partnership and in this way mobilises new actors and new financial resources for projects. This is vital given the problems of the Welfare State in controlling public sector deficits: far from promoting the 'omnipresent State', local development promotes a new, active, energising role for public authorities. Therefore, bottom-up approaches are encouraged, a process which also calls for effective partnerships between the various administrative departments of government.

Proper application of the principle of subsidiarity presupposes the preparation of local initiatives involving all the economic, social and cultural actors – enterprises, social partners and associations – in order to take account of the global dimension of local development. These initiatives contribute to economic growth by identifying local potential and by boosting entrepreneurial activity. Local development constitutes a foundation and a force for the principle of subsidiarity. It contributes to adequate decentralisation of governmental action.

Local development ensures greater efficiency of public finance, through better management of local projects and by allowing the right choices in respect of infrastructures. The growing role of intangible investments, human resources and lifelong learning policies in the economy emphasises the importance of relying on the "organisational" component of local development.

Local development is directed towards more equitable redistribution of wealth. Indeed, in view of its socio-economic content, it seeks to meet the needs of the various social categories and, through its local and spatial dimension, it is capable of covering all the territories. Therefore, local development appears fundamentally as a method designed to give permanence to the action of improving the balance and revitalising territories.

This contribution addresses an additional aspect of local and regional development. The learning region concept and its practical implementation provides a multitude of open interfaces resulting from local networking and partnerships that promise innovative solutions for common problems. The example of small and medium-size enterprises (SMEs) networking, as a consequence of the human resource development issue, demonstrates the potential for innovation in learning regions.

Innovation, the individual and the global challenges

The challenges of industrial change have often been addressed in recent years. Aspects such as global markets, customer-oriented markets, new technologies are largely mentioned. In all the debates about the challenges of industrial change, whether this situation is seen as threatening or as an opportunity for our society, "challenge factors" are seen as external forces disturbing structures and processes. Europe, its economy, its social security systems, are very much seen as defensive systems attacked by surrounding challenges. It is common (hidden) agreement that there is a certain incompatibility between old structures and these challenges. It is then a matter of basic belief systems whether this incompatibility is seen as a threat or as an opportunity.

External forces versus interfaces

This perspective of external challenges confronting well fenced positions is widespread, characteristic of many organisations and individuals. At the level of enterprises, market research is an example of traditional ways of dealing with customers as external challenges. Taylor's scientific management likewise dealt with the alien world of operative workers as an external challenge, even inside the enterprise. Innovations occurred nonetheless, even out of these strictly externalised confrontations of different reference systems. Market research may result in new product ideas, and taylorism resulted in rather effective production systems, based on specialisation and top-down control.

To establish a culture of innovativeness, however, a perspective of interfaces being primarily fences between reference systems will never be successful. As a consequence, innovating impulses resulting from these fenced and channelled contacts stay occasional and rather limited. Those interfaces are functionally predefined and are characterised by formal and informal (prescribed and not prescribed) norms and rules for both reference systems. They gain rationality from predefined, smooth functioning processes under hierarchical structures. Administrative processes regulated by law or classical top-down management in neo-Fordist enterprises do function by way of these interfaces between different managerial levels, between different departments and between organisations. The objective of interfaces here is to stabilise given ways of co-operation and communication and to avoid surprises, mingling of functions or spontaneous innovations. Innovations in those systems are seen as a function of specific departments, persons or structures. Emerging innovations elsewhere in the system are seen as a threatening disturbance of pre-planned processes.

Innovation and innovativeness

The term innovation is somewhat ambiguous: in common parlance, it denotes both a process and its results. It involves the transformation of an idea into a marketable product or service, a new or improved manufacturing or distribution process. When the word 'innovation' is used to refer to the new or improved product, equipment or service, which is

successful on the market, the emphasis is on the result. Both meanings of innovation are often used in parallel. Nevertheless, two aspects of the term are clear: innovation is synonymous with overcoming, change, break; it thus demonstrates the dynamic and evolutionary aspect of the economic system. Innovation is more than a "new idea": innovation takes place when information is brought into contact with resources (capital, skills, entrepreneurship, creativity).

The term "innovativeness" addresses a systematic capacity of structures or individuals to create those innovations. Especially in the United States, the debates focus on the exploration and development of sources of innovation capable of coping with external challenges by constantly innovating procedures and/or products. The concept of innovativeness of structures and individuals clearly reflects a situation of constant and accelerated change in our socio-economic environment whose challenges are no longer to be met by one-off innovations and long-term planning. Only by establishing flexibility and innovativeness as systematic features in our economic and social culture, Europe will (re)gain the socio-economic potential needed to succeed in global competition.

For some years, the enterprise culture has been changing dramatically: it is not primarily a change in ideological terms of new "democratic" patterns of enterprise modernisation but a necessary restructuring to meet the described external challenges. All examples of innovativeness (new work organisation, partnerships and networks) show one common feature. It is the productive confrontation of different reference systems that promises innovativeness. In other words, to foster innovativeness in structures and individuals, we want to open up fences, allow different and even contradictory references in, and change confrontation into co-production of common solutions.

A concept of systematically installing innovativeness into our economic and social culture has to exploit the potential of confronting different reference systems fully, by opening-up interfaces between these systems making them multidimensional, multilateral, non-directive and open to a whole range of consequences.

Of course, the new concept of gaining innovativeness by inviting different and sometimes contradictory interests to change processes and structures, seems to be in itself threatening for many traditional structures, functions and persons. Positions and roles evolve, authority becomes shaky and needs different foundations, and hierarchy itself is in question. Lifelong learning policies could easily benefit from that approach.

Networks and interfaces of innovativeness

Horizontal networking describes a quality of co-operation beyond hierarchical systems of order and control and also beyond neo-liberal ideologies of competition as the only possible relation in a market economy. Horizontal networks following rather abstract definitions are subsuming a whole range of different co-operative relations in reality. Characteristic of all these different ways of organisational networking is a co-operation of actors, or action units based on common interest, multilateral trust, direct self-control and assessment, and high flexibility of network relations. Horizontal networking inside enterprises, for example, has to find a way of steering the different groups along the lines of enterprise tasks in all of their autonomy, co-operating with each other. Networks of SMEs in the training field have to overcome competition and mistrust to find common ways in favour of human resource development and lifelong learning interests.

In the framework of deregulation all over Europe, there is specific emphasis on public-private partnerships, organised in horizontal networks. Again, this model bears enormous potential in terms of flexibility and innovativeness. On the other hand, we are facing specific problems on the side of classic bureaucracies to develop, for example, non-directive, open relationships with private organisations. In terms of innovation and innovativeness, these new networking activities inside and between organisations provide a fertile ground to establish systematic interfaces for innovation.

The network patterns of the learning region approach allow the highest degree of multilateral openness and are aiming at a mixture of all kinds of partnerships because they are based on the neutral ground of a common locality, including all sorts of interests, backgrounds, potentials and problems of local reference systems. This approach seems to be promising in terms of maximising the amount and optimising the quality of innovativeness interfaces.

The learning region

Systematically, the learning region concept uses complementary interests, competences and infrastructures of local actors to increase and exploit bottom-up the development potential of enterprises, institutions, administrations and human beings by way of partnerships and networks. Not denying all of the economising and rationalising potential that is available when SMEs and other actors co-operate at local level, the innovativeness that local and regional networks may create will now be examined.

Different starting points, similar structures, common objectives

Analysing pilot projects and other experiences in local networking, it becomes obvious that there is a variety of motivations, needs or demands, interests and backgrounds of local actors that may lead to the idea and to the first steps of co-operation networks that deserve the name of “learning region approach”. We find networks of socially-motivated initiatives of funded labour (second/first labour market), trying to create artificial jobs for the long-term unemployed. We find networks of enterprises for specific common activities (e.g. marketing, quality control, training). We find networks of farmers and associated agricultural production trying to improve marketing, common machinery or even alternative (green) farming.

These are just a few examples for many other local networking initiatives. Looking in more detail at these different approaches, it becomes quite clear that, even within one approach, the initial activity is generated by different actors. It may be an active farmer, committed to “green” farming, who initiates a network of other farmers and customers to produce and market food without chemicals. It may be a training provider creating a net of SMEs to deliver teaching aiming at a more effective and efficient human resource development. It may be a local labour market service inviting local entrepreneurs to regular meetings to create better jobs opportunities for the unemployed and to focus training on actual demand.

Similar structures

In all of these different sources of local networking, there are similar structures and processes that are characteristic of the learning region approach. One can mention the bottom-up initiatives, partnership and networking, local involvement and the flexibility concern.

Bottom-up activities. Initial action is taken by practical actors who want to improve their own activities by way of co-operation, partnerships and networks. It is not traditional government policies that are defining direction, structure and process of an intervention, but it is self-responsible action, deriving from an actual need that results in structures and processes constructed by the actors themselves. The principles of action are very similar: defining a common need and co-producing a solution are done by the same actors.

Partnership and networking. Co-production of common solutions is organised by way of partnership relations, transcending competition and bureaucratic control mechanisms. Multilateral trust, solidarity, direct personal involvement and control are the main mechanisms of network organisation. If contractual solutions are involved, regulations are simple, fair and easy to change by common agreement.

Local involvement. The general base for networking and partnership is the principle of a common local basis of the activities. Actors know each other, have common environments, understand local peculiarities, are living face to face with their co-producing partners and are confronted daily with their common solutions. Locality seems to be a rather weak tie for diverging interests but, because of its neutral character, provides a broad basis for co-operation and networking within and between different reference groups.

Flexibility. A network construction is based on actual needs, interests and potentials of practical actors; structures and processes of networks are changing with needs, interests and potentials. Even the existence of networks depends on actors' needs perception. Networks emerge, vanish and may be revived again.

Common objectives

The objectives of the learning region approach are the objectives of the actors involved. There is thus a variety of objectives visible in different existing approaches. On the other hand, when initiated by all of the different groups of actors and their respective motivations, a common objective emerges as a result of the learning region approach: the reduction of social segmentation at local and territorial level or, more positively, the re-creation of common interests as a result of holistic processes of local co-production by all thinkable reference groups. In this sense, communitarian philosophy may be reinforced by the learning region approach.

Having in mind the variety of possible initiating partnerships and motivations, the following considerations emphasise SME networks and employment initiatives as practical examples.

The region and the central role of SMEs

Since the first half of the 1980s, in the United States and in Europe, there is a clear evidence that SMEs will be responsible for any growth in employment in the coming century.

This is why local development through fostering and assisting SMEs is crucial for the improvement of regional employment.

SMEs form the backbone of economic life in most of the European regions. They are responsible for employment and jobs as well as for products and services. Education, training and lifelong learning in general raise a common set of issues for them. Finally, the taxes they pay allow governmental action. Even in regions dominated by large enterprises, SMEs play a key role, as suppliers for these large firms, subcontracting manufacturing or being in retail business.

Depending on the degree to which they lack capacities in various fields of enterprise modernisation, SMEs vitally need specific external services in order to meet the economic and technological challenges of the future. In the field of technological consultancy, this need has already been covered in different regions in Europe, by the foundation of centres for technological information and consultancy (e.g. "technopols"). This approach is undoubtedly useful but it has several weak points. Mainly three fields must be improved:

- Information and consultancy on technology are very often "technology-centred", which means they ignore the problems of the application of technology. It is essential to provide the specific SME with practical hints in relation to the very specific technological problem of the enterprise;
- Technological information and consultancy should be provided geographically very close to the SMEs. In general, the regional approach defines "region" in a very narrow "local" way;
- The centres for technological information and consultancy in most areas are still lacking a holistic approach in relation to enterprise problems. An effective application of modern technology in SMEs inevitably requires adequate measures to organise work and also requires adequate training for their employees.

Lifelong learning: specific difficulties for SMEs

In general, there is sufficient capacity for vocational training on a regional level to supply training for the different professions. But these training offers are not designed to meet the specific needs of SMEs in relation to the contents, the methods or the organisation of training. A general lack of acceptance of lifelong learning and human resource development in SMEs is the negative consequence of this situation.

Modern enterprises require learning as an integrated activity. That means that external training institutions have to act in a customer-oriented way in order to foster these activities. There is still a lot of confusion in SMEs concerning the role of learning and of human resource development in management policy. External training institutions have a major role to play in dealing with stereotypes, traditional thinking and irrationality. This requires capacity and competence in providing consultancy. There are also some material restrictions in SMEs in relation to human resource development. Most of them are financial and organisational (it is never easy for enterprises to send their staff to external, long-term seminars). Training institutions have to deal with these problems creatively. They should view these restrictions as challenges to foster innovative solutions. Training institutions need new concepts to meet these challenges. A close co-operation with SMEs is thus needed to deal with these problems and to integrate the activities of the external institution into the enterprise.

This co-operation includes integrated efforts in the analysis of the qualification needs, the development of concepts and programmes of learning and training and the delivery mechanisms, evaluation and further planning. Training institutions have to become more customer – and process-oriented, they have to develop services in consultancy and therefore need new professions in that field.

Becoming a learning enterprise

The interrelation between the organisation of learning and work also means the interrelation between the training institution and the enterprise. The term "learning organisation" in this case not only defines the restructuring of an enterprise to develop its abilities to learn, but includes an innovative method of co-operation between the training institution and the enterprise. The entity of this systemic co-operation is the learning organisation. To establish this kind of entity, comprising the enterprise and the training institution, both sides have to accomplish many tasks in reorganising, rethinking and interaction.

In terms of innovation theory, this co-operation between training provider and enterprise functions is an open interface. It co-produces innovations in both spheres: the "world of work" is changing as a result of learning and this is a positive challenge; on the other hand, 'learning' is pragmatically changed by its close connection to practical actions at the shop floor. The two reference systems "learning" and "working" are fruitfully confronted by training institutions versus SMEs. Innovativeness is systematically invented.

In this way, regional training groups are emerging simply as a result of the necessities of the training market in the segment of SMEs. The advantage of this procedure is the strict customer orientation in the emerging training groups, the flexibility of their structures and their fractal organisation. That means that different structures, contents and procedures emerge if needed but also vanish if no longer needed.

SMEs at the core of partnerships

This new kind of regional co-operation also provides an approach for SMEs that is very common in large enterprises: to plan and establish innovations in an integrated way by paralleling organisation development, human resources and technology applications. The practical co-operation of service providers for SMEs is a very basic element of the learning region. It is not governmental jurisdiction or "planification" that creates a potential of self-development and self-organisation. These processes only function through the innovative co-operation of all regional actors. Politics can only stimulate and initiate these processes by fostering and funding the creation of such partnerships. At the end, there must be space for self-responsible creation of regional development to make "learning regions" possible.

In the field of SME development, very concrete services can be listed that have to be covered by regional partnerships. Management training and consultancy in decision-making in SMEs in relation to all elements of enterprise development. Providing an infrastructure of information and consultancy on all aspects of the application of data-processing technologies in production or administration, easily available for all professionals in SMEs. Innovative and adequate ways of organising work processes in SMEs. Practical assistance to decisive methods of enterprise organisation. Finally, the services should include market analysis,

advices in relation to market development and opportunities, and provide a regional structure to foster product innovation.

Again, in terms of designing systems to create innovativeness, completing a network of SMEs integrated with nets of local service providers for SMEs opens up a multitude of interfaces between reference groups to co-produce new ideas, products and services that influence the regional economic pattern constructively. Customers' demands, multilateral potentials and needs are fruitfully confronted, interactively recombined, and lead to multilateral empowerment of local actors, influencing regional development bottom-up.

To conclude: how to use the reflections on innovations for lifelong learning policies

Networking and partnership of enterprises at local level are mainly aimed at the creation of business services, the transfer and adaptation of technologies by local business, local human resource development as a major intangible investment in innovation and modernisation of enterprises. Local development lies at the heart of the search for a new development strategy by seeking in particular to boost entrepreneurship, to optimise all the productive potential and to activate human resources and the potential of competences in all the territories.

The advantage of local networking activities for enterprises (especially for SMEs) lies first of all in the mutual exchange of experiences, knowledge and intangible potentials that leads to local economic development by possible feedback loops between all of the participants. Then, of course, certain constraints of size (SMEs) can be overcome in these partnerships: economies of scale can be achieved through common training, marketing and consultancy. The advantage resides in the evolution of an innovative culture of local enterprise development that results in "snow ball effects" at the side of economic development and employment.

Local development initiatives must take on a persistent and lasting nature: hence it is important to integrate a long-term dimension into them and to include them in an overall perspective, taking into account the constraints of scale (critical masses). Local development must therefore be based on "organisational" mechanisms giving preference to the constitution of networks of actors and their ability to experiment.

The example of SME networks as an element of the learning region demonstrates clearly the emerging innovativeness installed by open interfaces that are characterising these networks. Co-production of innovativeness is emerging from co-operation between SMEs and training providers, between SMEs and counter SMEs, between service providers and other institutions. Innovativeness within learning regions is increasing whenever new references groups are involved in emerging networks. In these examples, the involvement of local labour services and social initiatives would stimulate new solutions for labour market problems, lifelong learning issues and against social exclusion.

Towards a framework for assessment practices in the context of work and learning: measuring human competences

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Key words: framework; assessment; competences; knowledge society; informal learning.

Frameworks as tools for governance

In a fascinating study about "21st century governance" (OECD, 2000) it is argued that government, like enterprises, should rely much less on top-down command structures. Instead, it should enhance decentralised, diversified processes of decision-making and negotiation, involving ever-changing constellations of stakeholders.

Clearly, there are preconditions to this shift: decentralisation and diversification should not lead to chaos. Therefore, *frameworks* should be established to enhance transparency, accountability and integrity.

A recent example of such a framework is the Internet. It has limitless possibilities in terms of use and content, thanks to global agreement on just a few standards and protocols. Older examples of frameworks include linguistic systems (alphabets, vocabularies); monetary systems (exchange rates, protocols for financial transactions); metric systems (measures of length, weight, engine power). Industries would not be able to operate globally without these frameworks. In the transition from the industrial to the knowledge society, the question arises whether this calls for the establishment of new frameworks. Ample attention is already being paid to arrangements regarding innovations of a rather technological nature, e.g. electronic data interchange and mobile phoning.

Much less attention seems to be paid to frameworks for *the exchange of information about knowledge embedded in human beings.* In this contribution, I will argue that the balance should be restored. Human competence is becoming a new currency. It is key to sustainable growth, social cohesion and prevention of conflict. Transparency and accountability of human competence are just as crucial to the knowledge society as money and physical measures once were in the development of trade and in industrialisation.

I will describe how such a framework for human competence is slowly emerging today from a multitude of grass root activities. Assessment practices arise rather spontaneously within enterprises, between enterprises, in the labour market, in education. But it is now time for more concerted action by governments and multilateral organisations. Without it, we might end up in a situation that reminds of the Australian railroads. When the first tracks were constructed, states used different gauges and saw no reason to strive for a nation-wide standard. Interstate travellers experience this even today, as they wait for trains to change axes when crossing State borders. Likewise, rapid travel of fast-learning knowledge

workers from one work setting to another would be hindered if there were a lack of transparency regarding human competence.

Perhaps more important is the fact that the assessment and especially the recognition (validation, certification) of competences are *in themselves* powerful incentives to lifelong learning. People are far more likely to engage in (and pay for) learning – whether it is in education, in training situations, in the workplace, in community activities or in private – if they have the confidence that the learning outcomes will be recognised and validated within a widely accepted framework.

These and other points will be elaborated in this contribution, which is structured as follows.

Instruments to disclose information about human competence are not new. Some have already existed for a long time. We will first look at the two most familiar ones:

- the diploma structures of national education systems;
- and résumés or curricula vitae as are used in labour market transactions and other contexts.

We will then analyse how these traditional instruments are under *pressure from three trends:*

- the increasing flexibility on the labour market;
- the internalisation of learning markets and labour markets;
- and the growing awareness of non-formal learning and its consequences for lifelong learning strategies.

Against this backdrop, we will examine *five concrete examples of emerging or further developing assessment practices* in different contexts, and for slightly different purposes:

- knowledge management in enterprises;
- certification of experts;
- intellectual capital reporting;
- recognition of competence by education institutions;
- portfolios, and assessment practices in a labour market context.

The concluding paragraphs will indicate the synergy to be gained by concerted action, and proposes next steps, albeit in a very general manner.

Disclose information about human competences

National education systems and their diploma structures

In initial education, there is a long-standing tradition of measuring human competence. Schools have always had two main functions: (i) the teaching and learning of knowledge, skills and attitudes, in other words the acquisition of competence, and (ii) the certification of competence. Some even argue that the latter function is dominant. Through a sequence of exams, tests, papers, assessments, students are being certified as ‘owners’ of a certain set of competences. Especially in those countries where vocational education has developed strongly, diplomas have become passports to the labour market. For a long time, this situation was satisfactory, both from the learner’s viewpoint and from a labour market’s viewpoint.

In the industrial age, the vast majority of workers hardly ever changed professions or even jobs during their working lives. The information about a person's competence, embedded in his or her educational credentials, remained rather valid and reliable throughout working life. Of course, additional competence was acquired by learning in the workplace (informal learning) and by learning in work-related courses (non-formal learning). But there was no strong need to register this additional competence very accurately. Management used to monitor the personal development of its personnel informally, and rewarded it by subsequent promotions within a rather predictable career pattern. Job mobility, either upward or horizontal, usually took place within the same company or in the same branch.

Résumés or curricula vitae

However, as the labour market became more dynamic and job transitions more frequent, the use of résumés (or curricula vitae) spread widely. Although there is no official format to résumés, they usually contain three major categories of information:

- An overview of regular diplomas acquired in initial education, supplemented by certificates from additional courses.
- A job history. It is remarkable that jobs are nowadays often listed in reversed chronological order, which implies that recent experience is regarded more relevant than the first jobs.
- An overview of hobbies and leisure time activities, with an emphasis on public functions. This is often supplemented with a list of personal skills ranging from language and ICT-skills, generic abilities such as team working, problem-solving and communication, to personal characteristics.

It is interesting that over time a process of "spontaneous harmonisation" of résumés has obviously taken place. There never was a supra-national regulatory body that has set the standard or issued guidelines for résumés. Yet, they are more or less the same all over the world. Nevertheless, there seems to be some dissatisfaction among employers about the diversity that still exists. This is reflected in the fact that employers sometimes provide standardised forms to job applicants in order to enhance comparability.

Another weakness of résumés is that they contain predominantly self-reported information. Apart from the information regarding diplomas and certificates, they are not externally validated; anybody can write anything in his of her résumé. Going back to the three main categories of résumés, one might say that the latter two (job history and leisure time activities or miscellaneous skills) contain primitive measures of informally acquired human competence. The word "primitive" is not meant in a pejorative sense, but simply in the sense of measures in their very early stage of development.

As we all know, the fact that a person has been working in job X during a Y number of years is no more than just a vague indication that certain abilities are present. This is why employers always use additional recruitment instruments such as application interviews, inquiries about past job performance, assessments, probation, et cetera.

Changes and pressures

Trend 1: Increasing diversity of job requirements and flexibility of labour markets

The fact that diplomas have been supplemented by 'richer' documents such as résumés strongly indicates that something has been changing in the world of work. And the fact that even *résumés*, are in turn, supplemented by a growing number of additional recruitment techniques is an even stronger indication.

The driving force behind all this is a mega-trend that has been described in such a host of books and articles that we shall refer to it only very briefly. It is the trend towards greater diversity of job requirements and flexibility on the labour market. Crafts and professions become much less standardised, and people change jobs – and perhaps even professions – more than once in a lifetime. Increasingly, workers do not hold jobs any more in the traditional sense, but are hired on a temporary or project basis.

There is some discussion about this point; some argue that this trend is not supported by empirical data, and that job tenure has in fact not diminished in recent decades. But others argue that outsourcing cannot entirely be identified by this indicator. Imagine, for instance, a car repair company that had a number of welders on the payroll in the old situation. In the new situation it prefers not to constantly employ such craftsmen, but hire them on a flexible basis. These welders may well be on the payroll of a specialised company, whose core business it is to "rent" welding capacity. Thus, statistics regarding labour turnover do not show the whole picture.

This trend towards more diversity and flexibility on the labour market is caused by a number of changes in technology, in the economy, in the organisation of work, and in the social arena. We will not go into these developments, nor, at this stage, into their consequences for instruments to measure (and disclose information about) human competence. It is clear, however, that the growing specificity of the information needed by employers when hiring personnel and the increasing frequency of such labour market transactions are making the traditional instruments (educational qualifications and résumés) obsolete.

Trend 2: The internationalisation of learning markets and labour markets

School-leavers, especially those at higher education level, increasingly search and find jobs abroad. Likewise, a growing number of students go abroad for study, either for short-term study arrangements and internships, or for the whole duration of the courses.

However, education systems, *casu quo* diploma structures, are usually organised on a national basis (although some countries have "exported" their systems to, for instance, former colonies). That caused no problem as long as international labour turnover and study abroad were scarce, but we now observe problems in this respect. We also observe solutions. Let us take a closer look at three examples of instruments to facilitate the internationalisation of labour and learning markets.

- The ECTS (European Credit Transfer Scheme) for the Europe-wide recognition of credit points acquired in initial education, and hence the facilitation of study abroad;

- The Europass, a comparable instrument, in this case aimed at competence acquired during internships abroad;
- The so-called Sorbonne-Bologna process, where education ministers of a number of European countries have agreed to harmonise their higher education systems on the basis of the Anglo-Saxon degree system (bachelors and masters degree).

Different as they are, all three initiatives somehow enhance the transparency of human competence, both within the learning market and the labour market. For example, the Europass is not only helpful in integrating foreign experience as an apprentice in the "home curriculum", but is also a signal from the learner to domestic and foreign employers.

In each of these three cases, a central actor is involved. Both the ECTS and the Europass are official European Union policies, based on European Union visions. And the Sorbonne-Bologna process, although managed in a decentralised manner by education ministers, would have been difficult to imagine had there been no European Union.

Trend 3: The growing awareness of the importance of non-formal learning

It was already mentioned that non-formal learning (in the workplace, in the community, during leisure time activities such as travel) is hardly captured by educational qualifications, and that it is only vaguely described in *résumés*. Yet, its importance is growing, and so is the awareness of its importance. I will argue here that if the measurement of non-formal learning could be advanced, this could eventually cause a breakthrough in realising lifelong learning strategies.

Today, discussions about how to increase participation in tertiary and post-initial education are often dominated by financial aspects. To put it simply, the leading questions are: how expensive is it, can it be made cheaper, and who should pay? Not only the costs of learning facilities (salaries for teachers and trainers; school buildings; manuals; courseware) are considered to be high, but also the opportunity costs. Every year spent in education means a substantial amount of forgone income to the learner, and every day spent on training means forgone production to the employer.

At the same time, however, there is growing awareness that non-formal learning is very powerful and relevant. In this respect, Boshier (1998) speaks of lifelong and *lifewide* learning, whereas Coffield (2000) regards formal learning in institutions as just the tip of the iceberg, vis-à-vis the mass of learning that takes places informally and implicitly.

This complicates the discussion about how to finance lifelong learning. How does one finance, for instance, workplace learning? This is not to suggest that workplace learning is "wild", in the sense that it would be totally spontaneous; implicit; impossible to organise; and hence free of charge. It is not. Aring *et al.* (1998) have traced teamwork and open communication as some of the main conditions for workplace learning; we all know that creating these conditions is certainly not without effort and costs. Kessels (1996) has developed the concept of the "corporate curriculum" as an integrated set of conditions to create a powerful learning environment on the job. This approach too implies that workplace learning requires ample attention and is not for free. But the point is that the efforts and costs to stimulate workplace learning cannot be *separated* from the regular, operational efforts and costs made to enhance productivity. Open communication is a good idea anyhow, also from a

productivity viewpoint. The costs of stimulating it, if visible at all, cannot be assigned to non-formal learning alone.

This is why financial instruments to stimulate lifelong learning, whether old or new – ranging from levy systems, via tax facilities, to individual learning accounts – are usually not targeted on workplace learning. *Financial instruments can be lifelong but hardly lifewide*. Their bias in favour of formal learning and training tends to make them less beneficial to those with practical learning styles and few educational qualifications. Hence, it is difficult to apply them in such a way that they help to close the divide between highly and poorly qualified. And even if they are designed to do that, they risk to be stigmatised as a typical instrument for "those who weren't very good at school".

So, instead of financing learning "inputs" (such as education, training and courses) it can be argued that the focus should shift to recognising learning outcomes (van Ravens, 1999). If competences that are acquired in the workplace (*casu quo* in the community or in private) were assessed and certified, this would be both an incentive to the employer to develop a good learning environment, and to the learner to make full use of the learning opportunities at work (and elsewhere). It would overcome the bias of the present situation in which only formal learning is certified.

This bias is becoming even more harmful against the backdrop of the "long boom": the (predicted) long period of economic growth, a result of the maturation of information and communication technology (ICT) -based products and production.

One of the effects of the long boom, fuelled by demographic change, is growing scarcity of labour. As a result, the opportunity costs of both initial education and formal training will be sky-rocketing. Already we can observe in some countries that the trend towards extended stay in initial education seems to alter, and that the growth of formal training has stopped, simply because employers cannot afford to send their scarce employees to off-job training courses. Demography and the long boom may become powerful driving forces towards informal learning and its recognition.

There are more arguments in favour of a level playing field for the various types of learning (formal, non-formal, informal/implicit). In this contribution, I just want to address equity as being perhaps the most crucial one. Those who are weak in theoretical, cognitive learning modes usually come from disadvantaged backgrounds. Given the scarcity of cultural capital in the home situation, traditional education has a hard time overcoming their disadvantages. In practice, the school system may even emphasise their failure and enhances their negative stigma, despite all good intentions.

Personally, I would argue that it could be one of the basic human rights that each person can demand that his or her competences be recognised, regardless where and how they were acquired, and regardless whether they were acquired during the school period or later in life. The reference to human rights may seem to be an exaggeration, but I truly think that this "new human right" is an unavoidable implication of the knowledge society.

We will now review a number of assessment practices that may one day become elements of a more overarching framework.

Assessment practices

Example 1: Knowledge management in enterprises

Human competence has always been an important factor in production and service processes, but its importance is growing and its management is becoming more sophisticated.

Traditional personnel management was mainly occupied with hiring, firing and promoting staff. A few decades ago, it was followed up by human resources management. The latter recognised, among other things, that personnel was a resource; that it is necessary to monitor the state it is in; that frequent investment in it (in the form of training) is necessary; that its (re)allocation (in the form of internal mobility) needs to be seen in the light of a personal development strategy.

Competence management is the next step. The idea is now that personnel is not so much a quasi *commodity*, but that it represents a *potential* to produce, compete and innovate. As such, regular personnel is, in principle, exchangeable with, for instance, specialists hired on a temporary basis, or even, in some cases, with the software of expert systems. Competence management works outside in. It does not start from the available stock of competences, but from the company's external strategy. It determines what competences are needed to reach the goals, and then selects these competences from a range of options: reallocation of its own personnel; retraining of its own personnel; hiring new people, either on a structural or temporary basis; outsourcing tasks (and perhaps laying off workers) that are insufficiently related to the core competences of the organisation; and attracting knowledge in other than human forms (software; publications; components; interactions with suppliers and clients).

Competence management can be seen as part of a wider concept: knowledge management. This encompasses the whole "knowledge household" of the firm and addresses issues such as research and development, patents, brand names. It is almost self-evident: in this dynamic vision of enterprise management, the traditional measures of human competence such as diplomas and *résumés* are hopelessly insufficient. Much more precision and timeliness is needed with regard to the information about staff quality if day-to-day decisions need to be taken about the allocation of people and other sources of knowledge.

Indeed, we observe that firms increasingly apply methods to assess and register the competence of their personnel. Often these assessments are the basis for decisions about further training, task mobility or job mobility. No standard seems to be emerging yet from these practices, but some firms do use the regular education system (or national qualification system) as a reference point. In this approach, a worker may enter the firm at the level of, for instance, secondary vocational education, and then gradually migrate to a higher level and become a quasi higher vocational education graduate.

It is obvious that a lot of synergy (between employer, employee and government) would be gained if such a development could be reinforced by indeed granting this employee the official degree that belongs to the level he or she has reached. Some developments point in this direction, as we shall see.

Example 2: Certification of experts

This example comes from a totally different angle. In recent years, managerial concepts such as total quality management and just-in-time delivery have caused a need for a trustworthy and global system of quality assurance. Systems like the so-called "ISO-9000" series have been put in place to meet this need. It was introduced as an instrument that certifies the quality of products in a transparent and accountable manner. All around the world, firms can be assured those products, machines and components meet predefined quality demands if the ISO certificate is issued. Suppliers may loose this certification if they fail to live up to it.

It was not surprising that ISO certification spread from just manufacturing to also the service sector. Services may be somewhat more complicated to certify than physical products, but the need for it is very strong since a growing proportion of GDP consists of them.

The next step was just as logical: since the quality of services depends highly – in some cases almost entirely – on the quality of the people who render the service, certification is now spreading to experts. Workers in a growing number of professions can now be subcontracted by firms or consumers in the certainty that their expertise meets the norms of a global and reputed framework for certification.

The interaction of this example with the previous one (knowledge management) is obvious: the more firms tend to outsource tasks or hire peoples on a flexible basis (see trend 1), the stronger the need for transparency of the competence of the people to be hired. And vice versa: the more this need is met, the more firms will indeed make their competence management dynamic. According to some, this self-reinforcing process will make way for a situation where the proportion of traditional employer-employee relations diminishes, and where a growing proportion of workers become one-person firms that hire others, and/or are being hired by others. In some sectors (media, marketing, advertising, but also construction work) we can already observe such a networked pattern of supply, production and outsourcing, although supplier-client partnerships often still rest on trust and reputation, not certification.

One may argue that co-operation on the basis of trust and reputation is more romantic than transactions based on certification. On the other hand, *if* certification did spread more widely, this would probably give way to much more economic dynamism.

Certification systems in a business-to-business context have an amazing market penetration power. If only one or two competitors in a market are certified, all others will need to follow or else run the risk of being put out of business. ISO was never initiated by any supra-national organisation, yet it reached an international status almost automatically. The spread of certification of experts thrives on a very powerful driving force (i.e. new emerging forms of organisation of production) and as such it may prove to be just as strong an input to an overarching framework – if that would ever arise – regular education and its diploma structure.

Both types of assessment structures – the "public" education systems and the "private" certification systems – have the possibility to feed into systems of enterprise-based knowledge management.

- In the preceding paragraph, we have already described how firms could use the regular diploma structure as a point of reference in their intellectual capital information systems;
- Alternatively, or perhaps additionally, firms can use the measures and formats of certification systems to integrate them in these information systems: the total "stock" of certifications held by the experts on a firm's payroll represents an easily measured part of the intellectual capital of that firm;
- Finally, schools in their turn sometimes incorporate certification in the curriculum. For instance, the more general diploma requirements of a vocational course for welding may well include ISO- or other certifications for a number of welding techniques on specified levels.

In this triangle of education, certification and enterprise-based knowledge management, we see perhaps the beginning of an emerging, overarching framework. But let us first look at some more "ingredients".

Example 3: Intellectual capital reporting

Once again, this concerns an example of an assessment practice that comes in from a different angle. This time, the context is annual reporting by firms.

The main goal of this external reporting process is to disclose information about the performance of the firm to shareholders, stakeholders, suppliers and customers, personnel and the general public. The balance sheet is the core of this process. It contains primarily the so-called tangible assets of the firm: machines, stocks and buildings.

To a much lesser extent, if at all, the balance sheet contains the intangible assets, also referred to as intellectual capital. These intangible assets include:

- the intellectual property (patents, licences);
- the intellectual assets (codified knowledge);
- the human capital or human resources (the competences of employees);
- the relational capital (relations with suppliers, customers, universities, et cetera);
- the structural capital (the quality of the organisation of production) (Guerrero, 1999).

The reasons for the near absence of intellectual capital in annual reporting are that (i) when accountancy regulations were put in place, these assets were not quite as crucial as they are today, and (ii) that intellectual capital – especially human capital – is not really owned by the firm.

This situation becomes the more problematic as knowledge develops as the key driving force of production. If indicators of knowledge are missing, annual reporting tends to become meaningless. For example, the tangible assets of a publisher are only a fraction of its market value, since relational capital – essential to publishers – is among the intangibles. Thus, capital markets have increasing difficulty in assessing the performance of firms and the value of their shares. If they continued to do this on the basis of balance sheets, they would tend to underestimate the value of knowledge-intensive firms. As a result, capital markets increasingly neglect traditional instruments of reporting. More recently, by the way, this lack of reliable information has also led to *over*-estimation of knowledge-intensive firms. This seems to be the case for some overrated Internet companies.

Attempts to overcome this problem are several. For some time, both the OECD and the European Union have played with the idea of developing measures of intellectual capital and of including them in the balance sheet, and, when this turned out to be impossible, "going around" traditional accountancy rules and reporting separately about intellectual capital. Attempts were undertaken to develop and spread the use of alternative reporting documents, such as the so-called balanced scorecard.

This development opened new vistas, not just for capital markets, but also for the world of education. To shareholders and potential investors, information about intangibles (including human resources) is only meaningful if it is comparable over many, and preferably all, firms. Thus, the idea of intellectual capital reporting promised to pave the way for comparable measures of human competence.

With this in mind, a conference was held in 1999, organised by the OECD, the Dutch Ministries of Economic Affairs and of Education and the Nordic Industrial Fund. One of the aims was to take stock of intellectual capital reporting as it develops today, and to see if standards, or at least common approaches, were emerging.

It became clear, however, that although firms do develop indicators about their human resources, they do so primarily from an internal point of view. The objective is to improve the basis for (internal) knowledge management rather than external reporting. The efforts to enhance comparability among firms turned out less strong than may have been expected, except where firms engage in "benchmarking". This is a process where firms disclose standardised information to a central actor on a confidential basis. This central actor then compares and analyses the data, and reports back to the firms that participate.

The lack of comparability and the low sense of urgency about it make that the metaphor of the Australian railroads, brought forward in the introduction, still seems dangerously relevant. At the moment, it is unclear to which extent intellectual capital reporting will contribute to the development of a framework of measures of human competence. Recently, the attention seems to shift from the various components of intellectual capital to the process of value creation, i.e. from inputs to outputs. The leading question would concern the factors and circumstances (driving forces) that are crucial for the firm to create value (OECD, 1999).

Example 4: Recognition of competence by education institutions

We looked at how the assessment of (the outcomes of) *formal* learning is part of the core business of education institutions. For ages, however, *some* education institutions have also measured competences acquired in the workplace: the so-called apprenticeship or "dual" systems. Particularly Germany and some of its bordering countries have a long-standing tradition of incorporating work-based learning in the curriculum. Assessments may regard both the quality and relevance of the learning environment *ex ante*, and the learning outcomes by the student *ex post*.

A number of Anglo-Saxon countries that lack this tradition have developed an interesting alternative. Education institutions are confronted with an increasingly diverse student population. A growing number of adult learners bring a rich amount of work and life experience to the classroom, whereas even younger students often prefer a work-study

pathway to extended full-time schooling, be it for economic reasons, be it for personal preference.

In response to these trends, a practice has emerged that is usually referred to as Accreditation of Prior (Experiential) Learning, AP(E)L. The word "experiential" is to emphasise that not just formal courses, but also workplace and other informal learning may be assessed and be submitted for exemption for certain parts of the curriculum. The word "prior" stems from the time when AP(E)L was introduced as an admission tool. The original goal was to lower the threshold of tertiary education to those without sufficient formal qualifications. Since there is no reason why AP(E)L cannot be applied to informal learning that occurs *after* admission, the letter P is likely to be deleted in the future.

Hence, convergence of the continental and Anglo-Saxon approaches to work-based learning is likely. For instance, the Dutch so-called SME-pathway offers the opportunity to absolve a large part of the curriculum by assessments of work-based learning. The student is regarded and treated as an employee rather than as an apprentice, and as far as formal learning plays a role, it is "bought" by the student-worker by means of vouchers.

The demand for highly flexible pathways is fuelled by scarcity on the labour market (caused itself by the economic boom and demographic shift). Learners and employers share an interest in short initial study tracks; early job entry; followed by flexible arrangements to combine further study with work. For instance, many write their thesis about a practical problem in the workplace that needs to be solved. Even the education sector itself – traditionally strict but troubled by a shortage of teachers – develops creative solutions to enhance (re-)entry into the teaching profession.

This new dynamism brings the worlds of education and work closer together. From my own practice as a trainer of personnel managers, I recall frequent negotiations with the student and his or her workplace coach about the tasks to be performed and the guidance and counselling to be provided. These negotiations were in themselves excellent learning experiences to all involved. Wailey and Simpson (2000) describe how AP(E)L-based learning arrangements deepen the pedagogy of the learning process and the personal development of the learner, and thus close the gaps between work and learning, and between business and education. AP(E)L is becoming much more than just a way to enhance enrolment.

One can say that the modernisation of apprenticeship schemes and the introduction of assessment of non-formal learning by education institutions are giving the education sector a firm place in the triangle (education, certification, enterprises) that develops around the issue of measuring human competence. But education goes one step further, and that brings us to a fourth arena: the labour market.

Example 5: Portfolios and assessment practices in labour market context

As education institutions diversify their programmes and as the possibilities of inserting experiential learning in the curriculum increase, the diplomas of these courses tend to loose their original information value. Diplomas cover an increasingly varied range of competences, and to employers it becomes unclear what the graduate has actually learned. In reaction, education institutions have begun to issue portfolios – sometimes referred to as records of achievement – in addition to diplomas.

These documents – sometimes in the shape of leather covers containing a number of annexes – can be regarded as standardised résumés where various types of information about the competences of the holder have their own place. They go far beyond diplomas and may contain rather concrete proof of certain abilities. In the case of a carpenter, this may be a set of photographs of products made by this person.

The ambition is to develop these portfolios as new communication instruments on the labour market. Unlike diplomas, they can be updated throughout life, whenever additional learning has taken place and has been measured. The opportunity to make explicit any acquired competence to any actor on the labour market can be regarded as an incentive in itself to learn further, as was indicated above, when addressing the shift from financing learning inputs to recognising learning outputs. Portfolios can therefore become instruments in lifelong learning strategies. They are, for instance, part of arrangements such as the individual learning account, where people can save and spend money for learning under favourable conditions. In March 2000, the European Council has made the creation of a Europe-wide portfolio – or standardised curriculum vitae as it was called –one of the priority actions to develop the European Union as a competitive knowledge economy.

In many countries, employment offices are issuing portfolios as well. They do so for the same reasons as education institutions do, but for a different target group: the unemployed and other job-seekers.

Unemployed people often have many more competences than their formal qualifications reflect. So, before providing unemployed persons with training opportunities, employment offices increasingly apply assessments in order to identify available skills and skills gaps, either in general (for those with a "large distance to the labour market") or in a more specific way (if concrete job opportunities are at hand). Finally, their formal and informal qualifications are summarised in portfolios, of more or less the same nature as those issued by education institutions.

Conclusion: New roles for assessment in a knowledge society?

The following observations come forward very strongly:

- There is no reason why the portfolios issued by employment offices should differ from those issued by education institutions;
- It is unclear why enterprises would not be able to use these documents for internal knowledge management and for external reporting about their human resources;
- It is hard to think why these portfolios could not include the ISO- or other certifications held by the person in question and their expiry dates;
- It is difficult to believe that the assessment of human competence needs different methods and measures according to whether a person wants to enter a job, a school, a labour market programme or registration as a certified expert.

To put all this in a positive mode: there is every reason to link assessment practices in the contexts of work and learning.

- There are strong reasons why employers will need more transparency and accountability of human competence in the future; why they want that to be more timely; and why they want that information to be more precise;

- There are strong reasons why learners will want to break loose from the national education system as the sole provider of accredited competence, and want to enter a framework where any kind of learning finds its place.

It is *not* yet clear what that framework will look like, and how it is to be realised. It is certainly impossible to design it at this moment, and to approach that blueprint step by step in a linear, well-charted course. Nevertheless, exploratory action can be taken. If it is not, an uncontrolled process may develop where the public education system and the market-driven certification systems will compete rather than merge. Supra-national organisations such as the UNESCO, the OECD and the European Union are well placed to take that action.

A way forward on a national level could be the development of National Competency Accounts (Huset Mandag Morgen, 2000) following the example set by Denmark.

What the portfolio is for an individual, and what the intellectual capital account is for an enterprise, could become the Competency Accounts for a nation. It is an instrument that makes visible the knowledge embedded in a nation. As such, it supplements the traditional National Accounts that only account for the "tangible assets" of the economy. Its value and impact may be symbolic but immense, in that it underlines the importance of knowledge in all its forms and for all of its goals, and may stimulate the conceptual work needed to develop the first outlines of a framework for competence.

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CHAPTER 3: FORMAL AND NON-FORMAL LEARNING

Sharing responsibilities for lifelong learning

Danielle Colardyn

The two previous chapters have reviewed issues and experiments dealing with formal and non-formal learning. Several remarks can be made before tackling the question of linkages.

First, the need to pursue the opening-up of formal education and training systems, both at secondary and tertiary levels, was well illustrated. The various contributions mention some of the first results of the opening-up: prior learning assessment (PLA) as a new access route to diplomas is becoming a reality in many education and training systems of European countries. But this does not mean that many individuals are using PLA to upgrade their qualification, as it is not yet a common practice. It could also be that the use of PLA towards acquiring a diploma would not attract adult learners. It would be important to find out how many adults actually have fully benefited from this device and have acquired a formal qualification.

Second, other ways of opening-up formal learning could be progressively extended as, for example, the possibilities offered by information technology and multimedia. This could benefit both formal and non-formal learning.

Third, new assessment methodologies are being developed everywhere at significant speed. In the main, they concern non-formal learning where quality requirements are the same as in a formal setting. Tools may differ (portfolios, Europass or others), but quality requirements exist in both cases.

Fourth, if quality issues concern both formal and non-formal learning, the processes involved are different. Indeed, formal learning is characterised by “inputs”: quality assurance deals with the complete education and training process (from definition of standards to examinations, including teacher training and school equipment, for example). Non-formal learning is characterised by “outcomes”, what is actually achieved, regardless of where or when learning occurred. The quality assurance enabling to certify a particular outcome has in some cases to be requested in order to prove that it was acquired independently from any education and training process. So, the quality issue remains; the procedures for quality assurance differ.

These four remarks lead to the question of the links and articulations that could be imagined between formal and non-formal learning. How could these links, relationships, articulations be defined? Should there be links? If so, what links? How constraining should they be? By whom and how should they be established? The contributions will bring some indicative, tentative and provisional answers or directions to be develop in the conclusions.

It is hoped that this chapter will contribute to the debate by examining several dimensions. It will discuss the responsibilities public authorities are willing to take and how they address the difficulties raised by lifelong learning with regard to co-operation between various authorities, departments and ministries. The resources required for the implementation of lifelong learning are likely to be considerable. However, the development of the non-formal sector offers an opportunity for improving the cost-effectiveness of the learning process, and provides the basis for financing partnerships. Finally, at the European Union level, the recent Memorandum on Lifelong Learning underlines the need to implement what should not remain a generous idea, as happened with recurrent and second-chance education. In progressively becoming a knowledge society, candidate countries of Central and Eastern Europe should benefit as much as possible of the lifelong learning dynamic to strengthen their potentialities.

As Pierre Laderrière's contribution highlights, lifelong learning poses a formidable challenge to public authorities. He notes that it is now several decades since an education and training reform of such magnitude was proposed or imagined. The author, in the light of similar or recent reforms, examines what long-term strategy public authorities should adopt if lifelong learning is not to remain just a slogan. A brief historical perspective looks at teacher policies and at recurrent education.

New approaches to reform strategies are examined, and the "rolling reform" concept that emerged in the 1970s is viewed as a useful approach. Educational research and development is still largely wanting, and this does not help decision-makers to take steps in the right direction. Neither support structures nor human resource development for teachers are sufficient. Finally, co-ordination between the various public partners (departments, ministries) is too weak to face such broad and diverse issues as those of lifelong learning.

Of course, a lifelong learning strategy, once it is formulated, will not be implemented overnight. Progress is made especially in the fields of standards and prior learning assessment. Nevertheless, lifelong learning concerns not only adult education but also basic initial instruction. As initial education is the foundation for lifelong learning, more attention should be paid to its specific problems. Is concentrating on adults a way of overcoming the difficulty of dealing with initial education as the foundation for lifelong learning? The general emphasis public authorities (ministries of education and employment) place on adult education is nevertheless more in line with a global lifelong learning system while the same authorities usually adopt a rather piecemeal approach as far as basic education is concerned. The development of a "one-house strategy" for the various authorities in charge of one or another part of a lifelong learning policy and strategy would be helpful. It would also help other actors involved in lifelong learning.

Public authorities have a critical role to play in identifying the resource and financial implications of lifelong learning; strategies for addressing such issues include those that improve complementarities of formal and non-formal learning settings. Gregory Wurzburg reviews recent estimates of the resources required to implement lifelong learning in selected OECD Member countries under various policy scenarios. Lifelong learning implies increased participation in early childhood education and care, increased rates of completion in upper secondary schooling, increased participation in tertiary education, and increased participation in adult learning. The author provides an estimate of these increases, or the "participation gaps", and of the cost associated to them.

The "gaps" represent estimates of the volume increase in participation needed in order to bring participation or completion rates of a given country up to a benchmark level (average or good practice; third- or fourth-best country). The estimates are optimistic, except for adults. For adults, the benchmark used can be the proportion of adults "at risk" in countries with good practice. A more constraining indicator is the volume of training required to raise the at-risk group up to the average volume of more qualified workers. To raise the volume of training to a "good practice" level means that, for some countries, the number of individuals involved is two or more times the size of the secondary school population. This represents a huge number of individuals. For the at-risk adult group to receive the same volume of training as more qualified adults (the goal of equalising opportunities), it would require an even larger increase. This scenario deals with the well-known and demonstrated fact that adult participation in education and training very strongly relates to the initial level of educational attainment (and to the literacy level).

To estimate the consequences in terms of costs in formal education, one can only rely on past trends: they reveal that expansion in capacity is frequently associated with an increase in expenditure per student. One can thus speculate that lifelong learning, if developed, will require more resources from the public sector (or a reallocation of resources). Here too, but this time for financial reasons, the role of the private sector could well be crucial. On the public side, the strategy would be to have more for the same cost, and, on the private side, to have more for the same investment.

The issue of sharing responsibilities calls for serious debates with public authorities, with social partners and other actors involved, or likely to be, in lifelong learning development. The Memorandum on Lifelong Learning, introduced by Tomas Niklasson, aims to launch a wide debate in member States and at European level on coherent strategies to move from rhetoric to practice. The framework it proposes encompasses key issues for debate: basic skills, investing in people, learning and teaching methods, valuing learning, guidance and counselling, and bringing learning closer to learners.

At the institutional level, this memorandum is the result of the debate on lifelong learning that took place since 1996, the European Year of Lifelong Learning, aiming at raising the awareness of people and institutions. Lifelong learning was thus included in the employment strategy (Amsterdam Treaty and the Luxembourg process in 1997). Since then, education and training have had an important place in the Community guidelines. For year 2001, lifelong learning is explicitly formulated: member States are asked to develop comprehensive and coherent strategies for lifelong learning, and to set national targets for an increase in investment in human resources and in participation in further education and training (whether formal or not[35]). The European Social Fund, programmes such as Socrates, Leonardo da Vinci, Youth, have brought the attention to employability and to the active citizenship dimensions of lifelong learning. As declared recently (in the Feira Council, 2000), "*Lifelong learning is an essential policy for the development of citizenship, social cohesion and employment*."

If a coherent strategy of lifelong learning has not yet been developed in the European countries, elements of a strategy progressively appear: the "add-on" approach, is now making room for a comprehensive conception of lifelong learning as a way to prevent social

[35] In the text.

exclusion. Facilitating all possible transitions that individuals face all through their lives becomes an explicit aim; or, as the author notes, “to give people opportunities to build their individual pathways”. Therefore, boundaries between education and training and work -- in fact, between various learning settings -- need to become more transparent, which raises questions on sharing responsibilities.

Haralabos Fragoulis examines the lifelong learning challenges with a special focus on European Union candidate countries of Central and Eastern Europe. He analyses what is of particular relevance to them. Some of the important features that can potentially have an impact and create the synergy needed are a change in attitude towards learning and the new concern with equity and quality.

The nature and concept of work is changing in the European Union as well as in transition countries. The design of a new relationship between learning and work can be beneficial to both. As the author develops, “*Treating learning as a recognised form of work and work as a valuable source of learning will bring about a new reconciliation of these two realities.*” The development of new forms of dialogue is also a main challenge. The key working assumption in his contribution is the specificity of the on-going transition process in these countries. While indeed they are still in the process of addressing the legacy of the previous regime, this task has been further complicated by the hardships and negative implications of transition itself. Departing from the patterns of a planned economy, with over-specialisation of the workforce and a narrow initial education system, while trying to improve the quality and relevance of education and training, is a lengthy process. After many experiments and pilot initiatives, candidate countries are now looking for the best way to capitalise their positive outcomes and feed them into a modern system. The current situation is marked by partial breakthroughs, which are steps towards a systemic overhaul.

The innovative role a concept such as lifelong learning can play to help countries consolidate their present attempts is illustrated with the cases of Slovenia and Hungary. The economic and social dimensions of lifelong learning can help accelerate the process leading to convergence with the European Union. These countries may take advantage of the transition process and build into their systems the new dimensions attached to lifelong learning. The lifelong learning strategy thus acquires its topical relevance for transition countries as a key mobilising parameter which has the potential of reinforcing the convergence of performances between present and future European Union countries.

Progress is made in the linkages and, the directions for future implementations of lifelong learning become increasingly clear.

Lifelong learning: a challenge for public authorities

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Key words: recurrent education, teaching and learning processes, human resource development, educational research and development, innovation policy.

Time is ripe to observe an interesting, if not crucial, phenomenon affecting social life in European countries: a broad agreement of all partners concerned on the need to develop lifelong learning as a foundation of education and of a knowledge society. It is good news, but is it a sustainable policy goal in conjunction with what is expected from public authorities? Of course, policy-makers, researchers and groups of citizens sharing a true liberal ideology, consider that, by and large, the market approach will be the least complicated and the most efficient solution. They rightly underline that a large segment of vocational/professional education for adults is practically privatised in its functioning and that the ongoing decentralisation of initial education, if it is well supported, will facilitate the potential unification of the whole education and training implied by lifelong learning. But even those making a strong plea in favour of more market-oriented policies agree that the development of education refers to the notion of "social market", and requires a general policy framework and a follow-up strategy established and run by so-called public authorities. The latter could of course be quite different and in charge of more or less large functions according to national history and related subsidiarity principles.

It can therefore be deduced that a major societal change such as lifelong learning cannot be implemented if a number of broadly agreed functions of public authorities in the regulation of education policies are neglected. But such functions have not yet been fully clarified and the current key issue is what long-term strategy of implementation public authorities should adopt to make sure that lifelong learning will not remain a mere slogan. Are measures already taken going in the right direction? What is currently lacking? What are priority areas for policy action?

As we are at the beginning of a major policy process, we lack a sound database for a primary analysis of the measures already taken and their impact. The only standardised main source of information covering European countries is the recent Eurydice Survey to which we will systematically refer throughout the following paragraphs (Eurydice, 2000). But if we want to clarify the challenge faced by public authorities and to assess the context in which major policy decisions should be taken to attain to such an agreed overall aim, we must refer first to historical trends in similar policy issues and, secondly, to recent views on reform strategies. The confrontation of these elements with current policies could help us determine a series of problems which are still to be addressed.

A brief historical perspective

Since the end of World War Two, several major educational reforms or innovations have been attempted in Europe. They generally implied drastic and systemic changes in administration and management because of the values emerging at the root of the proposed

modifications. Only two examples will be quoted: one dealing with a resource issue, the other one with a topic very close to the lifelong learning issue. Thirty years ago, key stakeholders in teacher policies agreed upon radical changes in this field. But authorities were unable to implement coherent reform strategies and logistics when necessary. Why? If the overall aim was sufficiently broad to attract consensus, the framework for action was insufficiently precise to show key implications for each partner; here and there, partial measures were implemented as lip-service to the agreed broad aim. But they never reached a dense and systemic dimension which would have profoundly modified the traditional logic of functioning (Laderrière, 1989). Human resource development in education is still waiting for an adequate alternative solution. This example concerns only one educational resource – teachers – but the most important one.

With lifelong learning, we are dealing with the whole education and training system and the order of magnitude of its potential implications cannot be compared with that of a single – but complicated – resource issue. Instead of recalling the difficult long-term experience with teacher policies, we could indeed have mentioned the overall interest in "recurrent education" at the beginning of the 1970s. Even if the concept was broadly interpreted according to national practices and views, it was the first time that education and training were considered throughout the life of the individual. It clearly addressed the issue of intergenerational equality of opportunity and therefore already underlined specific measures to enhance adult learning (OECD, 1973). Even if the issue of quality of education was not so prominent as it was since the second half of the 1980s, several quarters already warned that the difficulty to attract certain adult groups had to do with the learning process they were offered during their initial education. But the analyses of such linkage were not sufficiently developed to help the various actors in more systematically implementing recurrent education, studies being split and rather concentrated either on initial education or on further education for adults. They generally did not clarify in depth the conditions for a new articulation between initial education and further education throughout the whole life span.

It is worth noting that the interest of European countries in recurrent education as a "frame-concept" regularly decreased and was only kept alive, sometimes without any reference to its origin, to guide more dynamic, if not innovative policies, in the field of adult education, especially in countries with a strong tradition of adult learning within a broad framework of equality of opportunity. The previous example limited to teacher policies is therefore easier to quote than the possible impact of recurrent education. A host of books, articles and research work have illustrated permanent issues raised by teacher policies, while the potential pervasive impact of recurrent education in society has rarely been analysed and assessed. Those who tried to promote it were not always convinced that they had to list in detail the series of measures which could have ensured a fair implementation of the agreed policy in a long-term perspective. In both examples, dragging sometimes over one or two terms of office, the initial global consensus was either no longer present or even forgotten and cannot therefore be concretised in lasting relevant policy measures.

New approaches to reform strategies

During the last ten years, the difficulties in implementing major educational reforms, or even in launching targeted pilot projects or innovations, have been reviewed time and again. The idea prevailing in the course of the 1980s that it was no longer possible to launch and monitor important reforms was dropped. It would have been in contradiction with the emergence of the so-called knowledge or learning society. The knowledge society should

precisely demonstrate that the education and training system, which is at the root of knowledge acquisition, is itself composed of learning groups and institutions able to respond to the challenge of lifelong learning.

Even if a recent symposium of the Council of Europe on the problematic of the reform focused only on initial education, it nevertheless pinpointed a series of trends and implications which are of interest in discussing the issue at stake (Laderrière, 2000).

First, there is a return to the concept of rolling reform, which emerged in the 1970s precisely when the concept of recurrent education was proposed. Adapted to our time, it means that nations should be equipped with a "permanent system of adaptation, flexible enough to be applicable to the various decision-making and management levels established by decentralisation…". In the same vein, a fully-fledged lifelong learning system can only be built on a radical devolution of autonomy to various categories of educational institutions, including those yet to be created, in order to respond to quite different learning needs.

Secondly – and obviously – the growing complexity of the relationship between learning and its social environment calls for a stronger investment in educational R&D. Analyses should clarify both the state of the art at any moment and the relevant measures to be implemented, and evaluation research should certainly attract more attention than has been the case in the past. Investment in educational R&D in European countries does not currently correspond to the real weight of educational cost and production in society. If concrete lifelong learning systems are implemented, the order of magnitude of such an investment should be completely modified.

Thirdly, as both are closely related, the current level of innovation reflects the weak interest in R&D. Very few European education systems benefit from relevant structures and mechanisms covering the entire system that would enable decision-makers and various partners to have a global overview of the impact of a specific innovation and to decide on its general application at a given level or its extension to other levels. By definition, lifelong learning for all will concern quite different groups of learners beyond the group of young learners who in a number of countries, are not yet sufficiently supported.

Fourthly, the changes in the teaching/learning processes implied by lifelong learning will call for a real development of support structures. For the time being, only a few countries have considered them as a coherent whole; and very often these structures fail to address adult learning needs. In the majority of European countries, there is no systematic policy in this field interesting both external and internal structures, even if it is well known that the latter should develop rapidly so as to help a more differentiated teaching force to cope with new learners.

Fifthly, we cannot imagine that such advocated changes could be achieved without a "cultural revolution" among the teaching and non-teaching force within the system. The growing autonomy of the institutions where these human resources are appointed or that are in charge of supporting or monitoring them from outside, calls for an "open professionalism" which is far from being achieved in the majority of European countries (Laderrière, 1999). It is still exceptional to note a real multidimensional policy of human resource development, whereas lifelong learning calls for alternative and mixed profiles of teachers employed full-time or part-time and able to teach both young and adult learners. Current professional

statutes are not sufficiently flexible to meet such needs, not to speak of the rather weak attractiveness of teacher status in several European countries.

Sixthly, the supply of lifelong learning will be multiple and could arise from public, private, semi-public or semi-private initiatives. Depending on the national context, the balance of such initiatives will vary, but the framework for action, the monitoring or follow-up of the related education and training activities will times directly or indirectly controlled by public authorities. The coherence of action required by lifelong learning means that policy formulation and implementation should be harmonised between public partners from different ministries. If, at the periphery, administrations or units representing different ministries and authorities generally collaborate without too much difficulty, it is quite different at central level where it is more complicated to obtain a good co-ordination of the various ministerial activities. In a number of countries, the management of initial education, considered as a whole, is split in various departments, and this is not conducive to a coherent and integrated policy. Ad hoc, and occasionally permanent interministerial commissions try to surmount such a difficulty, but it is far from being satisfactory in conjunction with the implementation of lifelong learning strategies.

The above listing is far from being exhaustive. It underlines that important tools for an open and dynamic education policy are lacking in many European countries. For the time being, their absence is mainly counter-productive for initial education and a potential transition to further education for adults. Can we seriously envisage the implementation of a real lifelong learning reform without rapidly filling these gaps in a key instrumental context?

The beginning of a process

As evidenced in the Eurydice Survey (Eurydice, 2000), since the mid-1990s, the knowledge society and its related lifelong learning strategy are explicitly mentioned in the texts presenting the goals of the European education systems and inspiring their development. It is clear for all those directly or indirectly concerned that such an upheaval will not be implemented overnight. It will be a time-consuming process before a flexible, well-articulated and systemic function is established, which will help individuals throughout their life to benefit from an open, innovative and relevant learning system. But an obstacle will rapidly emerge. The time for a major reform is never the right time for decision-makers in office. How can one guarantee, when a reform process begins, that it will not be biased or even interrupted for ideological or resource reasons? What type of commitment should be accepted and by whom on behalf of society to ensure a logical continuity in the implementation of the initially agreed changes? European countries experience of the last twenty years is far from being positive and national authorities are still searching for new and alternative solutions (Laderrière, 2000).

Faced with such difficulties and stimulated by the need to fight unemployment and to rapidly improve adult literacy, European countries have chosen a piecemeal approach. Such an approach is more generally curative/reactive than preventive/proactive. Closer links are established between the Ministry of Education and the Ministry of Labour (or even a merger of both, as in England) or interdepartmental commissions are created. Negotiations with social partners have started in many countries to reach an agreement on two key aspects: a hierarchical list of different standards, including vocational/professional elements, which should be attained by any type of learner, and full recognition of credits acquired through informal learning, including through the growing sectors of distance learning or experiential

learning, and usable for transfer purposes. European countries where youth unemployment is a crucial problem focus their action on this issue by creating new training paths or institutions, by establishing renewed educational priority areas or by developing innovative in-service teacher training courses. The authorities also tend to devolve more power to educational institutions, particularly in the field of vocational/technical/professional education and training, to ensure that alternative modes of learning can be more easily tested and generalised. Information, counselling, guidance services are supported more than before; they can be developed either within educational institutions or outside and, when clearly needed, advisory services for adults are merged with those initially addressing young people only; In-Service Education and Training of Teachers (INSET) is systematically encouraged for this purpose.

Many other ad hoc measures, also of a reactive nature (except those concerning the emerging information society and its related new technology of information and communication, NTIC, and which are listed in the Eurydice Survey) try to respond to some of the current weaknesses of initial education. They are the result of a large spectrum of sometimes – uncoordinated decisions, some of them decided upon after many hesitations (for example the new basic cycles in Italian schools).

It is interesting to note that the bias in favour of adult education (taken in a very general meaning) quoted above seems to be more in line with the further building of a global lifelong learning system than the rather narrow piecemeal approach which has been adopted for initial/basic education. Is that strategy in accord with the achievement of a fully-fledged lifelong learning for all? First, such a social goal, that some do consider as an ideal that can never be entirely reached but which nevertheless should always guide and frame any major action in favour of lifelong learning for all, can only be met step by step. Secondly, national authorities can only start from their own country's reality; in several countries, it could be difficult, because of their current and likely future budgetary situation, to decide where measures should be applied in priority. Thirdly, some countries have chosen to take account of demographic and labour force trends, and to concentrate their initial decisions on adult learning, rightly so. But fourthly, we need two legs to stand on. Initial education which is the foundation of lifelong learning, is still, with very few exceptions, neglected by decision-makers; measures currently taken, assessed against the future of lifelong learning, do not seem to address the real issues and could seriously either impede the development of a real strategy for lifelong learning or delay its full implementation.

Conclusion

When European nations decided to engage in a lifelong learning reform, they never thought that, in the end, they would be obliged to reappraise their whole system of education and training and particularly initial education. That explains why they try to avoid the difficulty for the time being by concentrating their efforts on adult education. But we all know that the precondition for adults to return to learning is precisely to have had a positive experience during their basic schooling. A proportion of those who do not fail at school will survive their initial education thanks more to social pressure than by sheer interest and motivation. Therefore, the number of adults who could refuse a lifelong learning perspective will certainly not be limited to those having clearly failed during basic schooling. Hence, the urgent need to focus changes on crucial matters: the teaching/learning process and its related human resource development. The individualistic relationships between teachers and pupils or students in segmented, "so-called" closed educational institutions, are no longer possible if

European countries want to respond to the various and difficult challenges of a knowledge society. Current efforts in favour of adult education must be praised. It is a necessary condition to facilitate the implementation of a lifelong learning strategy, but it is not sufficient, as the heart of the matter lays in initial teaching/learning processes. Moreover, a weak feedback of adult learning experiences on basic learning and a loose articulation between initial education and further education for adults, could reinforce the segmentation of the whole education system and go against the agreed goal of lifelong learning for all. In the present circumstances, it does not seem that the public authorities concerned are ready to meet these various challenges.

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Financing and resources: Potential consequences of shifting the frontier between formal and non-formal learning

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Key words: affordability, cost, duration of learning, frontier, learning objectives, participation gaps, recognition of non-formal learning.

The erosion of the boundaries between formal and non-formal learning is one of the most profound developments associated with the implementation of lifelong learning. Although lifelong learning is defined in different ways in different countries and circumstances (for example, see OECD, 1996; European Commission, 1995; OECD, 2000a) its various interpretations consistently place primacy on *the individual* and on *learning outcomes*; the setting in which learning occurs is secondary. Without that erosion of boundaries, the policy discourse on implementation would revolve around fairly predictable configurations of institutional arrangements and marginal changes in existing policy; the net new resources required are likely to be substantial – perhaps prohibitively so. But with the erosion of those boundaries, the potential for the venue, timing, duration, and the nature of learning opportunities are no longer hostage to the capacity of existing institutional arrangements to accommodate new demands. It depends instead on the emergence of new learning settings as well as adaptations in the existing arrangements, and on the willingness and wherewithal of learners to use them. This potential for innovation and the extent to which it is fulfilled both depend on and influence the financial resources that are required and on available for lifelong learning, and on the means by which learning is financed.

The discussion below takes an international comparative approach to exploring these issues. It estimates enrolment objectives for a large group of Member countries of the Organisation for Economic Co-operation and Development under some fairly straightforward scenarios for lifelong learning. It then considers how the erosion of the boundaries between formal and non-formal learning might affect the cost of achieving such objectives.

Lifelong learning potentially is a large undertaking…but how large?

Lifelong learning is an open-ended mandate. It calls for formal education systems to better provide a sound and more universally accessible foundation for further learning, and make such further learning more accessible to adults who at present do not participate. In operational terms this implies, at a minimum: (i) increased participation in early childhood education and care in most countries; (ii) increased rates of completion of upper secondary education in some countries, and at least sustained levels of completion in the rest; (iii) increased levels of participation in tertiary education; and, (iv) increased participation of adults in some kind of learning activity. Can these increases be estimated credibly? And what are they likely to cost?

[36] The views expressed are those of the author; they do not necessarily reflect the views of the OECD or its Member countries.

One approach to the first question is to take stock of where countries stand with respect to participation in various sectors, and compare that performance against a benchmark, to calculate a "participation gap". What is an appropriate benchmark or standard for evaluating what is enough? In view of the open-ended nature of lifelong learning, one could argue that the benchmark can be as high or as low as society in a particular country wants. But such choices cannot be made in isolation from the experience and policies of other countries. In the "knowledge economy", human resources are of substantial and increasing importance in explaining economic performance of individual countries (OECD, 1998); in the increasingly global economy, national policies need to acknowledge their interdependency with policies in other countries. This would argue in favour of evaluating policies for implementing lifelong learning in terms of how they compare internationally. The discussion below provides estimates of the participation gaps, taking account of how countries compare to one another. The second question of how much it costs to close such gaps is addressed in the subsequent section.

Estimating the gap in opportunities for children and young adults

The volume increase in learning opportunities that is needed in order to implement lifelong learning can be estimated by comparing where individual countries stand relative to other countries, with respect to rates of participation in various sectors of lifelong learning. The OECD followed such an approach by projecting enrolment levels in formal education for the period from 1995 to 2005, based on participation rates remaining at their 1995 level, and taking account of demographic trends. Those projected enrolment levels were then compared to the enrolment levels that would be needed in order for a given country to achieve two benchmarks: the median participation rate for all countries (*average practice*), and the participation rate of the third- or fourth-best country (*good practice*). The *participation gap* is the volume increase in participation that is needed in order to bring the participation rate in a lagging country up to the given benchmark level (average or good practice)[37]. The analysis considered enrolments of 0-5 year-olds (in early childhood education and care), 15-19 year-olds (in upper secondary education and training); and 20-24 year-olds (in tertiary education) (OECD, 1999a, pp. 13-14).

The analysis, summarised in Figure 1, suggests that many OECD Member countries would have manoeuvring room for setting ambitious targets in the formal education system thanks to demographic trends. Stable or declining birth rates mean that most countries could sustain participation rates in early childhood programmes without increasing capacity over that of 1995. For half of the countries for which data were available, good practice benchmark levels could be achieved with increases over 1995 capacity of 20 per cent or less. While more countries would need to increase capacity to meet benchmark participation rates of 15-19 year-olds, most could do so with less than 20 per cent increase in capacity. For 20-24 year-olds, a third of the countries could raise participation rates to good practice level with no increase in capacity, thanks to declining numbers of young adults; but a third would need increases over their capacity in 1995 of 50 per cent or more.

[37] OECD estimates also evaluated the volume increase in participation that was needed in order to sustain in 2005 the participation rates observed in 1995, taking account of demographic changes.

What is the gap for adults?

Estimating increases in capacity of learning opportunities for adults is more problematic. Objectives are more difficult to specify. There are neither institutional arrangements for defining activity, such as secondary education, nor a qualification structure for signalling outcomes in the way degrees and diplomas do. Furthermore, there is little evidence on the time required to achieve outcomes.

In the face of such difficulties, the OECD has chosen two indicators. One is to evaluate the number of adults who are "at risk" because of low levels of qualifications expressed in terms of educational attainment levels[38]. One way to estimate the proportion of at-risk adults who need to be served is to use an *international* benchmark. This can be done by comparing the proportion of at-risk adults in a given country, to the proportion in a "good practice" country, a country with the third- or fourth-lowest proportion of at-risk adults in its population. The participation gap represents the number of persons that would need to have their qualifications level raised so that the proportion of at-risk adults would drop to the level found in "good practice" countries. This approach provides a crude indication of relative volume of opportunities needed, though absolute volumes required would depend on the time required for learning gains and the proportion of at-risk adults who are to be served. Table 1 presents estimates for this approach for selected OECD countries. The left-hand column of Table 1 indicates the proportion of the at-risk adult population that is in excess of the good practice benchmark level[39]. Germany, for instance, has a sufficiently small proportion of its population with low levels of qualifications so that its participation gap is zero. The data imply that in nearly half of the countries, it would be necessary to effectively serve a fifth or more of the adult population, in order to reduce the number of poorly qualified adults to "good practice" levels. In the Netherlands, 19 per cent of the adult population would need to have its educational attainment level raised in order to bring it up to the level of "good practice" countries such as Germany. In Spain, the figure is more than 50 per cent; in Portugal, it is more than 60 per cent. In order to give a sense of proportion to the number of adults who would have to be served, the right-hand column compares the number of at-risk adults to be served to the secondary education enrolment levels. In some countries, this would represent two or more times the size of the secondary school population.

The other approach is to rely on an *intra-national* benchmark, by evaluating the change in the volume of training needed for at-risk adults in a given country, in order to lift their average volume of training up to the average volume for more qualified workers in the same country. Table 2.A shows, for a more limited number of countries, the increase in the volume of training that would be needed for at-risk adults in order for them to receive the same per capita volume of training as more qualified adults. According to the data presented, the increase in the *total* volume of training would be under 10 per cent in three of the countries considered; nowhere would it be over 38 per cent. However, at-risk adults are not likely to be able to participate directly in the kind of training in which more qualified persons participate. For example, they are more likely to need remedial learning opportunities. Thus, to evaluate the increase needed in the kind of training that is suited to poorly qualified adults, it is more realistic to compare the needed increase to the amount that *already* is provided to

[38] The OECD also uses "literacy levels" as measured by the International Adult Literacy Survey. By this measure, proportion of adults at risk is even higher in all countries except Sweden.

[39] "Good practice" is defined as the proportion of adults who are at risk in the country with the fourth lowest percentage.

at-risk adults. Table 2.B presents the same data as in 2.A, expressed as the percentage increase in training already provided to at-risk adults. Viewed in this way, the increases are far more substantial. In order to bring the volume of training for poorly qualified adults in Germany up to a level equivalent to that received by more qualified persons in 1994-95, the total volume of training would need to be increased by less than 8 per cent. But that 8 per cent increase in total training volume would represent an increase of nearly 70 per cent in the volume of training *already received by poorly qualified adults*. Expanding the training opportunities for poorly qualified persons in the United Kingdom would represent 12 per cent of the total volume of training, but more than 100 per cent of the volume they already receive.

Lifelong learning is already accessible to large numbers of more qualified persons. The thrust of policy pronouncements and measures over the last several years has been towards the goal of equalising opportunity. They have emphasised the role of formal education in providing on a more universal basis sound foundations for further learning, expanding opportunities in the formal sector and elsewhere, and strengthening the incentives and means for less qualified adults to learn. Such initiatives are essential to mark progress in the debate over the objectives and goals of lifelong learning. But they need to be further elaborated in order to provide a basis for estimating resource requirements and, ultimately, they need decisions about the allocation of resources for learning in formal and non-formal settings. The discussion above has sketched out a series of conservative estimates of the *volume* increases in learning opportunities that are needed in order to extend learning opportunities to those populations that currently participate least[40]. But what are the likely costs? The section below address that question.

How much is lifelong learning likely to cost?

Even if it is possible to define objectives of lifelong learning in terms of increased participation of children, young persons and adults in various learning activities, estimating the costs is a more open-ended proposition. It depends on the cost of expanding existing institutional arrangements, as well as the costs of using alternative institutional arrangements – such as those that come into play as the frontier between formal and non-formal learning settings becomes blurred.

Figure 1 and Tables 1 and 2 provide estimates of the volume of increase in learning opportunities that might be needed under different policy scenarios. These scenarios are expressed in terms of expansion of participation through existing institutional arrangements (formal as well as non-formal). Although it is conceivable that, over the long term, alternative institutional arrangements probably represent a good starting point for estimating the costs of implementing strategies for lifelong learning – at least in the short and medium term. In the long term, alternative arrangements with fundamentally different cost structures might be developed.

[40] Adult participation in learning activities is heavily influenced by prior education and literacy levels; the higher the educational attainment or literacy level of an individual, the more likely he or she is to participate in learning activities in the future (see OECD, 1999b; OECD/Statistics Canada, 2000).

What has happened in the past to per student costs as schooling expanded?

In starting with existing institutional arrangements, the key question arises as to whether the marginal costs associated with expanding capacity are rising or falling. The question of what is happening to marginal cost is important because of its implications for the sustainability of public and private investment in lifelong learning. The more difficult it is to lower marginal costs of expanded learning opportunities, the more difficult it will be to justify increased investment in learning on the part of individuals, employers or governments. If marginal costs are no different from past "average unit costs", the total cost increases will be proportional to increases in participation levels. If they are lower (thanks to economies of scale, for example), the total resource requirements can be expected to be less than the proportionate increase in participation levels. If, on the other hand, they are higher (because of extra services to retain would-be early school-leavers, for example), total resource requirements will be proportionately greater than the increases in participation. Although internationally comparable data on marginal costs are not available, changes in average unit costs, proxied by per-student expenditure, provide a first approximation (see Box 1 and Figure 2).

Box 1. ***How will the total costs of implementing lifelong learning change as learning activity increases? A crude estimate of trends in marginal costs in formal education***

When attempting to estimate the total cost of implementing lifelong learning, it is impossible to evaluate costs in the framework of an internationally comparable analysis because cost data, particularly data built up from the level of the classroom, are not available. The best data that are available are expenditure data. Though variations from year to year may reflect variations in the relative importance of competing priorities, over the longer term, such data seem likely to reflect elements of underlying cost functions.

Figure 2 presents trends in expenditure per student (unit costs) and enrolment levels between 1990 and 1995 in three sectors commonly identified as targets for expanded participation: pre-primary education, secondary education, and tertiary education. The data allow one to consider past developments in unit costs, and the relation of such developments to changes in enrolment levels. Pre-primary education is underdeveloped relative to other sectors and, therefore, not likely to be characterised by longstanding and stable cost functions. It also is a sector that grew in seven of the nine countries for which there are data (in France enrolments remained stable between 1990 and 1995; in Ireland they declined). Between 1990 and 1995, the general pattern was for enrolments *and* per child expenditure to rise. The one country where unit costs declined (Finland) suffered an exceptional collapse in output growth that resulted in sharp reductions in public spending. Even in France, a country with longstanding, near-universal arrangements for pre-primary education, unit costs rose by nearly a third.

At the secondary level, the relationship between changes in enrolment levels and unit costs is more mixed, though, there too, one finds an upwards bias in per student costs. Enrolments rose in only five of the thirteen countries for which data are available. In three of those five, expenditure per student also rose, although in two of those countries – Ireland and Mexico – there were major reforms to strengthen and expand secondary education. In the rest of the countries enrolments were stable (three) or declined (three). In most of them unit costs rose.

The tertiary level witnessed the most dramatic increases in enrolments; they declined in only one country – the Netherlands. In more than half of the countries where enrolments rose, unit costs remained stable or declined. Countries were mixed with regard to their capacity to expand enrolments without pushing up unit costs. Australia, Finland, France, Ireland and the United-Kingdom had the largest increases in enrolments, but managed to either hold unit costs stable (Finland, France) or reduce them (Ireland and the United Kingdom). In contrast, Mexico, Spain and Sweden all increased enrolments *and* unit costs.

On the basis of one indicator of marginal costs presented in Box 1 – trends in per student expenditure -- it would appear that expansion in capacity is frequently associated with increases in per student costs. To the extent that such changes in unit costs represent a reliable proxy for marginal costs, implementation of lifelong learning is not necessarily likely to be "cost neutral", even in countries where demographic developments permit increases in participation rates, without increases in overall numbers. It would appear that frequently, as participation rates rise, there are substantial additional costs associated with enrolling each additional child or student. Why is this; what factors influence the direction of marginal costs associated with expanding participation? Are such factors susceptible to being controlled?

What factors are likely to influence costs of expansion of learning in the future?

The data presented in Figure 2 are aggregated at too high a level to provide a basis for more than educated speculation on what has driven changes in per student expenditure in the *past.* Speculating on *future* cost developments in an area as open-ended as lifelong learning is impractical because the goals and objectives are indeterminate, and so are the means of achieving them. Nonetheless, it is possible to identify and examine a number of possible factors that should be taken into account as countries consider the degree of ambition or modesty of their goals for lifelong learning (see OECD, 2000a, in particular pp. 33-59). There are three that seem particularly important: learners' needs and motivation; scope of learning objectives; duration of learning activities.

As lifelong learning is implemented, *learners' needs and motivation* are likely to be different – in some cases markedly so – judging from what has been witnessed in initial education until now, for example. The increase in rates of participation in upper secondary education to what are now near-universal levels in many countries prompted two developments. First came the vociferous debate over how to reconcile the objective of sustaining education quality with the objective of achieving equity in access to educational opportunity (OECD, 1985; Papadopoulos, 1994, pp.165-170). Next came the less flashy, but no less important debate over how to define education quality in a knowledge society (OECD, 1992; OECD, 1996). And with that came rapid changes in the content of upper secondary education featuring a stronger academic emphasis in vocational studies, and a more deliberate workplace orientation to academic studies (OECD, 2000b). Insofar as lifelong learning involves pulling in young people as well as adults with more limited educational backgrounds, it seems likely that the learning opportunities on offer necessarily will become more diverse to accommodate different learning needs. Such diversity could take the form of more individualised teaching and learning approaches that accommodate different paces and rhythms of learning, full-time as well as part-time.

Not only will providers face learners with different needs, but they also are likely to face learners with different *objectives.* Early childhood education and care is an important element of lifelong learning. But, as seen in countries where such arrangements are now well established (OECD, 2001 forthcoming), the learning objectives are distinct from what is customarily provided in primary school (in some countries ministries of education are not even involved). For adults, broad purpose, extended period study for full-fledged degree programmes probably will continue to provide the basis of lifelong learning for most individuals once they have left initial education. But lifelong learning will imply changes that, at the margin, will take the form of more narrowly focused learning activities whose objective is to acquire discrete packages of skills and competences for tactical purposes (from

learning a spreadsheet software to learning a foreign language). Thus, from the perspective of teaching institutions, lifelong learning is likely to imply learning activities *in addition to*, rather than *instead of* their usual programmes of study. Practically speaking, this seems to imply more modular structure than the usual course offerings. But also, as is necessary in accommodating more diverse learning needs, it will be necessary to accommodate more heterogeneous learning objectives, as individuals each pursue their own particular objectives matched to their particular work requirements and personal preferences.

Finally, *duration of learning* is likely to be another consideration in configuring opportunities for lifelong learning, particularly for adults. In formal education, duration of studies is an important dimension in defining learning activities. In contrast, duration of study in the context of lifelong learning is a parameter to be adjusted according to needs and circumstances. For adults in full-time employment, duration of study needs to be minimised to reduce the costs of forgone production or earnings during the time that an individual is off the job. For an individual undertaking learning activity outside working hours, the duration of study may be greatly extended. In either case, the key dimension for defining learning is likely to be outcomes, rather than time in study.

All three of these factors, important dimensions of lifelong learning as it commonly is viewed and defined, represent significant departures from the usual objectives, structure, and delivery of formal education. Indeed, it might be argued that the factors are fundamentally at odds with features that have figured in the success of formal education in many countries, namely a standardised approach that has engendered economies of scale. This raises the question of how lifelong learning can be achieved without requiring massive net new investment in new institutional arrangements.

Enhancing the affordability of lifelong learning: exploiting comparative strengths of the formal and non-formal sectors

The answer depends on conditions in the formal and non-formal sectors, and the interaction between the two. More precisely, it depends partly on capacity of the formal sector to adapt and provide new forms of learning opportunity. To what extent can providers in the formal sector accommodate a broader range of learners' needs and objectives, and achieve more flexibility in the timing and duration of provision? It also depends on the extent to which such flexibility can be found in the non-formal sector; and the extent to which learning in the non-formal sector can compete with and substitute for that in the formal sector. Answers to the first question depend on whether there is a political will as well as the know-how and resources to encourage change in the formal sector along the lines indicated above. Answers to the latter questions are more speculative, depending on the trajectory taken by the development of learning opportunities in the non-formal sector, and on "rules of the game" (a function of policy) by which learning providers and learners operate. These are discussed below.

The "non-formal sector" is probably best understood as referring to all settings that are not in the formal education and training system in which learning can occur. For adults, it typically includes the workplace, labour market training programmes, for-profit training organisations, and community-based organisations. For infants and young children, it could include community-based childcare facilities or the family.

Differences in the cost structure of learning in the non-formal sector

There are a number of reasons to believe that cost structure of learning in the non-formal sector is such that opportunities can be expanded at a relatively lower cost than in the formal sector.

- First, non-formal arrangements have the potential to be more aligned with the needs of individuals insofar as they are rooted in the environment in which learning is applied. This is most obvious in the case of adults and the workplace, in which learning approaches are more naturally aligned with the organisation of work (for example, heavier reliance on verbal instruction than written material in training for workers with weak backgrounds in basic education skills). But it may also be true in the case of community-based childcare arrangements that accommodate parents' work schedules, as well as the readiness – or non-readiness – of young children to learn.

- Second, the scope of learning objectives can be narrower. Formal degree-granting programmes aim to provide a broad base of educational development. In contrast, learning activity outside such formal structure can be more narrowly targeted, geared to providing competences that are specific to a job (learning a new spreadsheet software or characteristics of a new product) or a particular career or personal development objective (learning a foreign language). Insofar as such approaches do not require all learners to reach a given level of competence through the same learning trajectory, or even to be starting from the same base level, there is greater capacity for individualisation of learning.

There are two factors that underlie the comparative advantage of non-formal sector learning with regard to more flexibility in meeting the learning needs and objectives of learners. One is the instrumental purpose that learning serves. The other is the fact that the learning process itself can serve multiple objectives – not just improving on-the-job competence, but sustaining production as well, for example.

- A third reason from the preceding two. Given the narrower learning objectives and the fact that learning can occur simultaneously with another activity, the duration of learning is more variable. Thus, learning in non-formal settings may lend itself to more flexible scheduling of learning activity; where it can be combined with another activity, it may reduce the cost of forgone earnings, production, and/or leisure.

These attributes of learning in the non-formal sector probably are crucial to ensuring that lifelong learning does not prove to be an excessively costly investment in many countries. But, as noted above, realising these potential forms of cost savings and increased cost-effectiveness depends on the systematic development of non-formal arrangements and assurances that non-formal sector learning outcomes are recognised. This is tantamount to blurring the frontier between formal and non-formal learning.

Blurring the frontier between formal and non-formal learning

But what are the means for ensuring that three conditions are met? The first condition depends on measures that serve to put learning activities on an equal footing, regardless of where they occur. It concerns financing. Even if non-formal sector learning is not financed directly by the public purse, non-formal providers may be penalised if the costs incurred for learning there are treated differently from costs incurred for learning in the formal sector (e.g. if, for tax purposes, they are not deductible from income or otherwise are not treated as training costs in the same way as costs incurred in the formal sector). Similarly, financial support for learners (to cover the direct and indirect costs) should be reviewed to ensure that they do not unduly bias decisions about choice of learning setting. Information is another consideration. This includes information on the nature, quality, and cost of learning opportunities in the non-formal sector that allows individuals to take informed decisions about learning.

The second condition depends on the further development and wider application of mechanisms for giving outcomes of learning that occur in the non-formal sector the same recognition as comparable outcomes from the formal sector (this is discussed more fully in chapter 2). Without this, long-term development of learning opportunities in the non-formal sector will be thwarted by a continuing lack of credibility.

If those conditions are met, lifelong learning seems more likely to be affordable by virtue of the complementarity of different sectors, with their respective comparative advantages in providing learning for value. It is also possible that the affordability of lifelong learning can be enhanced insofar as the non-formal sector exerts competitive pressure on the formal sector to improve cost-effectiveness.

Conclusions

The resource requirements of lifelong learning remain unclear in most countries because the definition is in a state of evolution and it lacks clear operational implications. This makes it difficult to discuss precisely how much it will cost; this defers the question of how it will be paid. The public debate seems destined to progress in steps, with small operational objectives emerging, followed by experimentation in policies and institutional arrangements for meeting and financing those objectives.

In this progression, the cost of learning promises to play a powerful role in shaping the realisation and expectations concerning lifelong learning. Past structures of cost in the formal sector provide some indication of the cost of meeting certain objectives of lifelong learning. At a minimum, they suggest that the mandate is likely to be costly to implement. But there is good reason to believe that the some learning opportunities can be expanded in the non-formal sector at relatively lower cost. This would suggest that the affordability of lifelong learning will depend in substantial part on further development of such opportunities.

Such development should be based on an acknowledgement that lifelong learning *adds* to existing forms of initial education based in formal institutions of learning, and *is not a substitute* for it. Lifelong learning is, by and large, an expansion of the principle of universal free basic education that has been embodied in policy and practice in virtually all developed countries, and, increasingly, in developing countries as well. This is needed to minimise the potential for rival institutional arrangements for the provision of *initial* education, and to

maximise the potential for enhanced complementarity between formal and non-formal learning as opportunities for lifelong learning are expanded.

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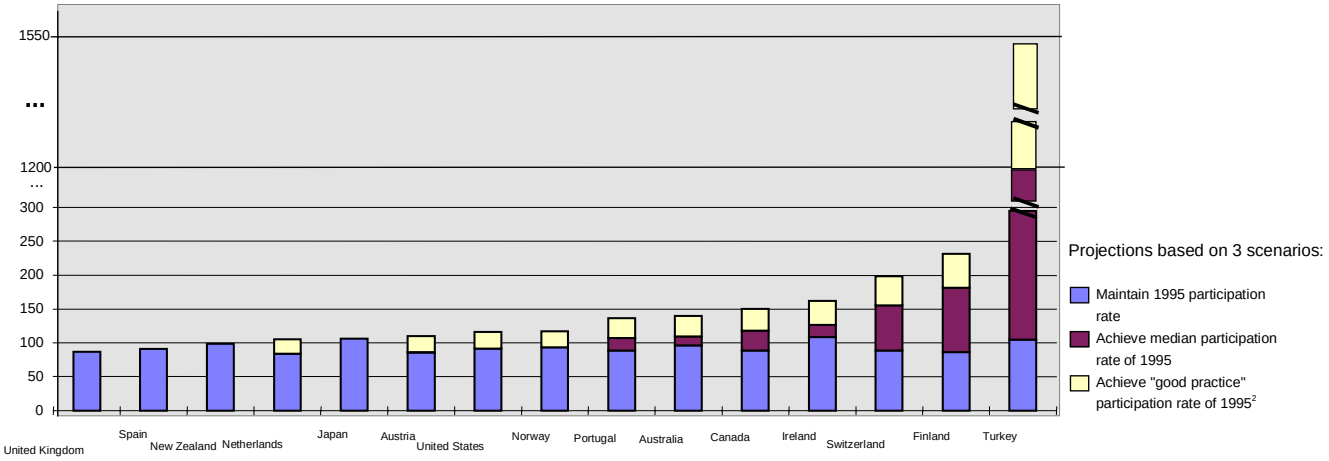
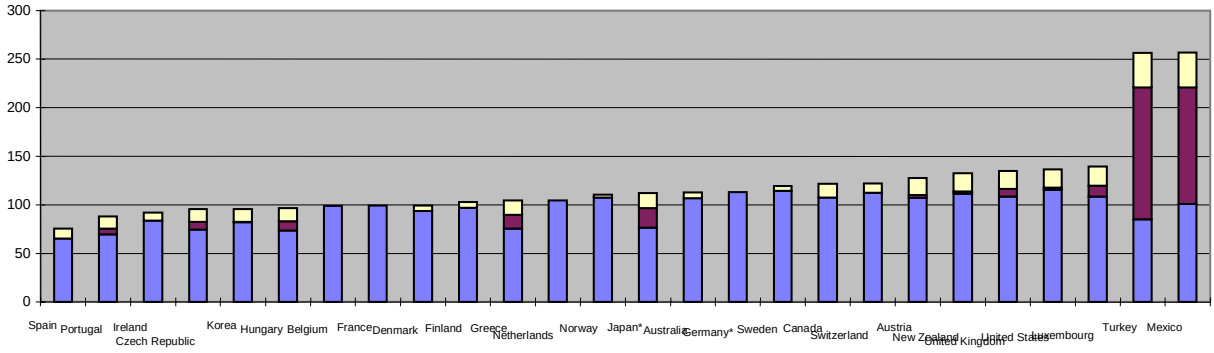
Figure 1 - Changes in enrolments between 1995 and 2005, under three scenarios (1995=100)

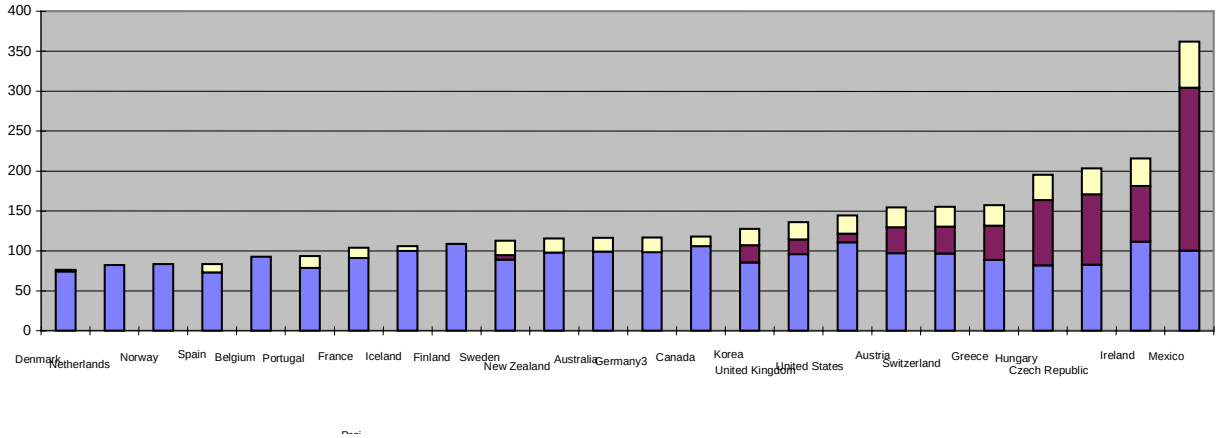
a) Index of enrolment projections for 0-5 year-olds in 2005 [1]



b) Index of enrolment projections for 15-19 year-olds in 2005



c) Index of enrolment projections for 20-24 year-olds in 2005



1. Enrolment in non-formal provision of early childhood education is not included; coverage of participation in programmes organised privately or outside the auspices of Education Ministries is uneven.

2. “Good practice” countries are the United Kingdom for 0-5 year-olds; France for 15-19 year-olds and Norway for 20-24 year-olds.

3. Enrolment in university doctoral programmes is not included.

Source: Reprinted with permission from OECD, *Education policy analysis*, Paris,1999.

Table 1 – Estimates of the Number of Adults to be Served by Lifelong Learning

	Share of the adult population to be served[1]	Ratio of the adult population to be served compared to the secondary education enrolment
Australia	24.5	1.01
Austria	10.1	0.57
Belgium	28.0	1.43
Canada	5.1	0.32
Czech Republic	0.0	0.00
Denmark	15.4	0.94
Finland	14.7	0.89
France	21.2	1.06
Germany	0.0	0.00
Greece	37.3	2.42
Hungary	18.3	0.87
Ireland	31.2	1.35
Italy	43.3	2.90
Korea	20.4	1.05
Luxembourg	52.2	4.35
Netherlands	18.9	1.10
New Zealand	21.3	0.86
Norway	0.0	0.00
Poland[2]	7.7	0.58
Portugal	61.1	3.30
Spain	51.2	2.45
Sweden	7.3	0.40
Switzerland	1.3	0.09
United Kingdom	5.2	0.23
United States	0.0	0.00

1. Percentage of the adult population with less than an upper secondary, in a given country, minus the value of the country with the fourth lowest share of the population having less than an upper secondary. For values less than 0, the policy target is equal to 0.

2. 1995.

Source: Reprinted with permission from OECD, *Education Policy Analysis,* Paris, 1999.

Table 2 – Closing the training gap experienced by poorly qualified adults 25-64 year-olds, 1994-95

Table 2.A. Change needed in total volume of training (Formula 1) to increase participation of persons with less than secondary education to the level of those with an upper secondary education (percentage increase)

	Total	Men	Women
Canada	2.9	7.5	1.5
Germany	8.1	5.9	8.7
Ireland	37.1	24.4	50.4
Netherlands	25.2	16.7	32.2
Poland	12.8	15.8	10.9
United Kingdom	12.0	10.7	11.9
United States	7.7	7.2	9.4

Table 2.B. Change needed in volume of training provided to persons with less than upper secondary education (Formula 2) to increase their participation to the level of those with an upper secondary education (percentage increase)

	Total	Men	Women
Canada	27.4	85.3	12.4
Germany	69.1	67.3	54.3
Ireland	123.8	83.9	179.9
Netherlands	126.5	97.4	132.8
Poland	109.4	165.8	97.4
United Kingdom	109.2	174.3	67.6
United States	206.8	149.2	361.4

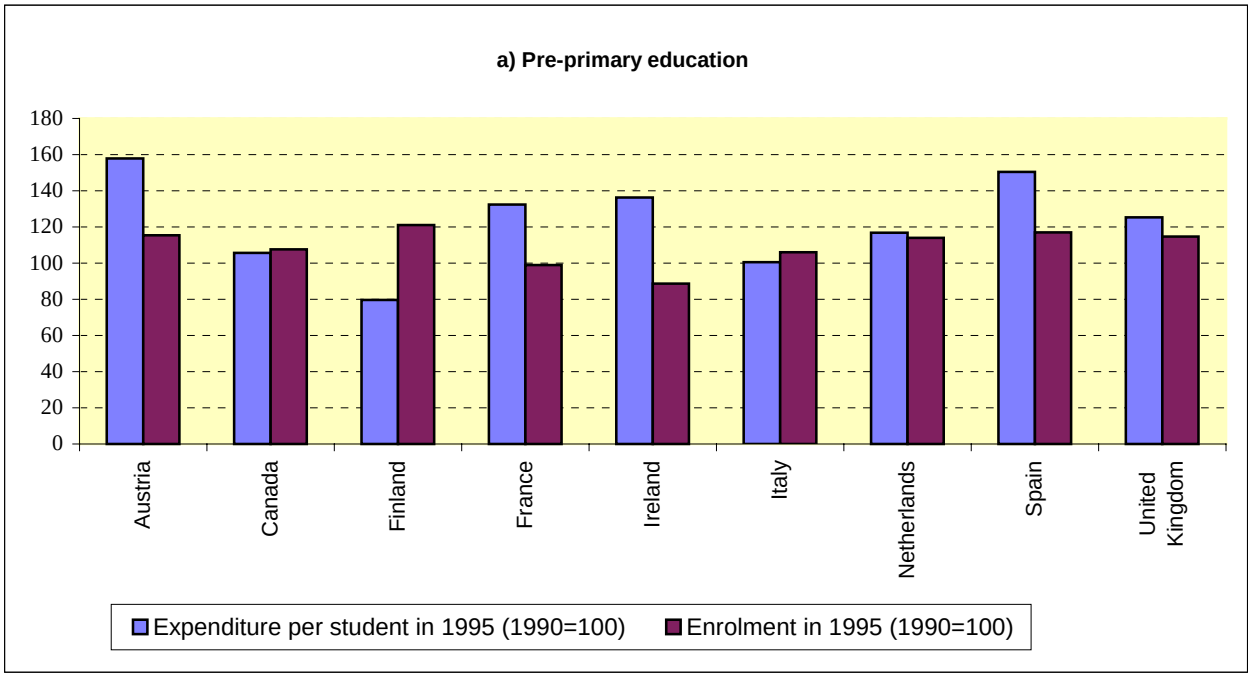
1. Calculated as:
$$Y_A = \frac{(X_i - X_0) * Pop_0}{\sum_{i=0}^{3} (X_i * Pop_i)}$$

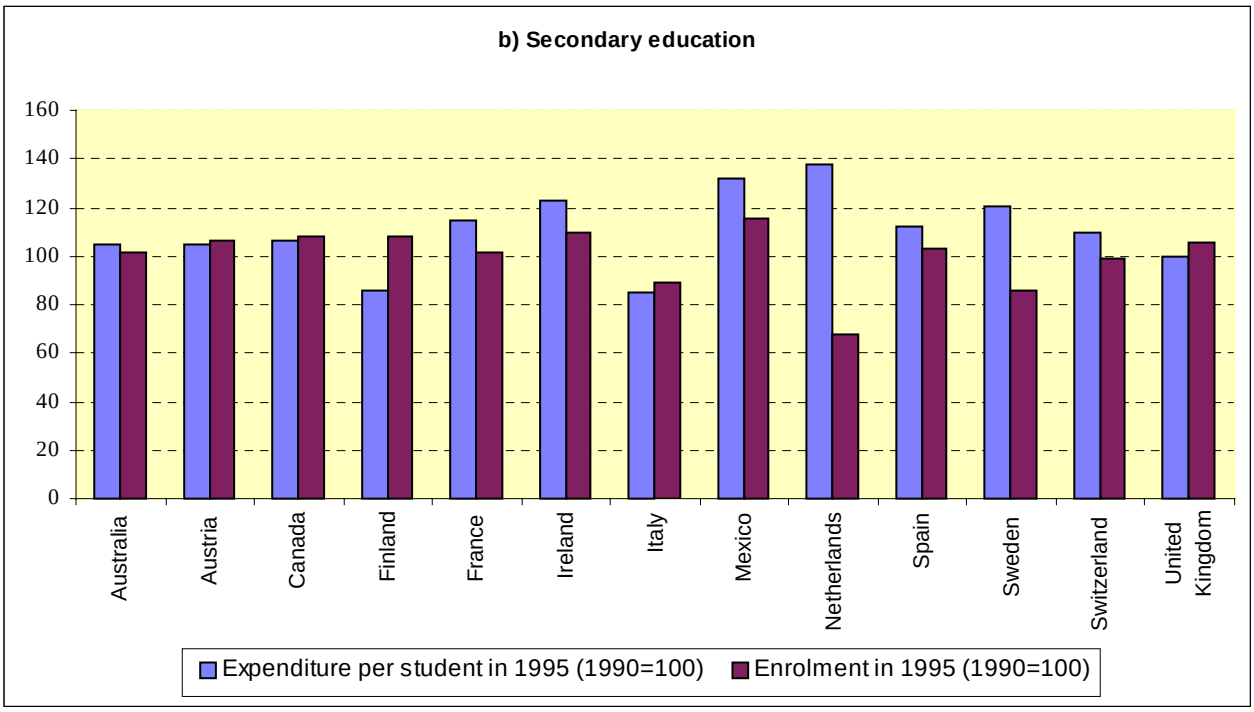
2. Calculated as:
$$Y_B = \frac{(X_i - X_0) * Pop_0}{X_0 * Pop_0}$$

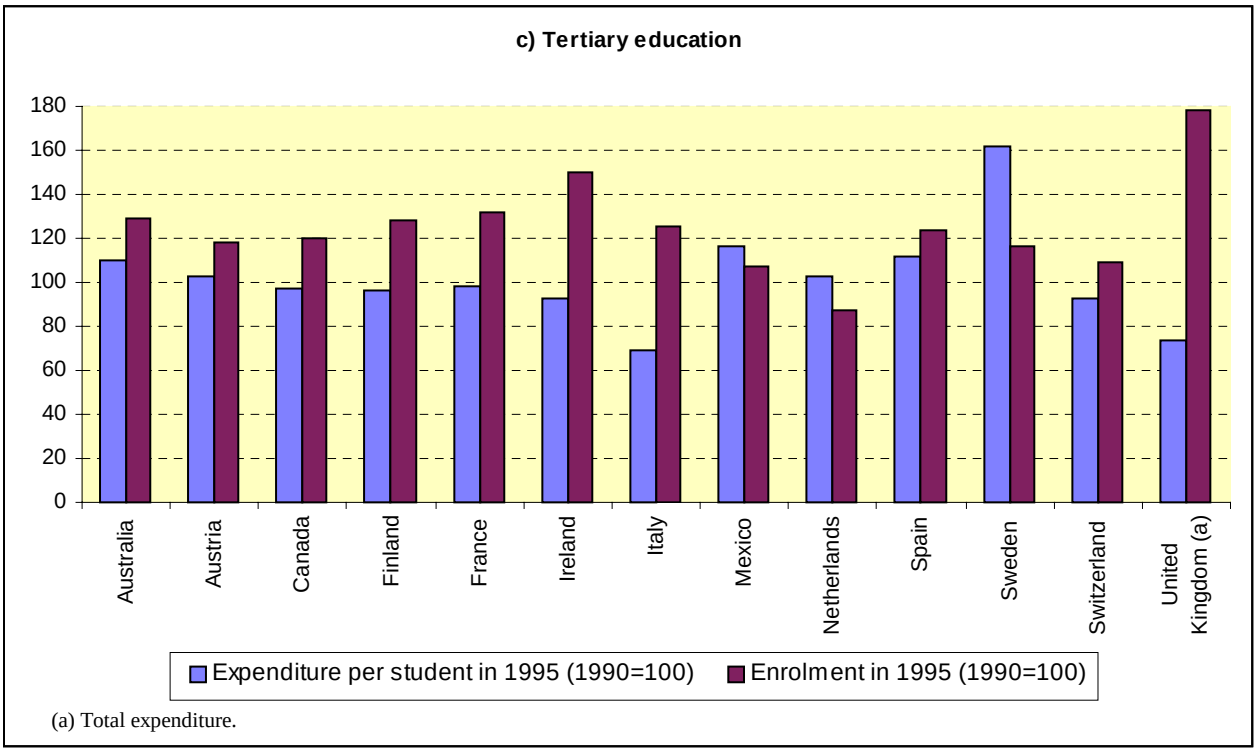
Where:
Y_A : Percentage change in total volume of training (panel A).
Y_B : Percentage change in volume of training provided to persons with less than upper secondary education (panel B).
X_i : Mean hours of training over a lifetime by adults having attained education level i.
Pop_i : Number of adults having attained education level i.
i : Education attainment levels given by:
0 = below secondary;
1 = upper secondary;
2 = non-university tertiary;
3 = university tertiary.

Source: Reprinted with permission from OECD, *Education Policy Analysis*, Paris, 1999.

Figure 2 - Trends in expenditure per student and enrolment 1990-1995







(a) Total expenditure.

Source : Reprinted with permission from OECD, *Education Policy Analysis*, Paris, 1999.

New Steps in Shaping the Future of Lifelong Learning in the European Knowledge Society

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Key words: lifelong learning, active citizenship, employability, social inclusion, lifelong learning strategy.

The purpose of this contribution is to describe and discuss the main instruments and initiatives taken at European level to support the member States' efforts to put lifelong learning into practice. We will start with the European Year of Lifelong Learning (1996) and continue up to the Memorandum on Lifelong Learning presented by the Commission services in the autumn of 2000 (European Commission, 2000e). These initiatives should also be seen against the background of changing approaches to lifelong learning in the member States.

The European Year of Lifelong Learning (1996)

Following the adoption of the White Paper "Growth, Competitiveness, Employment: the Challenges and Ways forward in the 21st Century" (1993) and the White Paper "Teaching and Learning: towards the learning society" (1995), 1996 was declared "European Year of Lifelong Learning" (EYLL) through a decision by the Council and the European Parliament. The objective of this initiative was to promote the *"personal development and sense of initiative of individuals, their integration into working life and society, their participation in the democratic decision-making process and their ability to adjust to economic, technological and social change"* (Decision, 1995). In other words, the main focus lay on raising the awareness of people and institutions of the importance of lifelong learning. With a very limited budget (8 million Ecus), around 550 projects were co-financed, at European, member State and local levels, grouped under eight themes (European Commission, 1999, p. 20).

The EYLL also helped the member States and the Commission to develop further its thinking about how to promote lifelong learning based on a coherent strategy. At the end of 1996, the Council adopted conclusions on a strategy for lifelong learning in which it defined principles that should underpin a strategy for lifelong learning. The Council also selected eight "interrelated areas for development" when implementing lifelong learning:

- challenges for the school system;
- economic and social considerations;
- local community development through education and training;
- continuing education and training;
- pathways and links between general and vocational education;
- access, certification and accreditation;
- teachers and adult educators;

[41] This contribution is written by the author in a personal capacity. Hence, neither the analysis nor the conclusions do necessarily reflect the official views of the European Commission.

- the role of new technologies (Council Conclusions, 1996).

As to the conclusions drawn by the Commission from the EYLL, it mentions in its report three approaches as possible ways of further promoting lifelong learning. First, to increase the awareness of the benefits of and opportunities for lifelong learning. Second, to improve the incentives for investment in lifelong learning and, third, to adapt the supply of education and training opportunities to the needs of lifelong learning (European Commission, 1999, pp.17-18).

The employability dimension: the Amsterdam Treaty and the European Employment Strategy

In 1997, the importance of lifelong learning was reflected in the Amsterdam Treaty. In the preamble of the treaty, the member States declare that they are *"determined to promote the development of the highest possible level of knowledge for their peoples through a wide access to education and through its continuous updating"*. Indirectly, the Amsterdam Treaty also provided an important tool for promoting lifelong learning through the inclusion of an Employment title (Articles 125-130).

In November 1997, an extraordinary European Council was held in Luxembourg to discuss employment issues and to take the first steps towards putting a European employment strategy into practice. Given the importance of the Employment title and the high unemployment in Europe, the member States decided to start implementing parts of the Employment title immediately, rather than waiting for the ratification of the treaty. The "Luxembourg process", as it was later to be called, is based on guidelines for member States' employment policy proposed by the Commission and adopted by the Council on a yearly basis. The strategy is built on four pillars -- employability, entrepreneurship, adaptability and equal opportunities -- and specific employment guidelines are developed under each of these. The member States report yearly on their implementation of the employment guidelines by submitting National Employment Action Plans ('NAPs') to the Commission and the Council. These NAPs are analysed by the Commission which drafts a proposal for a "Joint Employment Report", revised guidelines for the following year and -- since the ratification of the Amsterdam Treaty – individual recommendations to the member States.

Already the guidelines for 1998 recognised the contribution that education and training can make to employment policy. The focus was not only on providing training for unemployed people but also about improving the education systems of the member States and facilitating the transition from school to work. Since then, lifelong learning has become a more pronounced element of the strategy. In the proposed guidelines for 2001, education and training matters are addressed in about half of the guidelines, and under each of the four pillars. These guidelines focus on issues such as:

- education and training for unemployed people;
- "active ageing" -- lifelong learning and skills updating for older workers;
- improving the quality of education and training systems, modernising apprenticeship systems and developing multi-purpose local learning centres;
- providing basic skills and ICT skills to young people and to all workers;
- partnership -- shared responsibility among the social partners (flexible work organisation, investment);
- training for entrepreneurs;
- incentives for investment in human resources;

- inviting the social partners to conclude agreements on lifelong learning;
- training for people returning to the paid workforce after an absence.

In the proposed employment guidelines for 2001, lifelong learning has also been included, for the first time, as one of four horizontal objectives to be addressed in member States' employment policy: *"Member States shall develop comprehensive and coherent strategies for Lifelong Learning, in order to help people acquire and update the skills needed to cope with economic and social changes throughout the entire life cycle. In particular, the strategies should cover the development of systems for initial, secondary and tertiary education, further education and vocational training for young people and adults to improve their employability, adaptability and skills, as well as their participation in the knowledge-based society. Such strategies should articulate the shared responsibility of public authorities, enterprises, the social partners and individuals, with relevant contribution from civil society, to contribute to the realisation of a Knowledge-Based Society. In this context, the Social Partners should negotiate and agree on measures to improve further education and training of adults to enhance the adaptability of workers and competitiveness of business. To this end, member States should set national targets for an increase in investment in human resources as well as in participation in further education and training (whether formal or informal) and monitor regularly progress towards such targets."* (European Commission, 2000b).

In addition to its role for developing concrete measures for lifelong learning, the Luxembourg strategy has also contributed to defining the key concept. Thus, in 1999 the member States and the Commission agreed to define lifelong learning in this context as *"encompassing all purposeful learning activity, whether formal or informal, undertaken on an ongoing basis with the aim to improve skills, knowledge and competence."* (European Commission, 2000c).

The European Social Fund (ESF) and EQUAL

In terms of financial support, the most significant Community contribution to education, training and lifelong learning is made through the Structural Funds and, in particular, the European Social Fund (ESF). Under the new programming period (2000-2006) for the Structural Funds, the number of objectives has been reduced from six to three. The new objective 3, which is a horizontal objective in the sense that it is not restricted to certain regions, has been defined as *"supporting the adaptation and modernisation of education, training and employment policies and systems"* (Council Regulation, 1999); 24.05 billion euros will be allocated to the implementation of this objective under the ESF.

Lifelong learning is also being promoted through EQUAL, which is a new Community Initiative that was launched for the same programming period. EQUAL, with a total budget of 2.847 billion euros, will launch calls for proposals based on the four-pillar structure of the Luxembourg process (employability, entrepreneurship, adaptability and equal opportunities). Under each pillar, a number of themes will be identified. In the first call for proposals, lifelong learning -- *"promoting lifelong learning and inclusive work practices which encourage the recruitment and retention of those suffering discrimination and inequality in connection with the labour market"* -- has been selected as one of the themes under the adaptability pillar (European Commission, 2000a).

Active citizenship and employability -- Socrates, Leonardo da Vinci, Youth -- a new generation of Community support programmes

Innovative approaches to lifelong learning are also being supported through the Community support programmes for education, training and youth policy (Socrates, Leonardo da Vinci and Youth) which co-finance transnational projects following calls for proposals. In 1997, while starting to prepare its proposals for the new generation of programmes, the Commission adopted a communication - "Towards a Europe of Knowledge". According to this document, the implementation of these programmes would be *"directly linked to the aim of developing lifelong learning which the Union has set itself and which has been incorporated into the Amsterdam Treaty"* (European Commission, 1997). The new generation of programmes was to be based on three overall objectives:

- increasing access for the citizens of Europe to the full range of Europe's education resources;
- innovation in these resources;
- wide dissemination of good practice in education.

In the decisions establishing Socrates, Leonardo da Vinci and Youth for the years 2000-2006, lifelong learning is highlighted. Article 1 of the decisions says that the programme shall *"support member States' policies on lifelong learning and the building-up of the knowledge and skills and competences likely to foster active citizenship and employability."* (Council Decision, 1999), *"contribute to the promotion of a Europe of knowledge through the development of the European dimension in education and training by promoting lifelong learning, based on formal and informal education and training. It shall support the building up of the knowledge, skills and competences likely to foster active citizenship and employability*" (Council Decision, 2000a) and *"promote lifelong learning and the building-up of the knowledge and skills and competences likely to foster active citizenship and employability"* (Council Decision, 2000b). In terms of programme objectives, the Leonardo da Vinci programme underlines the need for lifelong learning while, at the same time, closely reflecting the four-pillar structure of the employment guidelines. The objectives of Socrates are defined in the context of contributing to *"the development of quality education and encourage lifelong learning"*. In addition, one particular aspect of lifelong learning is being addressed more directly under "Grundtvig" (which is one of the eight actions under the programme). Grundtvig, focusing on adult education and other educational pathways, *"seeks to encourage the European dimension of lifelong learning"* and is *"addressed to people who, at whatever stage of their life, seek access to knowledge and competences within the framework of formal or non-formal education or by means of autonomous learning."*

The decisions establishing the three programmes also foresee the use of "joint actions", i.e., measures implemented jointly between the programmes. Projects designed to support lifelong learning which are not easy to define as "pure" education, training or youth projects may be financed through such actions.

Citizenship, social cohesion and employment -- the European Councils of Lisbon and Santa Maria da Feira

In 2000, further impetus was given to lifelong learning by the European Councils held in Lisbon (23-24 March 2000) and Santa Maria da Feira (19-20 June 2000). At the Lisbon summit, the objective of which was to *"agree a new strategic goal for the Union in order to strengthen employment, economic reform and social cohesion as part of a knowledge-based*

economy" (European Council, 2000a), it was recognised that *"people are Europe's main asset and should be the focal point of the Union's policies"* (*ibid*., para. 24) and that *"Europe's education and training systems need to adapt both to the demands of the knowledge society and to the need for an improved level and quality of employment."* (*ibid*., para. 25).

The Lisbon Council also set a number of targets that shall be met in the field of education and training:

- A substantial annual increase in per capita investment in human resources;
- The number of 18 to 24 year-olds with only lower secondary level education who are not in further education and training should be halved by 2010;
- Schools and training centres, all linked to the Internet, should be developed into multi-purpose local learning centres accessible to all;
- A European framework should define the new basic skills to be provided through lifelong learning;
- Defining, by the end of 2000, the means for fostering the mobility of students, teachers and training and research staff by removing obstacles and through greater transparency in the recognition of qualifications and periods of study and training;
- A common European format should be developed for curricula vitae (*Ibid*., para. 26).

Concerning the Luxembourg process, the Council and the Commission were asked to give *"higher priority to lifelong learning as a basic component of the European social model, including by encouraging agreements between the social partners on innovation and lifelong learning; by exploiting the complementarity between lifelong learning and adaptability through flexible management of working time and job rotation; and by introducing a European award for particularly progressive firms. Progress towards these goals should be benchmarked"* (*ibid.*, para. 29). The Lisbon Council also invited the member States *"to undertake a general reflection on the concrete future objectives of education systems, focusing on common concerns and priorities while respecting national diversity"* with a view to presenting a report to the European Spring Council in Stockholm in March 2001 (*ibid.*, para. 27).

At the Feira Council, the Presidency Conclusions declared that *"Lifelong learning is an essential policy for the development of citizenship, social cohesion and employment. The member States, the Council and the Commission are invited, within their areas of competence, to identify coherent strategies and practical measures with a view to fostering lifelong learning for all, to promote the involvement of social partners, to harness the full potential of public and private financing, and to make higher education more accessible to more people as part of a lifelong learning strategy"* (European Council, 2000, para. 33).

Lifelong learning in the policies of the member States

The development of lifelong learning at European level should be seen both as a reflection of, and an attempt to support, the development of lifelong learning in the member States. In the spring of 2000, a report was published by Eurydice on the contribution of the member States' formal education systems to lifelong learning. Although this report does not provide an exhaustive coverage of lifelong learning, it nevertheless points to some interesting developments in the member States' approaches. In terms of their (explicit or implicit) definitions of lifelong learning, the report finds a number of common elements at a fairly general level:

- *"people learn throughout all stages of life;*
- *a wide range of skills are involved, whether general, vocational or personal [...];*
- *formal systems of education and training, as well as non-formal activities organized outside these systems, have a part to play in public- and private-sector co-operation, especially as regards adult education;*
- *attention is drawn to the need for a solid grounding acquired during basic education, and to awakening people's desire and motivation to learn"* (EURYDICE, 2000, p. 17).

The report also finds a certain degree of convergence between the member States in the way lifelong learning is being developed conceptually and in terms of policy measures: *"Irrespective of the former traditions and policies of member States in areas such as 'education for the people', all of them, from Sweden to Greece, now attach priority emphasis to a much more effective interrelationship between education, training and employment, as well as to the crucial issues of employability of the workforce and economic growth. All levels of education and training and all opportunities for non-formal learning (at the workplace or at home, etc.) are required to make a contribution."* (*ibid.*, p. 17)

Recently, CEDEFOP (2000), too, published a report, which may partly be seen as a complement to the EURYDICE report. This publication gives a detailed overview and an analysis of how vocational training policy has (been) developed at European level. The authors note that *"similar trends are observable whatever the educational level concerned. Improving, broadening and diversifying provision, fighting failure, making use of new information and communication technologies, developing co-operation within and outside the education system, increasing flexibility and improving transparency -- these and other aims are all made clear, regardless of whether compulsory or upper secondary education, higher or adult education are at issue. Some of these aims are even in evidence at pre-school level"* (*ibid.*, p. 27).

A third picture of what member States have done to address lifelong learning emerges from as analysis of the National Action Plans for Employment. Although the Luxembourg Strategy has clearly contributed to member States' developing of lifelong learning policies, it is less clear to what extent progress has been made in terms of developing strategies for lifelong learning. In the Joint Employment Report 2000, the Commission concludes that: *"the majority of member States still need to develop stronger links between various policy measures so that measures and policies for education and training can be conceived and implemented within a comprehensive lifelong learning framework. Clear, quantified targets and benchmarks need to be set and respected."* The report also finds that *"A coherent strategy to co-ordinate the different phases of education and training (both in terms of curricula and recognition/certification of formal and non-formal learning) is not yet developed in the majority of member States although elements of such a strategy are emerging in some countries"* (European Commission, 2000c). This is also reflected in the Commission's proposed recommendations to the member States, in which lifelong learning is being mentioned, explicitly or implicitly, as something that needs to be addressed in the individual recommendations to ten member States (i.e., all *except* Denmark, the Netherlands, Austria, Finland and Sweden) (European Commission, 2000d).

We can derive from this rather sketchy picture that, on the one hand, there is a certain convergence in the way member States understand lifelong learning -- towards lifelong learning as a more comprehensive concept – and in terms of common trends. On the other

hand, however, within each member State there is, in most cases, still a need to develop lifelong learning within a comprehensive and coherent policy framework or strategy.

A Memorandum on lifelong learning

In November 2000, Viviane Reding, the Commissioner responsible for education and culture, presented a "Memorandum on Lifelong Learning" to the Education and Youth Council, and later that month Anna Diamantopoulou presented the document to the Employment and Social Affairs Council. The main objective of this document is to launch a wide debate in the member States and at European level on how to develop coherent strategies for putting lifelong learning into practice. To structure this debate, the Memorandum presents six key messages which, taken together, should provide a comprehensive framework for developing a lifelong learning strategy. Under each message one objective is being defined and questions for debate are being presented:

Key message 1: New basic skills for all

Objective: Guarantee universal and continuing access to learning for gaining and renewing the skills needed for sustained participation in the knowledge society.

Key message 2: More investment in human resources

Objective: Visibly raise levels of investment in human resources in order to place priority on Europe's most important asset -- its people.

Key message 3: Innovation in teaching and learning

Objective: Develop effective teaching and learning methods and contexts for the continuum of lifelong and life-wide learning.

Key message 4: Valuing learning

Objective: Significantly improve the ways in which learning participation and outcomes are understood and appreciated, particularly non-formal and informal learning.

Key message 5: Rethinking guidance and counselling

Objective: Ensure that everyone can easily access good quality information and advice about learning opportunities throughout Europe and throughout their lives.

Key message 6: Bringing learning closer to home

Objective: Provide lifelong learning opportunities as close to learners as possible, in their own communities and supported through ICT-based facilities wherever possible.

In the autumn of 2001, the Commission will prepare a report based on the outcome of this consultation process *"with a view to proposing specific objectives, concrete points for action and benchmarks for implementing a lifelong learning strategy"*. The Memorandum also stresses the importance of developing relevant indicators and benchmarks for measuring lifelong learning, in the broad sense. Benchmarks are an important element in the new "open

method of co-ordination" agreed on at the Lisbon Council, and makes it easier to monitor policy progress. The follow-up to the Memorandum should also serve as a basis for identifying examples of good practice in terms of putting lifelong learning into practice – at European, member State, regional, local and enterprise levels. To this end, the Memorandum includes one annex discussing the scope for developing indicators and benchmarks and another annex that provides a small number of examples of good practice.

Conclusions: from "add-on" to laying foundations for lifelong learning

Lifelong learning as it is being discussed at European level has come a long way. When lifelong learning was discussed in the early 1970s, sometimes under different names, the focus was more on continuing education and it was often mainly seen as a means for personal fulfilment and development. In the early to mid-1990s, reflecting a new situation at the labour market -- as well as broader technological, demographic, economic, societal and political trends -- the focus lay more on lifelong learning as a means to address unemployment. Vocational training, and in particular continuing training, was seen as one way of helping people to become "employable" and adaptable to change and, thus, as a means to address skills mismatches in the labour market. This perspective contributes to explaining the high profile education, training and lifelong learning gained in the Luxembourg process.

We can now see, not so much a shift back to the previous use of the concept as a tendency towards convergence. Lifelong learning is clearly about employability and adaptability. But it is also, and just as importantly, about personal development and fulfilment. It is also increasingly seen as a key instrument to give people the resources they need to become and remain active citizens. This was expressed nicely in the CEDEFOP report: *"The challenge facing education and vocational training systems is to equip people not only with the ability to adapt to change but also with the capacity to shape the direction of change"* (CEDEFOP, 2000, p.43). All these objectives – employability and adaptability, personal development and active citizenship – contribute, in turn, to social inclusion and the prevention of social exclusion. This development and changing emphasis at European level has also been observed by current research: *"The activities of the European Union throughout the 1990s are particularly interesting in illustrating the shifts in the concept of lifelong learning, with a rising recognition of the strategic importance of lifelong learning for the broader social, employment and economic objectives of the European Union policies."* (Kearns *et al*. 1999, p. 27).

The way in which lifelong learning is being understood has also developed in terms of the role played by existing systems of education and training provision. When the emphasis was mainly on continuing education and personal fulfilment, what was important in that context was clearly what happened after initial compulsory education. Lifelong learning was regarded as an "add-on" element to initial education and training. Later on, when the focus shifted towards lifelong learning as part of employment policy, the transition from initial education and training to the labour market and the links between initial and continuing vocational training became more important. Lifelong learning could then no longer be seen as solely a matter of opportunities developed in the post-compulsory sphere of the education and training system. People would have to get involved in lifelong learning early in life (very early according to the "from cradle to grave" definition!) and this meant that the initial education and training systems would have to adapt to new demands. Laying the foundation for learning later in life became an important objective.

We can also start to observe some early signs of a more radical transformation. The question is no longer merely about changes within existing education and training systems but also about developing education and training within a framework where lifelong learning is seen as the overarching concept. This development may, ultimately, lead to a form of osmosis between existing systems. At the political level, this will call for new ways of sharing the policy responsibility between various ministries. Initial (and pre-school) education and training are still important; so is the transition from "school to work"; so is creating the opportunities for adult education, continuing vocational training and further and higher education. But what is becoming increasingly important is to facilitate people's transition from one part of the education and training system to the other, from education and training to employment, but also from employment back to education and training throughout life. To give people the opportunities to plan, or pursue, their own learning – "building individual learning pathways" -- means that the boundaries between initial and continuing learning and between education and training must become more transparent. Also, the boundary between the "world of education and training" and the "world of work" need to become more transparent -- for example in order to value the importance of non-formal and informal learning that takes place at the workplace. In practical terms, this calls for the development of strong and open partnership, at all levels, between learning providers, enterprises, social partners, non-governmental organisations, individual citizens and public authorities, that facilitates the communication and improve the understanding between the different worlds of learning opportunities.

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Innovations to address the challenges of lifelong learning in transition countries

Haralabos Fragoulis [42]

Key words: learning, work, work organisation, equality, quality, access, transition, inclusion, culture, convergence.

This contribution briefly reviews the conceptual issues related to lifelong learning as well as the potential, far-reaching implications which may be generated by its implementation. It subsequently presents some reflections on the current state of development in the candidate countries of Central and Eastern Europe in the face of the challenges posed by a lifelong learning strategy. It ends with two examples which, among others, illustrate that the perspective of accession to European membership has engendered a dynamic process of convergence also in this particular area.

Lifelong learning: a conceptual framework to underpin the goals of the knowledge society

Unlike some opinions, which see in the lifelong learning idea the return on to the policy scene of an old concept, this contribution takes a different stance. Our point of departure is that lifelong learning[43] is in many respects a new concept – that denotes and reflects the specific reality of the emerging knowledge society and its ensuing implications – which attempts to come to terms with long-standing challenges.

A reinforced accent on learning as a tool of economic and social regulation

On the one hand, lifelong learning cannot be solely viewed as a revival of the idea of permanent, recurrent education. The latter, which became popular in the context of a still expanding "Fordist" economy (in the late sixties and seventies), has been primarily driven by social considerations placing the emphasis on the personal development of the individual. However, the concept of lifelong learning goes beyond such a limited objective, encompassing and trying to balance two rationales: [44]

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[42] The views expressed here are those of the author and do not represent the official views of the European Training Foundation.

[43] As in the following definition commonly agreed by the member States at the European Council in Cologne, June 1999: "all purposeful learning activity, whether formal or informal, undertaken on an on-going basis with the aim of improving knowledge, skills and competence". Further on, the Memorandum on Lifelong Learning (which has recently been released in the form of a Communication from the European Commission to the Council and the European Parliament and aims at underpinning a European-wide debate on a comprehensive strategy for lifelong learning) distinguishes three main categories of purposeful learning activity: formal learning (leading to recognised diplomas and qualifications), non-formal learning (not typically leading to formalised certificates) and informal learning (which accompanies everyday life and is linked to the professional experience and is not necessarily intentional learning).

[44] See "Lifelong learning in the National Action Plans for Employment 1999". Document prepared by Directorate-General for Education and Culture for the meeting of the Directors-General for Vocational Training 25-28 September 1999. See also "Implementing Lifelong Learning for active citizenship in a Europe of

- The economic rationale which is growing in importance and is reflected in the fact that lifelong learning is considered to be an important prerequisite for economic competitiveness as well as for improving the employability and adaptability of people. As a result, lifelong learning is a central element of the European Employment Strategy[45]. Among the underlying causes for this development, one can note: the increasing emphasis given to the human factor as a strategic parameter for the competitive performance of firms and the growing awareness that the skills and knowledge acquired in the course of formal education and training are not longer sufficient to cope with the rapid pace of technological and economic changes;
- The social rationale: its relevance is illustrated by the awareness that the limited access to up-to-date information and knowledge is becoming an increasingly powerful cause of the "social marginalisation trap"[46]. It is therefore not surprising that the continuing access to knowledge is recognised to be one of the fundamental priorities of the European Union[47]. Equally important is the requirement to adapt learning to each individual's needs and background. Achieving these aims is closely linked to the promotion of the well-being of individuals of all ages and in all circumstances as well as of the conditions enabling the active participation of these individuals as citizens in the democratic process.

On the other hand, it is true that human society has always been based on the production/reproduction of knowledge and the life of the individual has always been a learning process through accumulation of experience and knowledge. What is new today is the changing attitude towards learning, in the context of the rising importance of knowledge as the explicit guiding principle for social and economic organisation. As a matter of fact, in parallel with the profound changes brought about in the nature of work – increasingly shifting away from the action on materials and towards a manipulation of symbols – the so far "hidden" and somehow disregarded learning pathways, embodied in work experience and related non-formal knowledge acquisition, have to become once again visible and valued as a significant stage in the continuum of the learning process[48].

As a result, there is an increasing need to establish appropriate procedures and mechanisms to assess/measure the outcomes of such learning and to validate them as building blocks/integral components of the individual's continuing development (in terms of skills, competence and knowledge). The growing interest in the debate about the accreditation/recognition of prior and non-formal training is an illustration of this new reality.

Equality and quality remain key concerns

If the innovative dimension of the lifelong learning concept lies in its focus on a new approach to the process and context of learning (learning seen as a continuum throughout life embracing all purposeful learning activities) it will still have to prove its efficiency in meeting

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knowledge", Working Paper by Directorate-General for Education and Culture , March 2000, and Memorandum on Lifelong Learning, *op.cit*.

[45] See European Commission (2000b).

[46] Paraphrasing the term "modernisation trap" used by Offe and Heinze to underline the negative side-effects of the reduction of working time.

[47] See Preamble of the Amsterdam Treaty which enshrines the determination of the Union member States "to promote the development of the highest possible level of knowledge for their peoples through a wide access to education and through its continuous updating".

[48] See Memorandum on Lifelong Learning (2000a).

a long-standing challenge: providing equal and continuing opportunities to quality learning for all.

In the following pages, we try to argue that the profound rethinking of the parameters of the learning process itself (in terms of resources, content, methods, validation of results) is a very important but not sufficient condition on its own to address the above challenge. The parallel development of a radically different approach to work patterns becomes equally necessary if the current deficit of access to learning resources is to be tackled in the future [49].

Lifelong learning: the challenges of translating the vision into reality

As lifelong learning tends to become a central element of the European approach to economic and social progress as well as to fully exploiting the potential of the knowledge society, its implementation raises a number of important challenges for all European Union member States in terms of both strategy development and policy-making.

A culture of learning

The development of a culture of learning at individual level is certainly a necessary dimension. This is closely connected with the existence of appropriate learning opportunities (in terms of content, methods, and previous personal experiences) as well as with the recognition of learning outcomes.

Rethinking the parameters of the learning environment

For this reason and in parallel with the need to increase the motivation of individuals, there is growing awareness of the scale of the reforms that need to be set in motion as regards the education and training systems. The latter have to respond to the fast pace of technological, economic and social changes, which require the continuous updating of the knowledge and skills acquired in the course of formal education. In doing so, they can make a central contribution to the search for a new social and economic equilibrium as well as to the reshaping of the European model of society. These reforms imply radical changes in terms of structure, content, processes and outcomes of teaching and learning[50].

In terms of structures, it would require a much more flexible system which would: encourage the provision of second chance education for groups facing particular social, economic and educational disadvantages; facilitate the transition from work to education and training and *vice versa*; and promote an integrated approach which enhances the gradual osmosis between formal, non-formal and informal learning routes. The development of such a flexible system equally calls for a restructuring of the traditional forms of social governance of education and training and for the setting-up of arrangements promoting the involvement of all stakeholders. The organisation of and responsibility for lifelong learning will depend more and more on wide partnerships and the setting-up of new-open access networks of training provision.

[49] In our view, this is an aspect whose implications in the implementation of the lifelong learning strategy have not been sufficiently grasped in the Commission's Memorandum on Lifelong Learning.

[50] See Memorandum on Lifelong Learning, *op.cit.* See also Chisholm (1999).

In terms of contents, it would encourage the provision of key skills and a broad competence base, interdisciplinary approaches, as well as the ability for individuals to learn in an autonomous and creative manner.

In terms of learning processes, it would imply adapting them to individuals' needs and reformulating the teaching/learning relation as an active interaction promoted by support, counselling and guidance services to facilitate the creative use of knowledge**.**

In terms of outcomes, it implies the need to develop possibilities for greater visibility, validation and mutual recognition of the learning outcomes achieved in all three learning settings (formal, non-formal and informal).

A learning-friendly enterprise

By definition, the concept of lifelong learning enlarges the scope of learning to include a wide range of organisational structures, processes and methods, outside formal education and training institutions, as long as they contribute to enhancing the possibilities of self-development and skill formation of the individuals. From this point of view, the implementation of this concept challenges also the traditional forms of work organisation, requiring the development of more learning-friendly work environments. Whereas work-related learning often seems to be more efficient than learning through formal training courses, learning through work is not an automatic process[51]. It calls for the existence of an adequate work organisation encouraging learning beyond the simple adaptation of the individual to the specific job requirements. If, therefore, companies are to be seen as learning sites and not simply as production centres, then, besides their readiness to assume such responsibility, suitable qualifying work processes have to be in place. Adapting work to people's learning and development needs is a key challenge[52].

Consequently, integration of work and learning may have a meaningful impact on the individual's development as long as we adopt a comprehensive view and place the emphasis on improving the osmosis between formal training and work-integrated learning processes. In this respect, the identification and acceptance of some common guiding principles to apply in both processes (such as the definition of explicit learning goals, suitable guidance, planning and organisation process, quality monitoring, existence of support services) would contribute to improving the efficiency of both. It would equally facilitate the visibility of the learning outcomes and their wider recognition on the labour market.

Learning and transitions in individuals' life

As the rigid structures of mass production are rapidly being replaced by more complex and fragmented working patterns, the traditional pattern of the linear development of an individual's professional life composed of a succession of phases (an education and training period followed by a normal working life -- on a full-time, more or less stable job -- which leads to retirement) is giving way to growing individualisation, heterogeneity and mobility of professional careers.

[51] See Grünewald (2000).

[52] See European Commission (1999b).

The increasing demands for flexibility and adaptability have given rise to a substantial multiplication and reorganisation of the transition periods towards and within an individual's working life. The different experiences in European Union member States demonstrate that learning is an important component of the policies developed to manage these uncertain transition periods. It is in this way that learning (in particular apprenticeships or other forms of work-based learning) is used as a privileged tool to facilitate the access to employment for young people, to move out of unemployment back to employment, to promote occupational mobility within the internal job markets, and to ensure the right to redeployment for people affected by an economic reconversion.

New relations between learning and work

However, the implementation of lifelong learning at a society-wide scale would call for a radical transformation of our established conceptual approaches to work and working time[53]. The current expert and policy debates at European Union level have revealed interesting ideas.

First, a rising interest can be noted towards the idea of "total time management" (using a similar term to that of total quality management)[54]. This idea proposes to address time in its various dimensions beyond the working time in its strict traditional sense. Going in the same direction, the Commission's Memorandum on Lifelong Learning speaks about the possibility for people to manage their own "time-life portfolios".

Secondly, the need to develop a new, more comprehensive approach to work is widely acknowledged if European societies are to invent the new terms of the trade-off between economic competitiveness and social solidarity in the context of the post-Fordist era. The change in priorities is a key feature in this new era. Employment has become the central issue against the redistribution of productivity gains. In line with this change, policy efforts are geared at finding a new balance between security and flexibility. It is in this context that the concept of employment continuity coupled with job discontinuity has been put forward. It aims at ensuring the continuity of the employment status of the worker who, at the same time, has to accept that he or she is likely to move through a number of diverse jobs during his working life. Such an alternative is believed to facilitate the necessary compromise between the growing requirements by employers to have a better-trained, adaptable and more committed workforce on the one hand, and the workers' aspirations for security on the other.

These new approaches, if set in motion, imply however a paradigm shift calling for a rather fundamental review of the predominant perceptions of work and working life. They encourage going beyond the strict notion of work as subject of an employment contract to encompass other non-marketable forms of work commitments (such as domestic, family tasks and learning activities)[55]. They would equally entail a radically new attitude towards working time which would not be limited to the formal time stipulated in the employment contract but be extended to embrace additional aspects of a person's working life (including learning).

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[53] See European Commission (1999b).

[54] See European Commission (1999c).

[55] See European Commission (1999b). The report puts forward the proposal to consider learning as a "social drawing right" brought into effect through the establishment of a financial reserve and the decision of the individual to make use of this reserve for a specific learning purpose.

Treating learning as a recognised form of work, and work as a valuable source of learning, will bring about a new reconciliation of these two realities. Such a development would certainly provide a crucial impulse to fully exploit the potential generated by the lifelong learning strategy since it could pave the way for putting in place what has been defined as "structural conditions or dimensions" of lifelong learning: time, financial resources and recognition[56]. It would represent a step forward in implementing the goals affirmed in the Amsterdam Treaties and embedding the objectives of a common vocational training policy at European Union level established by the Council Decision 62/666 as early as in 1963.

Improving social inclusion

This new relationship between work and learning can equally have a significant contribution to fulfilling the social inclusion objectives of lifelong learning. Widening the scope of work, as suggested above, indeed provides the potential to enhance the opportunities for all citizens to renew their social, cultural and vocational resources as advocated by the European Commission[57]. Treating learning as a form of work would allow to be associated with a number of social rights and benefits, which would prevent some of the exclusion risks often generated by the loss of the traditional employment status.

It is needless to stress that such an endeavour requires the development of new forms of dialogue. The recent experience in several European Union countries illustrates that this is taking place through several means. First, by enlarging the scope of players involved (forging of wide partnerships between public authorities, educational institutions, social partners, companies, local communities and other relevant actors). Second, by extending the subjects of dialogue to encompass a wide range of social and economic issues and, third, by developing new forums of dialogue (e.g. at territorial and sectoral levels).

These wide partnerships are indispensable in order to provide all the adequate support services and help to the individuals so that they can effectively practice their right of access to learning resources.

Summarising, we may identify the following key issues, which in our view are likely to shape the concrete implementation of a lifelong learning strategy in the near future:

- The development of a learning culture at both individual and social levels;
- The radical transformation of the education and training systems;
- The crucial impact of lifelong learning in reinforcing social inclusion;
- The contribution of learning to the effective management of the transition processes within a person's life;
- The re-adaptation of the work organisation to become a meaningful learning resource;
- Giving the learning process the formal status of a recognised socially useful work activity.

The experience in several member States reveals a series of innovative developments on the first four issues but very few as regards the fifth one. Finally, the increasing awareness of the last issue has not yet resulted, to our knowledge, in any significant practical breakthrough.

[56] See Heidemann (2000).

[57] See European Commission (2000a).

Lifelong learning in the transformation process in Central and Eastern Europe

It is useful to consider the situation in the transition countries of Central and Eastern Europe – focusing on those which have applied to become members of the Union -- in the light of the above implementation challenges and priorities facing the European Union member States in the area of lifelong learning. Bearing in mind the wide divergences existing between the individual countries, the merit of such an approach is to highlight the main positive developments so far and the specific difficulties encountered by the countries in relation to these challenges.

In doing so, we will concentrate our analysis on their vocational education and training (VET) systems, outlining the inherited barriers, the scale of changes introduced as well as the main common features of the current situation across the different countries. This analysis will be followed by the presentation of a number of significant national initiatives, indicating both awareness and policy determination to test innovative reform paths, which can also convey interesting messages to European Union countries.

Coping with the legacy of the past

Paradoxically enough, the former communist countries of Central and Eastern Europe had adopted and applied in an exacerbated and distorted way some of the main features of the "Fordist" production model prevailing in the open market economies. In fact, the economic and social logic of these societies commanded the homogeneity and stability of the employment status, which at the same time served as a key element for the ideological legitimacy of their political regimes. This had been combined with a predominant position of the State (in both its protective and repressive roles) in all spheres of public and private life, leaving practically no room for the institutional presence of an autonomous and active civil society.

In such a system, the resource and labour-intensive patterns of production did not require the introduction of any flexibility arrangements but were mainly targeted at taking advantage of the abundance of cheap labour organised along the lines of rigid Taylorist principles. In addition, work behavioural patterns as well as work ethics were negatively affected by the lack of market rules and tradition[58] as much as by the absence of democratic participation and active citizenship.

In these conditions, their vocational education and training systems were not meant to be a driver of change and innovation but rather a mechanism to meet the demands of centrally planned and labour-intensive economies. Their structural links with the big state-owned economic entities aimed primarily at preparing future workers for narrowly defined occupations and specialisations at a very early stage (often during compulsory schooling), the purpose being to serve a production model marked by the low quality of output produced with the use of outdated technology. In addition, the fact that a significant part of training was taking place at the workplace – within the framework of a Taylorist-driven work organisation -- reinforced even further the specificity of the skills being acquired.

[58] See European Commission (2000d).

This pattern of over-specialisation of the workforce was visibly satisfactory as long as the production regime required little or no occupational mobility, but it did enter into a structural crisis at the outset of the transition process to the market conditions.

It is also in the light of the above pattern that the performance of the education system before 1989 has to be interpreted and understood. In fact, whereas it is incontestable that the transition countries of Central and Eastern Europe then presented rather high formal education levels compared to countries at a similar stage of development and with comparable income levels[59], a closer look at their schooling system and its results reveals major deficiencies and imbalances. One can mention: the prevalent high enrolment rates in dead-end lower vocational schools which in many cases were not considered as part of secondary education; the serious shortcomings as regards high-level qualifications; general secondary schools heavily undersized; and the relatively small proportions of young people who completed upper secondary education.

This negative legacy becomes even more pronounced if one considers the questionable quality of education (both general and vocational) and training on offer: learning approaches not favouring the development of analytical, independent thinking and personal initiative; outdated equipment; programmes leading to narrow and obsolete qualifications.

Combating the deficiencies

All these deficiencies produced visible effects in the course of the transformation process. The disparities in the qualification structure of the labour supply and labour demand – illustrated in most cases by the higher unemployment incidence among VET graduates – were felt very soon and pointed to the need for a substantial readjustment of the educational offer since it had become evident that neither the traditional learning methods nor the old profile of qualifications were any longer relevant to the new socio-economic context. At the same time, they highlighted the urgent need to retrain and requalify a large part of the workforce whose formal qualifications (often of a very low level) acquired under the previous system were outdated.

In parallel, the social awareness of these deficiencies brought about a sharp decline of enrolment in those forms of vocational education providing access to low and outdated skills, but a significant shift of the demand towards upper secondary (general and/or technical) and tertiary education[60].

In response to this situation, the new political authorities in the transition countries initiated a number of actions – often with European Union support – to counteract the growing disaffection of young people and their families towards the VET sector.

The main thrust of the reforms was to improve the relevance and quality of the provided skills and thus redress the damaged attractiveness of the vocational education system. The introduction of the changes took place on an experimental, project-form basis through their implementation in a selected number of pilot schools. Inspired by the advice of

[59] *Ibid.*

[60] It should however be noted that in the majority of transition countries, the VET systems continue to absorb a high percentage of enrolments – around 38 per cent (much above the European Union average, which is around 22 per cent).

foreign experts from a range of different European Union countries, they were geared primarily at the adaptation of the formal system of initial vocational education by promoting:

- The modernisation of learning contents (introduction of core skills, development of training courses for new occupational profiles) as well as more interactive learning methods;
- The responsiveness of the VET offer to the needs of the employment system by developing communication between schools and companies at decentralised level;
- The reduction/broadening of the occupational profiles and a gradual/delayed specialisation;
- The development of a qualification standard-setting process based on methodological approaches which give priority to the analysis of the demand-side needs (occupational/task analysis) as a basis for the development of appropriate training courses.

At the same time, a number of structural changes have been set in motion in many countries with a view to developing new progression routes within the education system as a whole. New administrative arrangements were also introduced with the aim to streamline the division of management responsibilities at both national and sub-national levels. In addition, an effort was made in most countries to establish new institutional platforms (usually of a tripartite character) to enable a wider participation of social partners and other key players in policy-making and implementation. Finally, a considerable freedom was offered to individual schools to adapt their training courses to specific demands and needs of their local environment.

New and old: a difficult coexistence

However, following this first intense period of experimentation, the global reform of their VET system remains an uncompleted task[61]. Most countries in transition are still in search of appropriate ways to capitalise on the know-how and experience generated through the small-scale pilot initiatives and feed their outcomes into the overhaul of the system. The present situation is marked by an increasing complexity and opaqueness, as the new and experimental developments often coexist with the old official systems[62].

In a context of growing economic and social inequalities, the VET systems in these countries are still too rigid to allow for an adaptation of the learning structures, content and processes to the specific needs of the individuals and thus to prevent or address the sometimes significant failure/drop-out rates. Their interfaces with the world of work are quite weak since the links and co-operation with the business sector are limited and there are still insufficient opportunities for students to acquire work experience through in-company placements.

Finally, it is essential that the consolidation of democracy be equally reflected in the education sector through the further development of a culture of dialogue and sharing of responsibilities. This calls for a new mentality and practice in the public administration where the new roles of the State in a market-oriented society should be fulfilled effectively: strategic steering, providing a global vision, facilitating change, co-ordinating, building consensus. It equally requires the empowerment of the individual and all relevant actors of the civil society to take responsibilities in the development and implementation of policies.

[61] See European Training Foundation (1999).

[62] See Fragoulis (1999). See also Masson (2000).

As a consequence, the current circumstances give rise to concerns voiced by some authors[63] as regards " the actual devaluation" of the human capital in the course of transition in countries of Central and Eastern Europe. This argument is supported by the persisting high enrolments in vocational schools which still, in many cases, give access to obsolete qualifications, and by the absence so far of a systematic policy for a wide-scale retraining of the workforce.

Lifelong learning: a mobilising aim to support a sustainable and socially inclusive development

In conclusion, it can be said that, as it has been the case with the other dimensions of social policy (wages, employment, social security), there is evidence that the education and training systems in the countries of Central and Eastern Europe have suffered a significant deterioration in the course of transition, not least in terms of quality of infrastructure and teaching resources, lack of clear policy vision and consistent implementation of systemic changes.

An innovation strategy in a broad systemic reform

Ten years after the outset of the transformation process, a number of positive developments can be noticed[64]. Overall, the capacity of education to fulfil their two key aims, namely, to equip people with quality and relevant skills, and to address the skill deficit of the adult population, remains limited.

The initial efforts have focused mainly on tackling some of the internal dysfunctioning aspects of initial education and training systems. These efforts need to be consolidated and their impact diffused into a broader systemic reform. It is in the sphere of work and working patterns that the evolution is still slow[65], but as we have argued in the previous section, it is gaining importance in the implementation of a lifelong learning strategy.

Placing therefore the emphasis on the continued transformation of the education, training and work systems of the transition countries in the direction of lifelong learning should be seen as a rational policy option from both the economic and social points of view. The large gaps between the candidate countries of Central and Eastern Europe and the European Union average in terms of productivity and per capita income are the distinctive feature of the new wave of enlargement compared to previous ones[66]. Furthermore, the period of transition has been marked by a substantial growth in economic and social disparities between regions, sectors, and occupational/social groups within each candidate country[67]. In the light of the above, it has already been anticipated that the actual convergence of the countries of Central and Eastern Europe towards the European Union averages is likely to be a slow and lengthy process.

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[63] See for example European Commission (2000d).

[64] Such as increasing participation rates in education, rapidly growing demand for access to higher education, which reflect the importance education has regained as a factor determining income levels.

[65] The current patterns of labour in candidate countries, when compared with those in European Union countries, seem to indicate the prevalence of labour-intensive sectors caused by poor endowment in physical capital and technology. See European Commission (2000d).

[66] See European Commission (1999c). See also (European Commission, 2001).

[67] *Ibid.*

Therefore, it is in the interest of both present and future member States that taking concrete steps in the development of lifelong learning be addressed as a high priority issue, also in the candidate countries. As regards the latter, such steps will be vital with a view to raising their productivity levels (if they wish to maintain their comparative advantage in terms of low labour costs). They are also important to ensure a socially fair development; addressing the "competence deficit" of their human capital could finally contribute to rebalancing the current patterns of labour between these countries and the European Union. For the enlarged Union, supporting the candidate countries in taking these steps, even before accession, would be necessary if it is to keep its capacity to rely also on the quality of its future workforce as a crucial factor of competitiveness.

The Slovenian case: the development of a new certification system[68]

Slovenia's education and training system shares many of the critical features which are typical of the transition countries of Central and Eastern Europe. Low flexibility of the formal school system, high drop-out rates among young people (about 20 per cent of the relevant age group) and a significant part (around 25 per cent) of the labour force without formal qualifications. On the other hand, the system of continuing vocational training is rather underdeveloped and organised mainly on a market basis. The participation of people with low levels of education and skills in adult education and training programmes is very limited and the majority of these programmes do not lead to recognised certificates and qualifications.

In response, the Slovenian authorities have recently taken concrete steps (agreements with the social partners, endorsement of related act) to introduce a national certification system. The key aims of this initiative, underpinned by the technical and financial support of the European Union, are to increase learning opportunities and open up alternative ways to qualifications which will not be conditioned by the enrolment in formal education programmes. The certification system is not meant to provide a substitute for the formal education system but to develop a complementary function by building bridges between initial and adult education on the one hand, and between education and work, on the other.

The main innovations of the system lie in the following ideas. It will offer young people who drop out of school without obtaining a formal diploma a chance to have access to partial certification of their educational achievements on the basis of which they would be able to resume formal education at a later stage if they so wish. It will allow for a flexible assessment and recognition of various types of non-formal training and learning, including work experience, which can facilitate the access of adults to formal qualifications.

The implementation of such a system is expected to promote a lifelong learning culture and reinforce the educational attainment and employability of citizens. It is equally expected to contribute to the flexible adaptation of learning conditions to the specific needs and aspirations of the individuals. There is shared understanding among the key players in the country that the effective implementation of the certification system will depend on the ability to address successfully its wider implications on the education and employment

[68] The examples which follow on Slovenia and Hungary draw on the information in the 1999 annual reports produced by the VET National Observatories as well as on the documents prepared by the ETF Secretariat aiming to provide an input to the Commission's Memorandum on Lifelong Learning.

systems. A number of steps have already been taken in this direction, related mainly to the restructuring of curricula and the introduction of modular training programmes, as well as the development of a new comprehensive qualification structure.

Equal attention needs to be paid in the course of the reform to broader employment-related issues such as work arrangements which can facilitate access to learning, the deregulation of the employment system (over-regulated so far), and the need to ensure a broad-based definition of occupational and qualification profiles[69], taking due account of partial qualifications.

The Hungarian case: a financing system to underpin both initial and continuing training

In recognition of the need to secure the appropriate resources for the development of VET, Hungary had taken the initiative to diversify investment sources to VET long before the transition process started.

In fact, beside the State budget, a system of compulsory vocational training contributions from employers was established as early as in 1972 and subsequently readjusted in 1988 and 2000. As it currently stands, the system obliges all enterprises to contribute 1.5 per cent of their total payroll costs to the Vocational Training Fund, which is an extra budgetary fund and part of the Labour Market Fund. The system is acknowledged to have played a catalyst role in the transformation process of the VET sector thanks to the following interesting features.

The system is geared to supporting both initial and continuing training. In fact, employers are given significant autonomy in the way to discharge their compulsory contribution: they may do so by directly assuming the costs of the practical training for students delivered in the company, by providing direct financial support and aid to individual vocational schools (up to 75 per cent of their contribution) and/or by paying their contribution directly to the Vocational Training Fund. In addition, they are entitled to retain a third of their contribution (0.5 per cent) for retraining and up-skilling their workforce in officially recognised qualifications.

The system establishes a diversity of options as regards the use of the Fund resources: besides the financing of training activities in the strict sense, these resources are also used for promoting quality development in VET through the financing of initiatives related for instance to the modernisation of curricula, or the introduction of new learning methods (e.g. open and distance learning).

Approximately half of the Vocational Training Fund resources are decentralised to counties to support projects that are adapted to economic, social and training local needs.

Finally, there is a close involvement of all key stakeholders (employers' associations, trade unions, chambers, schools, local government) in the operation of the system through their participation in the National Vocational Training Council which has an advisory role as regards the use of the Fund, while the overall management responsibility lies with the

[69] See Svetlik (2000).

Ministry of Education. At county level, the stakeholders have even a decision-making power (through the County Vocational Training Committees) as regards the selection of projects to be financed by the decentralised part of the Fund.

These features provide a good basis for increasing learning opportunities for all and promoting synergies between education, training and work. By preparing a new Adult Education Act, the Hungarian government has demonstrated its willingness to capitalise on this positive experience and reinforce the conditions for promoting lifelong learning.

Conclusion: an innovation strategy to accelerate convergence

Both Slovenian and Hungarian cases correspond to two of the thematic areas addressed in the Commission's Memorandum on Lifelong Learning. They provide an additional indication of the awareness and determination in the candidate countries to accelerate the "catching-up" process in view of their accession. They equally convey the message that candidate countries have a major opportunity to avoid the traditional reform paths as used in the past in other countries. Instead, being inspired by the lifelong learning strategy, they may take advantage of their transition process and build into their new systems from an early stage those innovative dimensions or aspects that can enhance the integrated approach to learning.

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CONCLUSIONS : LINKING FORMAL AND NON-FORMAL PART OF A STRATEGY FOR LIFELONG LEARNING?

Danielle Colardyn

The issue of further developing lifelong learning -- in particular the importance of linking formal and non-formal learning -- has been examined from several angles: vocational education and training, higher education, various public and private providers and stakeholders. Moreover, several levels of implication have been explored, at the enterprise, the regional, the national and the European levels. Each contribution in this volume has shown, through reflections and experiments, the importance of articulating formal and non-formal learning. Some of the major difficulties emerge concerning, for example, the magnitude of lifelong learning, its financial aspects, its technical problems as well as the crucial consensus it has to rely on. Again, one has to bear in mind that "we are not only concerned about adult learning but also about lifelong learning as an overarching philosophy for the future structure and development of the learning society." (Grepperud and Johansen, 2000, p. 281).

Some of the facts emerging from the contributions will first be presented. Second, lessons will be drawn from the various experiments on assessment methodologies. And third, the roles and responsibilities of the providers (public, private, non-profit associations and others) will be discussed before concluding about the next possible steps towards a strategy for a comprehensive approach to lifelong learning.

Some facts

Briefly, seven main dimensions have to be underlined as they justify the steps being taken in consolidating the relationship between formal and non-formal learning:

- In formal settings, standards and modules are increasingly well-defined;
- More often than not, prior learning is accepted in formal settings;
- Counselling practices are developing;
- A multiplicity of actors are committed;
- Awareness of the magnitude of lifelong learning is slowing growing;
- The presence of mature students is increasing;
- Social and economic integration could progress thanks to the variety of means offered and of providers working on a consensual basis.

Standards and modules in formal settings

In many countries, progress can be reported in defining standards in formal education, such as in continental European countries with a long-standing tradition in this area (Gemany and France, for example). Many improvements can be noted in methodologies and practices in all the countries, including some with a recent history in standard-setting. Information is more transparent. The general trend towards modularisation has certainly contributed to the definition of clear standards in formal settings. At European Union level, too, new tools (such as Eurydice) are being devised and emphasis is placed on transparency to bring a general

understanding of what goes on in formal settings (Forum on Transparency of Vocational Qualifications).

Integrating prior learning assessment in formal learning

In recent years, progress has been achieved towards a better integration of prior learning assessment (PLA) in formal settings. Several contributions have given examples of experiments in different countries. PLA is viewed as an important tool likely to improve flexibility of the education and training systems and to open access to formal education and training. Methodologies to assess prior learning may differ, as explained in the various contributions, but recognition of learning occurring outside the formal setting and following another logic than a given discipline is seen as very important for lifelong learning.

More enquiries should be undertaken to grasp this new reality: entering the formal system through the PLA gate is one aspect. Reaching certification is another. Further studies could bring more light on that situation.

Another dimension that should be further explored concerns the technical aspects of assessment: how is prior learning assessed? How to make sure these measures are reliable and valid? There, too, more analyses should be carried out in order to ensure that PLA policies move in the right direction for people and institutions.

Counselling practices

Counselling and guidance are common practice for young people. With unemployment spreading, they have been used more and more to the benefit of adults. Lifelong learning calls for more structures and systematic counselling.

Nevertheless, counselling will have to abandon its strong emphasis on initial education to focus more on career development. It will have to respond to a whole range of different requests concerning individuals' education and training, personal and career development.

The commitment of providers

The involvement of providers and stakeholders in the public, private and non-profit sectors is seen as positive. Their role and responsibilities remain to be defined, debated and subjected to a consensus. In spite of their commitment, they still have a long way to go before they find the right responses to the multiplicity of issues they face: from financing to quality in the assessment; from defining specific training programmes to proposing general education and enlightenment for adults.

The magnitude of lifelong learning

Awareness of the order of magnitude of a lifelong learning reform is slowly growing. As mentioned by several authors, what is meant by lifelong learning has little to do with the recent reforms undertaken in the education and training areas. It concerns a huge population and can prove extremely costly if no new commitments and shared responsibilities can be designed. If countries are relatively prompt in developing PLAs as a way of opening doors, the exit (achievement of a certificate) remains uncertain. The relatively careful attitude of national authorities concerning lifelong learning policies is probably explained by the

magnitude of the objective. Even public responsibilities could be redefined and, therefore, could have an impact on the traditional capacities of ministries or departments. How should one deal with a ministry such as Industry, for example, that wants to be more involved in certification of competences? Is it legitimate?

The presence of mature students

There is a very deep change in the population of "students" in higher education. In some countries, they represent a majority of part-time, mature learners, interested in distance education. The same is true at the secondary level. The trend in participation of those non-traditional students in formal settings is firmly established.

Social and economic integration: who is central?

Developing social and economic integration depends on the awareness that individuals have a central role. Therefore, issues may sometimes have to be looked at from a different angle. For example, "*individuals who actively pick up all sorts of knowledge and competences may help us to understand the determinants of lifelong learning and the learning society. If 'informal learning' is accepted as a useful and valid contribution to the construction of a learning society, such a society can become more inclusive at a stroke since informal learners may not be participants in formal structures*." (Godard *et al.*, 1999, p. 438).

Small and medium-size enterprises (SMEs) are another example. Their needs should be at the core of lifelong learning, for several reasons including economic and social integration. SMEs should no longer be considered as "special cases" for which there is no general solution, but perhaps questions have to be asked differently. Their particular problems should be treated one by one with pragmatic solutions. It is widely known that SMEs are crucial for integration. They create employment and networks (economic and social). The way they address lifelong learning differs from that of large enterprises. Could part of the answer be a greater emphasis on recognition of non-formal learning? By recognising non-formal learning, could this promote learning inside SMEs? Could promoting that form of learning help the development of lifelong learning policies by giving a different role and place to SMEs as major providers?

Experiments on assessment methodologies: the non-formal dimension

Several authors have underlined that assessment methods can help define links between formal and non-formal learning. These methods could be a tool for the implementation of lifelong learning policies by linking formal and non-formal learning. Before examining their relationships, more should be known about the assessment methods of non-formal learning.

The variety of experiments which took place in the last ten years or so is impressive. All these experiments should now be brought together to draw lessons from: the good practices, the "good first steps" in assessing non-formal learning, even the unsuccessful experiments. Nothing should be neglected. Any first step can lead to an improvement in the next one.

Several issues for debate are clearly visible and more specific work should be done at national and European levels. Large debates with *all* interested parties should take place about concepts such as assessment, recognition and certification. In addition, strict evaluations of current experiments, and in particular of the assessment tools used, should be made in co-ordination between actors (at national level) and countries (at European level). All efforts should concentrate on improving our understanding of the reliability and validity of the tools used. As the contributions show, these tools are not new: they are used in new ways and in new contexts. There is no need to reinvent every concept but one has to make sure that the tools are meaningful and efficient before developing more lifelong learning policies.

Issues for debate

The *functions* of assessment and certification have to be clearly specified. They relate to several main aims of lifelong learning;

- Building up a training project when changing job on the external market will require a different assessment from the one required when changing job in the same enterprise;
- One form of assessment could have a formative function while the other would have a summative function;
- One form of assessment will deal with "inputs" and training processes; the other with "outcomes", regardless of training, or even explicitly separated from education and training. Then, the question is how to link the results of assessments and/or recognition of formal and non-formal learning.

The certification resulting from a formative and input process could substantially differ from the certification resulting from a summative and outcome approach. The issue is then: even if they are different, can they nevertheless have the same value? Can they be equivalent because they respond to similar quality requirements and procedures? Who gives legitimacy to the assessment and the certification?

The *reasons* for assessment and certification can be of three sorts. One can differentiate:

- When entering an education and/or training programme, the assessment can be
  - Formative, aiming to testify that an individual has the potential to follow a training course;
  - Based on the input process aiming at placing the individual somewhere on a scale in that education or training programme;
  - Based on the underlying assumption that the individual is able to integrate the education or training programme and to learn in that setting.

- When ending an education and/or training programme, the assessment can testify:
  - What a person has studied (theoretically and/or practically);
  - What a person is potentially able to perform in a work setting.

- When the actual capacity to perform in a real-life situation (work or otherwise) is being certified. Then, the assessment can be:

- Summative, aiming at certifying what an individual can actually do in a work setting;
- Based on outcomes other than those required in a work setting;
- An underlying assumption that the person will be able to integrate and transfer what he or she has learned to another situation, either in education and training or at work.

In a lifelong learning perspective, the coexistence of the various types of assessment and certification might even prove to be indispensable as more adults need to update their competences, as training becomes shorter and often not leading directly to a full certificate, as adults learn in their work environment or elsewhere, as such learning is now admitted and recognised, and as measurement of such learning is made possible by methodological progress.

In a portfolio approach, it is important for the individual not to have to learn again what is already known and not to have to prove in a "school-based approach"[70] what has already been demonstrated in a work setting.

Even if participation of adults in training is increasing, there seem to be plenty of reasons for adults not to participate in formal education, training and retraining. Therefore, it could well be that simply extending initial education opportunities (for adults) will not be sufficient to create a "learning age" (Gorard *et al.*, 1999). This point could be further explored by qualitative and quantitative analyses of the experiments and pilot studies carried out in various countries. It would also be interesting to find out from these experiments and pilot studies whether, as feared by some, there is a danger of a learning society turning into a certified society. This could indeed help revive the debate on the issue of equality of access to learning. If everyone has access to some sort of learning, what role would any form of certification play?

More work on ...

The issue of standards. Assessment requires standards to be defined. Standards are needed for formal and non-formal learning. Should common standards be used for assessment and certification of formal and non-formal learning? A consensus seems to exist on the need for common standards. Education and training systems use "educational standards". Should these be the common ones?

If so, should these apply to both education and training (defining education and training processes) as for example those prescribed in the German dual system or by ministries of education and employment in many member States?

Or should they be "job descriptive" (performance standard in work) which are normally defined by ministries of labour and employment in agreement with social partners? These employment-based standards also exist. Should they be the common ones? Usually, these standards or descriptions are at the root of the education and training standards which are derived from them. They are thus overarching education and training standards used in various education and training settings. They also have another characteristic whose advantages and limits should be explored: they contain smaller units of competence and are

[70] Written and oral description and explanation of what an individual can do.

therefore more adaptable to change and more comparable from one country to another (as the certificate supplement proposed by the Forum on Transparency of Vocational Qualifications highlights).

In fact, the choice of the standards depends heavily on the aim and objectives of certification: while the final objective is a diploma, the standards of the diploma should apply (these may be *educational* in nature); while the final objective is employment related (a diploma being a secondary objective), the standard should be link to the *occupational* standard. Both education-based and employment-based standards should coexist : the question of their articulation remains.

As regards lifelong learning, are adults and experienced workers really concerned with education-based standards? Or are they more directly assessed through what is referred to as "job description and performance" or as the "Répertoire opérationnel des métiers et des emplois" (France)?

The importance of *quality requirements* is emphasised in several contributions. All the experiments and pilot studies have brought out the importance of quality in assessment and certification procedures. Nothing should be taken for granted, not even computerised assessment can escape quality procedures. Quality requirements are intrinsic to the measurement, irrespective of the setting in which learning occurs.

To conclude on the *methodology*, the already large number of experiments of various kinds should be the object of a comprehensive follow-up and a careful examination. Common criteria should be established to examine the pros and cons of experiments or groups of experiments. In addition, quantitative criteria such as the number of certificates awarded, costs, time taken to reach certification, should also be evaluated.

Role and responsibilities of all actors

Main challenges for all

Considering the scope of a lifelong learning reform, it is fundamental to recognise the multitude of providers and stakeholders involved. One of the main challenges of lifelong learning implementation, which implies life-wide learning, is to establish, or to invent, new forms of dialogue. The role of public authorities could be different without losing of its importance or central place. As non-formal learning gains importance in learning organisations and regions, and as more individuals have their non-formal learning recognised and certified, then, the active role of public authorities will at least be to make sure that lifelong learning benefits everyone.

The actors include the individuals, the public authorities, the social partners and many others like non-profit associations, professional associations, chambers of commerce and industry, and other relevant actors. The role of all of them is evolving and changing. The vast territory covered by lifelong learning calls for more stakeholders with strong implications and responsibilities. Co-ordination between the public authorities themselves, between the latter and private or non-profit actors, is generally too weak. How can one strengthen dialogue and co-ordination?

The individual

Lifelong learning is centred on individuals. It concerns young people but mostly adults, young and older. Their implication and responsibilities are different from those of children in compulsory or initial post-compulsory education and training. But a solid educational foundation should be given to all.

Many of the contributions stress that more should be done to deliver education, training or certification of non-formal learning closer to the individuals' local life (either in homes, villages, enterprises, or any other place where people go such as shopping centres, etc.). Finally, financial incentives should help individuals, not only for training but for care of the elderly, children, transportation, and any means of overcoming obstacles that might prevent them from participating in training.

The public authorities

The ministry of education has a major role to play in providing the learning foundation for all and also, in providing the teacher training it requires. The formal learning settings covered by several ministries or departments should develop a "one-house strategy". It would help individuals as well as private and non-profit actors and stakeholders to have a clearer view of the education and training supply they provide. Transparency should be a *leitmotiv* and would benefit from a one-house strategy. In a lifelong learning perspective, public authorities should redefine their role in quality issues and in their dialogue with the other providers and stakeholders.

Public and private higher education institutions could play a larger and more proactive role in providing high-level short courses for professionals, high-level technicians and all highly-qualified personnel. This trend, which is not recent, has already been noted for several years (OECD, 1995). It brings out unresolved issues for certain higher education institutions that remain anchored in traditional approaches.

The social partners, private and non-profit providers

These provide training and education programmes of various kinds (depending on the countries). They are also involved in certification of non-formal learning. Transparency could be improved by clarifying positions on supply, quality requirements and certification procedures. How should collaboration be organised and strengthened between them and public authorities to facilitate dialogue and common construction?

Linkages: a strategy for a comprehensive approach?

Lifelong learning pursues several aims, such as the development of citizenship, social cohesion and employment. It covers very broad grounds, but who is in charge of what and with the co-operation of whom? This set of questions merits to be explored in order to reach a mutual commitment based on consensual approaches.

As mentioned in one of the contributions, it is time to move from an "add-on approach" to a comprehensive approach. It could mean a change in attitude towards learning, and lead to rethinking what is "learning" and what is "working". This could cause new

concerns about equity and quality such as, for example, the paradox that education and training create and reproduce social inequalities.

Piecemeal approaches should definitively give way to a comprehensive and global approach: important technical problems can now be overcome as shown in various experiments that bring their contribution. Many dimensions of what could become lifelong learning policies exist locally.

A major difficulty could be that the political question is no longer the choice of which dimension has the highest priority. In fact, society has to cover the needs of all, to improve transparency, visibility, transferability and cost-effectiveness in order to serve the social and economic purposes of lifelong learning, and facilitate the transition into the knowledge society. Therefore, today' highest priorities concern decisions on *how to link the existing dimensions of lifelong learning*.

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Peter Jarvis is Professor of Continuing Education and currently convenor of the Centre for Research in Lifelong Learning at the University of Surrey. He is a former Head of the Department of Educational Studies. He is the founding editor of *The International Journal of Lifelong Education*. He has published over 20 books and about 150 papers and chapters in books, many of which have been translated into about twenty languages. He has recently written *The Practitioner Researcher* (1999 – Jossey Bass), *Learning in Later Life* (2001 – Kogan Page) and edited *The Age of Learning* (2001 – Kogan Page). Two further books are being published in 2001 by Kogan Page: *Twentieth Century Thinkers in Adult and Continuing Education*, which he has edited, and *Universities and Corporate Universities: The Lifelong Learning Industry in Global Society*. In addition, he is co-editing *Perspectives of Adult Education and Training in Europe*, to be published by the National Institute of Adult Continuing Education in 2001. Peter Jarvis was President of the British Association of International and Comparative Education in 1999-2000. He has been awarded many honours including the C O Houle World Award for Adult Literature by the American Association of Adult and Continuing Education and the Comenius Award by the European Society of Voluntary Associations. He has been visiting professor in a number of universities in Europe and the United States and has lectured widely throughout the world on many aspects of lifelong education and lifelong learning.

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In 1994, Luciano Morganti graduated in Philosophy of the Language in 1994. In 1997, he obtained a Master Degree in European Studies at the College of Europe. He is currently a Teaching Assistant in the European Human Resources Development Department of the College of Europe, and Associated Collaborator for SMIT (Studies on Media, Information and Telecommunication) at the Free University of Brussels. Since his graduation he has been investigating new information and communication technologies and their relationship with

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Ruud Duvekot studied Economic and Social History at Utrecht University in the Netherlands. He worked there as a teacher and project manager. He initiated projects concerning assessment, mentoring/tutoring and recruitment of non-traditional target groups for higher education. He worked at the Ministry of Economic Affairs for at least four years. His work concerned tackling the problems of learning on the labour market. Projects included making better use of non-formal learning and designing a national policy for the 'upskilling' of the labour force. Since May 2001, he works as the coordinator of the Dutch Knowledgecentre for Assessment and Recognition of Non-formal Learning, Utrecht (Netherlands) (www.kenniscentrumevc.nl).

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Cand. Polit., Sociology, he is currently working in the European Commission, DG Education and Culture, unit for the development of vocational training policies. During the period 1996-2000 he worked in the European Centre for the Development of Vocational Training (Cedefop) in Thessaloniki, Greece, with a main responsibility for issues on non-formal learning and transparency of qualifications.

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She is Director of the Analysis Division of the Swedish Ministry of Industry, Employment and Communications. She has analysed questions concerning education, human capital and labour markets after her Ph.D at the Department of Economics of the University of Stockholm. She has been a researcher at the University of Stockholm, Assistant Secretary of State at the Swedish Ministry of Labour. She was also the principal secretary to the Commission for the Promotion of Adult Education and Training that handed over its final report to the Swedish government in April 2000.

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He is principal administrator in the Directorate for Education, Employment, Labour and Social Affairs of the Organisation for Economic Co-operation and Development. Currently, he is responsible for the OECD's work investigating the costs and benefits of lifelong learning, and how investment in lifelong learning can be financed. Past work focused on the quality of information in capital markets; on human resources costs and benefits; industry training; education and the economy; statistics on adults' qualifications; and youth unemployment. Before joining the OECD in 1983, Gregory Wurzburg was deputy director of Youthwork, Inc., executive director of the National Council for Employment Policy, and Research associate in the Centre for Social Policy Studies (United States). He was educated at Georgetown University (B.A.) and George Washington University (MPh).

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He has been working as administrator at the European Commission since 1998, in the Unit for the development of vocational training policy within the Directorate-General for Education and Culture. Before, 1998, he held a position as senior analyst at the Swedish Armed Forces HQ with area responsibility for Central Europe and the Balkans.

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