

THE EUROPEAN UNION APPROACH TO CONTINUING EDUCATION FOR PROFESSIONS

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1. Introduction

This paper represents more than nine years of research and study on Continuing Education. The following chapters represent the compilation and editing about several aspects related with the topic. The first one is a summary of the policy of the European Commission of the European Union on lifelong learning presented in 1996. This initiative has been recently reinforced by the proposal of the Union of Knowledge for the next five years. The second reference is a summary of the Socrates Thematic Network on University Continuing Education, THENUCE. The third is a cost benefit analysis report made in the activities of this thematic network project and more specifically of working group five. Of the three case studies of industry approaches to continuing education one is from IBM, another from Volkswagen and the third from Fiat. They differ in strategy and method but they all involve universities to develop the training and education in their companies.

2. Towards the Learning Society

2.1. Introduction

Presented by the European Commission at the instigation of Mrs Edith Cresson, Commissioner for research, education and training, Mr Pdraig Flynn, Commissioner for employment and social affairs, in agreement with Mr Martin Bangemann, Commissioner responsible for industrial affairs, information and telecommunications technologies. This White Paper stems from the observation that the changes currently in progress have improved everyone's access to information and knowledge, but have at the same time made considerable adjustments necessary in the skills required and in working patterns. It is a trend which has increased uncertainty all round and for some has led to intolerable situations of exclusion. Everyone's position in society will increasingly be determined by the knowledge he or she has built up. Tomorrow's society will be a society which invests in knowledge, a society of teaching and learning, in which each individual will build up his or her own qualification. In other words, it is presented the concept of a learning society.

2.2. Three factors of upheaval

Among the many complex changes taking place in European society, three major trends, three 'factors of upheaval', are particularly manifest. These are the internationalisation of trade, the dawning of the information society and the relentless march of science and technology.

The impact of the information society the main effects of this are to transform the nature of work and the organization of production. Routine and repetitive tasks which used to be the daily lot of most workers are tending to disappear as more autonomous, more varied activities take their place. The result is a different sort of relationship with the company. The role of the human factor is increasing but the worker is also more vulnerable to changes in the pattern of work organization because he has become a mere individual within a complex network. Everyone therefore has to adapt not only to new technical tools but also to changes in working conditions.

The impact of internationalization radically affects the situation as regards job creation. After initially affecting only commercial, technological and financial trade, internationalization is now bringing down the borders between the labor markets, thus making a global employment market

closer than is generally thought. The Commission, in its White Paper "Growth, competitiveness and employment", took a clear option to open on to the world, while stressing the importance of preserving the European social model. This means raising the level of qualifications in general if the social rift is not to widen still further and spread the feeling of insecurity among our citizens.

The impact of the scientific and technical world the growth in scientific knowledge, its application to production methods, the increasingly sophisticated products which thus emerge, give rise to a paradox. Despite its generally beneficial effect, scientific and technical progress engenders a feeling of unease and even irrational misgivings in society. Many European countries have endeavored to ease these misgivings by promoting scientific and technical culture from a very early stage at school, by defining ethical rules, particularly in the areas of biotechnology and information technology.

2.3. The answers: broad-based knowledge and employability

What solutions can education and training provide in eliminating the pernicious effects these three sources of upheaval are expected to bring? While not purporting to provide exhaustive answers, the White Paper proposes two compact measures

2.3.1. Broad Base of Knowledge

The first of these involves reintroducing the merits of a broad base of knowledge. In a society in which the individual will be called upon to understand complex situations which fluctuate unpredictably, in which he will also be inundated with a vast quantity of varied information, there is a risk. This danger is the appearance of a rift appearing between those who are able to interpret, those who can only use, and those who can do neither, or in other words, between those who know and those who do not know. Building up a broad base of knowledge i.e. the wherewithal to grasp the meaning of things, to understand and to create, is the essential function of school. This is also the first factor in adjusting to the economic and employment situation. Also increasingly evident is the strong re-emergence of a broad base of knowledge in vocational training establishments, in programs for the retraining of low-qualified or very specialized workers, as the key to acquiring new technical skills.

2.3.2. Building Up Employability

Second route: building up employability. How can education and training enable the countries of Europe to create a number of lasting jobs comparable to that which the new technologies have caused to disappear? The traditional route generally pursued by the individual is the quest for a paper qualification. The result is a general tendency throughout Europe to prolong studies, accompanied by considerable social pressure to broaden access to higher education. While the paper qualification is still the most effective passport to employment, it nevertheless has perverse effects in that it devaluates the vocational channels. These are considered as second-best options that over-qualifies young people in relation to the jobs open to them as they enter the world of work. Lastly, it conveys an image of the paper qualification as the near-absolute reference point in terms of skills, making it possible to filter out the elite at the top and, more generally, to classify the worker in his job. This intensifies the lack of flexibility of the labor market and causes substantial wastage by locking out talent which does not correspond to standard profiles.

2.4. Mobility

Although it does not call into question this traditional route as such, this White Paper advocates that a more open, more flexible approach be adopted alongside it. This approach would in particular encourage the mobility of workers - employees, teachers, researchers - and students. It is today striking to observe how much easier it is for goods, capital and services to move around Europe than it is for people and knowledge!

Establishing this mobility depends on genuine recognition of knowledge within the European Union, not only recognition of paper qualifications, but also recognition of the different components of which they are comprised. For instance, a student having completed six months of studies in another European country should automatically be entitled to the recognition of this period by his university of origin, without having to reattend the corresponding examinations. The fact is that this is not possible at present unless the two establishments concerned have reached a partnership agreement. Genuine mobility also presupposes the removal of administrative and legal obstacles (arising out of right of residence or social protection scheme applicable) and fiscal obstacles (taxation of study grants).

2.5. Training

Another key point is that access to training should be developed throughout life. While the need for such access is recognised by everybody, public authorities and the business sector alike, there has been little progress in this area. This is all the more inadequate as changes in the pattern of work organisation, particularly those generated by the information technologies, make training in these new tools more urgent. 1996, as the European Year of Lifelong Learning, should help to raise awareness in this area.

The information society does not only change the way the company works. It also offers fresh horizons for education and training. But we have to be properly equipped to fully exploit this potential. Unfortunately, the fragmentation of the European market in the educational multimedia sector and the - as yet - inadequate quality of the teaching products on offer, along with the low level of computer equipment available in the classroom (1 for 30 pupils in Europe compared with 1 for 10 pupils in the USA), means that these tools are very slow to appear in our schools. The Commission has accordingly made it a priority to develop multimedia educational software by strengthening coordination of research conducted in this area within the European Union. This mission has been delegated to a task force drawn from the departments Mrs Cresson and Mr Bangemann.

2.6. Accreditation

Mobility, lifelong learning, the use of new technological instruments... This greater flexibility in acquiring knowledge elicits the question of new ways of validating skills acquired irrespective of whether or not they were acquired via a paper qualification. This approach has already been used: the TEFL test, which makes it possible to evaluate knowledge of English, the Kangaroo test for maths, are well-established systems.

So why not 'personal skills cards' which would provide a record of what the holder knows in terms of fundamental (languages, maths, law, informatics, economics, etc.) or technical or vocational (accounting, finance, etc.) knowledge? A young person having no paper qualification could thus apply for a job on the basis of his card which attests to his ability in terms of written skills, language proficiency, word processing. This is an idea which is set out in the second part of the White Paper. This scheme would allow an immediate assessment of people's qualifications throughout their lives, in contrast to diplomas which lose their value as years go by, at an ever increasing pace.

2.7. Guidelines for Action

The knowledge-based society cannot come about by proclamation. It has to emerge from an ongoing process. The White Paper's purpose is not to put forward a programme of measures, for the Commission has no miracle remedies to propound. It purports merely to provide food for thought and pointers. The White Paper in no way sets out to impinge on national responsibilities and suggests five general objectives for action, setting out for each of them one or more support projects at Community level.

Encourage the acquisition of new knowledge i.e. raise the general level of knowledge. The Commission accordingly invites thought as to how skills not necessarily acquired via a paper qualification may be recognised. The White Paper proposes a new way of accrediting technical and vocational skills.

2.8. Networks

How can this approach be introduced? First of all by creating European networks of research centres and centres of vocational training, companies, business sectors which will make it possible to identify the areas of knowledge in greatest demand and the essential key skills. The next stage will be to define the best accreditation methods (tests, software packages for evaluation, evaluators, etc.). This could ultimately produce personal skills cards which would enable everyone to have their skills and knowhow recognised throughout the European Union. The White Paper is also intended to make student mobility easier. The Commission will propose that every student who has obtained a study grant in his own country be authorised to use it for courses in a higher education establishment in another Member State if he/she so wishes. It will also propose that the mutual recognition of 'course credits', i.e. the different component parts of a diploma, be generally introduced (European Course Credit Transfer System - ECTS). It will also propose the removal of obstacles of an administrative, legal and social security nature which are a hindrance to the exchange of students, trainees, teachers and researchers. Lastly, it will instigate joint calls for tenders across the relevant Community programmes in order to develop multimedia educational software.

2.9. Schools and Society

Bringing school and the business sector closer together: developing apprenticeship in Europe in all its forms. The White Paper proposes networking apprenticeship centres in different European countries, to help apprentice mobility along the lines of the Erasmus programme, and to introduce a European apprentice's charter, in line with the forthcoming Green Paper on the obstacles to transnational mobility of people in training. Combat exclusion: offer a second chance through school. Some of the major cities have tens of thousands of young people who have failed at school. Schools located in the 'problem' areas are increasingly re-organising to provide a 'second chance'. What these schools are trying to achieve is to improve access to knowledge by using the best teachers, better paid than elsewhere, an appropriate teaching pace, in-company placements, multimedia equipment and smaller classes. They are also trying to make school a community environment once again at a time when social and family links are breaking down in these sensitive districts.

How is this to be achieved? The White Paper proposes that complementary European funding be redeployed from existing programmes such as Socrates and Leonardo in support of national and regional funding. It also advocates acting in conjunction and partnership with the economic players; schools could, for instance, be sponsored by a company, if possible with a pledge to recruit if the relevant qualifications or skills recognition are obtained. The families would also be closely involved in the approach to and running of training. Lastly, the use of new teaching methods, information technology and multimedia would be strongly encouraged. This 'second chance' scheme has been successfully tested in the USA, with the 'accelerated schools' project, and in Israel with the 'Alyat Hanoar' institution.

2.10 Languages

Proficiency in three Community languages is a quality label. Proficiency in several languages has today become essential for getting a job. This is particularly true in a single European market without frontiers. It is also an asset which makes it easier to move towards others, to discover different cultures and mentalities, to stimulate one's intellectual agility. While being a factor of European identity and citizenship, multilingualism is at the same time a cornerstone of the knowledge-based society. Which is why the White Paper proposes to define a 'School of Europe' quality label which would be bestowed - as a function of certain criteria - on those

schools which have pursued language learning to greatest effect. These schools would then be united in a network. In addition, the mobility of mother-tongue teachers in other schools in other countries would be systematically encouraged.

2.11. Conclusions

Treat material investment and investment in training on an equal basis: Making education and training a priority as regards European competitiveness is not enough. Concrete measures are needed whereby firms or public authorities which have made substantial 'intangible' investment are encouraged to continue to do so. This presupposes a change of approach to how expenditure on training is viewed in taxation and accounting terms. It should therefore be made possible for firms investing heavily in training to have part of such investment written into their balance sheets on the intangible assets side. In parallel with this 'training funds' should be developed for the benefit of persons wishing to add to their knowledge or resume training after a break in their studies.

3. Project THENUCE

Thematic Network on University Continuing Education

3.1. Project Background

The project is subsidised by the Socrates programme of the European Commission as an ERASMUS Thematic Network Project 1996 under the Financial Agreement nr. 26203-CP-1-96-ERASMUS-ETN. The duration of the project is three years and started officially on 1Sep98. Further details can be obtained at <http://www.fe.up.pt/nuce/nucewelcome.html> or <http://www.socrates-youth.be>. The project was initiated by EUCEN, European Universities Continuing Education Network, under the leadership of its President Prof. Victor de Kosinsky who is the Project Co-ordinator. Since its founding meeting in May 1991 EUCEN has grown rapidly and today, with over 120 member universities in every major European country, it is the largest European University network in the field of continuing education. EUCEN was registered under Belgian law in February 1994 as an international non-profit association with pedagogic objectives. Its membership is institutional, consisting of high level European universities which deliver in their respective country the highest level degree or diploma (<http://www.fe.up.pt/eucen/>).

3.2. Project Rationale

Continuing Education is an integral and essential part of the universities contribution to European development through the provision of the Lifelong Learning process, as it is described in the Commission's "White Book". However, University Continuing Education (UCE) is not developed and practised to the same extent and level in all European states and there are parts of Europe where it is almost totally non-existent.

EUCEN has been set up in response to the need to serve more effectively the people of Europe through the transfer of good practice and innovation in UCE and through the identification and research of answers to obstacles to the provision of high quality UCE throughout Europe. The present Thematic Network project aims to give a new wider European dimension and target to the network activities, building on what EUCEN has started on a limited scale, by developing Europe-wide actions and means of identifying and disseminating such good practice. EUCEN also aims to promote closer co-operation with and between existing national associations.

3.3. First Year Objectives

The Scientific Committee members had the task of identifying and collecting existing good practice and obstacles/problems in consultation with all partners in their own country and to prepare a national report for the Committee. Based on the National Reports, the Scientific

Committee Convenor in conjunction with all partners prepared a European Report on the theme, which, with the National Reports, will be a Working Document on European University Continuing Education. The expected discussion will address the current state of affairs, existing good practice and obstacles/problems. Several key issues were presented that need further development and research that should be addressed by dedicated working groups.

3.4. Goals for Sept 97/Aug 99

During the second year the working groups will develop tools for the Scientific Committee with selected partners. The deliverables of the second operational year will be publications, active Internet networking, WWW homepages, traditional and ODL tools, courses, summer school, electronic journal, etc., to enhance the development of UCE and university staff on a European level.

This will lead (in the 3rd dissemination year) to the acquisition of new knowledge, including recognition and validation of skills and introducing new more flexible ways of acquisition and accreditation of skills. Mobility and dialogue with the economic sector will also be targeted.

In the third year it is envisaged that the project will be extended to partners outside of the Thematic Network.

3.5. Project Scientific Committee

The project was initiated with 88 partner universities and CE related bodies. Following the procedures proposed initially and having received the responses from the partners in the project a Scientific Committee was formed. It is composed of a Convenor, one expert for each of the 15 EU countries, one from each of the 3 European Economic States, one expert from Switzerland and one from Poland and by the contract co-ordinating unit composed of the President, Secretary General and Treasurer of EUCEN. These experts were involved in the project at European, National and Local level with the mission of representing the other national partners and CE related institutions.

3.6. Future of University Continuing Education

Ageing population, unemployment, unskilled labour force, growing information society, declining birth rate and economic competition from other regions are some facts that substantiate the expectation of a growing demand for University Continuing Education (UCE) in the European Union.

The traditional concept of a University is of an institution where the teaching of full time students and research have been the main activities. Changes in society imply a different attitude towards the importance of UCE levelling it at least to the same degree. This is an imperative transformation taking into account the needs of individuals, the evolution of the labour market and the global society. Currently CE in the European Union is provided by private organisations and by other type of public institutions and by some universities. The tendency is to have the increase of offer of CE by the most responsive organisations due to the expected augmenting demand of CE. This diversity of providers may be geographically extended due to the expected increase in the use of Information and Communication Technologies (ICT).

The diversity of origin, of type and of forms of CE justifies some type of accreditation that can be widely recognised. Employers can do this validation before the delivery of the CE by designated organisations or after the provision of the CE. The former is centralised and bureaucratic and the latter is market driven and liberal. The universities may adapt the administration of UCE to the students treating them as clients or as citizens according to their organisation, type of UCE or to the economic, social or cultural context. These activities present moral and ethical challenges to universities that must be addressed in a proper and timely way.

Demands are expected for the use of modern ICT and new types of knowledge. The traditional organisation of universities is not generally prepared to handle these demands that are

characterised by information retrieval, handling and dissemination in unexpected forms. Training is therefore needed for university management, and particularly on UCE. To handle the transformation on UCE it is necessary to promote research on ICT and UCE and to incorporate its results. Universities will have to develop the links with society and other CE providers. The complexity and diversity of UCE demands discourage competition and impose co-operation. The co-operation may take the form of associations, partnerships, foundations or networking. In the case of co-operation with society the activities of UCE may also help to open the universities to the exterior. Networking should be structured to take advantage of the members' capabilities and the use of ICT according to the each university's strategy.

The new type and needs of students of UCE require skilled and trained staff and flexible learning materials. Teachers are expected to take on additional functions such as professional development manager, mentor, tutor, instructor or coach. Initial education should prepare individuals for lifelong learning concepts and practices. Teachers should be rewarded by the activities in UCE at the academic career level and/or at the financial level. Financial support of UCE should also be obtained from students, from firms, from governments or from other sources according to the specific circumstances. A compromise is envisaged between the financially self-supporting forms of UCE and UCE with a social purpose that should be sustained by the rest of the community.

Appropriate management structures of UCE should be created in the University, outside the University or with a mixed status. Some of the activities of this structure are to identify UCE demands or to monitor the UCE activities or to act as a co-ordinator of the UCE actions.

3.7. Working Groups

The suggested activities may be undertaken by groups of project partners or by mixed groups in co-operation with other players in UCE. The main topics are presented with a brief description of the tasks that should be undertaken. The results in the next two years are expected to contribute to the enrichment of the present working report. All these activities should be reproduced in adequate media and disseminated.

Role of Academics in UCE - The key issues are motivation, training and rewarding. It is also important to address how to raise the profile and status of this activity within the academic career.

Training of University Managers - Training should be concentrated on the main characteristics of UCE and its implications for the university structure.

Research on the UCE Learning Process - The impact of new type of students, of skills acquisition, of ICT and of cultural changes are the main elements for this topic.

Database of Case Studies - Taking advantage of the experience and results already achieved a database of good and bad practices and scenarios should be created for consultation and reference.

Cost Benefit Analysis of UCE - A detailed study should be undertaken to gather and interpret data about the costs and usefulness of UCE and the financing of UCE activities.

Networking in UCE - The forms and types of networking in UCE should be investigated in terms of their effectiveness and the usefulness of networking on a structured basis.

Influence of ICT on UCE - Taking into account the flexibility of ICT, the possible use of ICT in UCE should be investigated in terms of a comparison with classical teaching.

UCE and the Role of Universities - The degree of involvement of each university in UCE activities should be evaluated and the consequences analysed allowing each institution to adopt a proper strategy.

Information Organisation of UCE - The creation of a global market for UCE is encouraged through the organisation of structured information on UCE.

Accreditation and Quality of UCE - The different forms of accreditation should be compared taking into account the needs of the different types of UCE.

Handbook of Management of UCE - A collection of guidelines for the management of UCE should be produced describing the different practices for addressing issues such as market analysis, production, delivery and evaluation.

UCE and Interface with Society - Different forms of liaison between the University and Society in terms of UCE should be studied and the potential benefits in other areas compared.

Coordination with other Projects - The activities should be coordinated with other Thematic Networks and with other initiatives like the project of CRE – Restructuring the University.

UCE around the World - The expected research about practices and policies in USA, Latin America, Asia and Oceania will contribute to comparative studies that will benefit UCE in Europe.

4. Cost Benefit Analysis

4.1. Definition

A branch of welfare economics, the underlying principle of cost-benefit analysis (CBA) is simple - A project is deemed to be worthwhile if the benefits derived from it outweigh the costs of its implementation. However, this simple formula soon becomes complicated once the constituent elements, costs and benefits, are examined. In particular, benefits are often based on normative, value-laden, judgements, thus making objective, dispassionate, judgements more difficult.

Some critics argue that CBA can only be interpreted in terms of a chosen objective and others that judgement and political acumen will always play a role in decision-making which is based on CBA. As normative judgements appear to take up such a large part of CBA, it has also been argued that CBA is an inherently limited form of analysis. Indeed, some commentators have questioned whether CBA should be used in education at all. Thus, 'Cost-benefit techniques can only be used when all the outcomes are measurable in financial terms and this will never be the case in education'.

This is a controversial view, but does at least highlight the limitations of CBA. Nevertheless, CBA has been seen as useful in at least providing a focus and a coherent framework for decision-making. At a minimum it focuses attention on choosing between a set of alternatives (ibid. In sum, rather than a cure-all, CBA should thus be thought of as a way of thinking through policy. When decisions are made about which policy to pursue, CBA stresses that all the real resources to be used in a project should be considered. This is partly because CBA places a great deal of stress on opportunity cost. The underlying premise here is that all investments involve a sacrifice of the alternative uses to which the resources involved in a project could be put. Thus in setting up CE courses CBA raises the question of whether the chosen route maximises the potential of a given set of resources.

The rate of return is the type of CBA analysis most often associated with education. An underlying idea here is that education in general leads to increased productivity and thus to

increased prosperity. The question then becomes whether education is the optimal way of achieving such prosperity. While this might not play a major role in decisions at provider level, it may well influence decisions by an individual. That is individuals might consider alternative routes to economic advancement. As some individuals may be looking for increased prosperity via CE, the question CBA asks is whether education is the best way for them to achieve it.

Comparative analysis thus needs consideration. With CE projects this might involve comparisons with other forms of social investment; with other forms of education; with other countries; between individual and societal aspirations; and over time. CBA also examines questions of efficiency and asks whether a given project will result in efficiency gains. These are expressed in terms of opportunity cost and examine the alternatives which have been foregone as a result of undertaking a given project. CBA also suggests that for any given project there will be winners and losers (partly because other projects will not be undertaken). Here the question raised is whether the winners compensate for the losers. Overall CBA offers a way of examining projects. The plausibility of a project can be broken down into its projected costs and benefits. Thus it is necessary to examine each in turn.

4.2. Costs

In purely monetary terms costs can be relatively easy to calculate. Payments to staff (including additional staff if necessary); costs of course materials; use of facilities etc. can be calculated in purely financial terms. However, there may be disputes about what costs to include. In particular there may be disputes about what proportion of fixed costs (such as costs of building maintenance; computer systems; heating etc., etc.) should be borne by the department (or faculty) and what by the institution. Thus there is some room for political maneuvering over costs.

It has therefore been suggested that the constituent parts of costing might vary according to which audience costings were being presented. Costs can perhaps be most easily expressed in units - thus so much per student, per week, per lecture and so on. Some costs may be non-recurring - such as the costs of preparing the initial course, others, such as use of buildings etc, will obviously recur. There are also various types of costs - direct; indirect; marginal and total (ibid: 29/30), but note that again CBA places emphasis on opportunity costs. Put crudely, it asks is this the best possible use of our time and money? Raising this question leads to consideration of benefits.

4.3. Benefits

The benefits of any project are much harder to calculate than costs, partly because they are much more variable. What value can be placed on the benefits of a course? This might be particularly problematic at the beginning of a course when the provider is asked to assess the end value for the student; employer and provider. Of course, the benefits of a course will vary across CE because of the highly diverse nature of CE. However they might crudely be divided into financial and non-financial. The former may take some time to emerge, while measuring the latter is problematic (how does one put a financial value on learning to play a musical instrument or on local history or a postgraduate course in political philosophy?).

At one level benefits can also be expressed in purely financial terms, especially from a governmental and institutional perspective. If the income gained from providing a course is greater than that of providing it or greater than from alternative uses of the resources which the course took up then, on a purely financial CBA, this course can be judged to be a success. From the student's view, a course might be considered a success if it leads to a higher income, although a long-term perspective might be involved here. Similarly, employers would generally be satisfied if production rose after workers had been on a course. (It has also been suggested that society might benefit from those students whose incomes rise and who thus pay greater amounts of tax).

However, the public provision of education is rarely judged in purely financial terms. Education is generally seen as a public good in its own right. The acquisition of knowledge; skills; of what Bourdieu terms "cultural capital"; and the production of educated individuals is seen as a societal good. While the notion of value for money (VFM) is certainly not absent from educational projects (and in Britain informs such developments as league tables for schools) it is rare, at least in the public sector where CBA is generally applied, to express educational value simply in terms of profit. However, it is when benefits are expressed in non-financial terms that normative judgements enter in.

Debates over benefits will inevitably be controversial (and vary both across and within the various stakeholders), however some guidance as to what the perceived benefits of a given course (and of CE in general) are may be contained in policy statements from departments. Within the general parameters of benefits, it is possible to give weight to the acquisition of certain skills and/or knowledge and other learning outcomes. Here the concept of cost utility - a stated for criteria for measuring the utility of a skill or outcome - might be useful. But this will not be uncontroversial.

It appears necessary to compile a set of benefits and to weight them as required. While this is not unproblematic, at a minimum it allows for a set of criteria to be developed. It is also possible to involve various stakeholders in the compilation of such lists, according to the nature of the course. In general it might be possible to judge with a course is a success in terms of its own criteria. Comparisons with other alternatives might be possible after this. In order to further explore CBA it is necessary to examine costs and benefits from the position of four stakeholders - society; institutions; employers and individual students.

5. CE Industry Case Studies

5.1. IBM (UK), Greenock

IBM established its first manufacturing facility in the UK in 1951. The site actually employs over 2000 people in the development and manufacture of sophisticated IT equipment and in the provision of consultancy services and business solutions. Implicit has been the application of a range of resources by the Company: finance, equipment and, most importantly, the investment in education and training. Training was undertaken as an integral part of the five year strategic plan and the three aims are:

- a) To become more competitive in the marketplace by reducing costs, increasing quality and improving the cycle time of delivery;
- b) To increase revenue flow by selling new services, such as Quality Consultancy and Business Solutions, to customers;
- c) To expand the mission of the location from solely Manufacturing to Manufacturing and Development.

The quality and education level of the workforce were identified as the key to the achievement of these strategic goals. Looking at the professional grades only 30% had obtained a nationally recognised Higher Education qualification. The target became that in five years that percentage would be increased to at least 50%. The options available were to encourage employees to attend evening classes or to make universities deliver graduate programs in Company premises and on Company time. The first was available for a long time before without success so the choice was the second as an innovative solution.

The site Managing Director involved himself in the process and established contacts with the universities. Detailed training programmes were designed to meet the needs and these

included, among other degrees, MSc in Electronics, in CIM, in Polymers, in Materials and MBA. The studies take place in new facilities with multimedia equipment, syndicate room for group work and self-study facilities. All courses are run on a modular, credit accumulation and part-time basis with fees paid by the company.

One benefit from this training is that production workers have taken on increased job responsibilities previously done by professionals, e.g., line maintenance, engineering support and statistical process control. Another advantage is that employees from the Software Development and MBA programmes have successfully taken up new careers in consultancy and business solutions. A third gain is that the Site is well on its way to become self-sufficient in key critical areas, e.g., Electronics, Materials, Logistic and IT skills. The success has been such that the training program is well established and it is an important addition to the IBM "Learning for Life" approach to education.

5.2. Volkswagen Coaching Gesellschaft mbH: a Case Study

The current report relates to the six production plants of Wolfsburg, Emen, Hanover, Brunswick, Salzgitter and Kassel. Volkswagen has had always an advanced approach to personnel development. The three targeted main areas have been vocational training, further training and management training working in the direction of integrated personnel development. This comprises, in addition to specialist training, cross-functional and social skills, meaning interpersonal, teamwork and communication competence. The idea of integrated personnel development, an innovation in the German training landscape, looked right from the recruitment process to adapt vocational training in line with corporate requirements. This was linked with the financing of training and education based on factory agreements between managers and unions.

The list of catchphrases such as simultaneous engineering, just-in-time, continuous improvement process and lean production can be extended at will and is really a synonym for process optimisation and acceleration. These processes can only be implemented successfully if at the centre-stage there is an innovative and entrepreneur active employee. That is why Volkswagen has created in 1 January 1995 the Coaching Gesellschaft effective from that date as a whole owned subsidiary. It employs 560 people and the spectrum of services comprises the new focal areas of coaching: corporate consultancy for procedure improvement, personnel research/benchmarking and labour market projects.

The risk areas that can be clearly identified are the decoupling from companies, the possible loss of in-house training and education and the financial basis of the coaching company. For these reasons the Coaching Gesellschaft was embedded in Volkswagen personnel policy and it is one of the five centres of competence of the Board of Management Division of Personnel. That gives overriding authority in all matters of personnel development. In a climate of receding trainee and workforce figures and of the trend towards the "workplace as a learning place" it will make possible external commissions and will reinforce the development of the staff as entrepreneurs in the field.

Collaboration in the regions of the six plants with the universities is very intensive and the range of the activities. Examples are work organisation courses on a work-release basis and advanced training courses in in-company personnel development. One main concern with these measures is to counteract the familiar problems associated with an absence of practical application or the preponderance of theory over practice. The guidelines for the coaching agency are the maximum possible customer orientation and the concomitant flexibility, both with reference to Volkswagen and external market. Several workshops and seminars with professional experience from marketing have been used to support such efforts. One of the ways ahead is to transform instructors or trainees in process advisers engaged with the customer in the field and on the spot, constantly improving through continuous evaluations and feedback.

5.3. The Training System as a Bulwark of Fiat Group Competitiveness

5.3.1. Developing Know-How And Competitiveness

The value of training or, more precisely, the economic value of training is a crucial aspect of the worldwide debate on the challenges of the global economy. It has become almost a cliché to emphasise the extremely close link between education and the wealth of nations, between expertise and competitiveness, between learning skills and development. Indeed, in assessing the growth prospects of any given country, increasing emphasis is placed on indicators of the population's educational level, its spending on training and its ability to use advanced technologies.

The business community is not only actively engaged in this debate, it is also increasingly playing a direct role in the delivery of training. But why have know-how and skills become so important to business? In the last analysis, for over 200 years knowledge has increasingly been the locomotive of industrial growth and more than 150 years have passed since Europe saw the flowering of Polytechnics, the technical and scientific faculties that served to train managers for industry and for the development of applied research. Many company training schools have an equally long tradition, reflecting an already widespread awareness that people with their know-how and their ability to put it into practice are a fundamental competitiveness resource. In Italy, for example, Fiat established a vocational training school for its middle management as long ago as 1922.

Today, however, the problem of training has acquired far more complex dimensions and implications than it ever had in the past. It is no longer simply a question of training a certain number of elite workers and technical managers or of transmitting knowledge and know-how from one generation to another. Today training is universal and life-long.

The demand for enhanced know-how and skills has also been intensified by the evolution in company organisation towards a trimmer, more process-oriented format. Companies organised along these new lines entrust their ability to respond rapidly to customers and meet their new needs to agile, compact, autonomous skills teams in which individuals and work groups are given ever greater responsibilities. As individuals' and teams' responsibilities for and impact on company performance increase, more and more importance is acquired by the degree of motivation ("the desire to do it") and organisational conditions ("the possibility of doing it") but also (and to a very great extent), skills. Indeed skills have become the "process-enabling" factor:

5.3.2. The Fiat Group's Training System

In order to manage that lever the great industrial groups have often created their own internal training structures. Such structures, the so-called Corporate Universities, all share the same fundamental objective, which is the organisation of career-long learning for their staff members at all levels as well as for their suppliers and even, at times, their most important clients. In addition these training schools play a vital role in attracting, developing and retaining the talented young people destined to occupy key posts in the company at some future date.

The Fiat Group has its own Corporate University known as Isvor, a company specialising in training and consultancy which has been in business since it took over and updated the role of Fiat's training school twenty-five years ago. Over the years Isvor's operations have evolved to keep pace with the changing competitive scenario and hence the evolving training needs of Fiat Group companies. It retains its traditional role as the active custodian, the "keeper" of the heritage of know-how, skills and experience accumulated by the various sectors over the years. Isvor has also progressively developed a role as the spearhead of a flexible response to change among individuals and as the promoter of a philosophy of "learning to learn" with a view to life-long learning in both individuals and the Fiat organisation as a whole.

As Isvor's tasks have changed, so too have its training methods. Today learning no longer takes place exclusively in the classroom, but is increasingly integrated into and inter-linked with the hands-on experience of the workplace. In addition Isvor has moved away from the exclusive use of professional training staff towards the diversified involvement of company executives as "trainer-managers" who provide support for the career-long learning of the people under them. Once identified, the individual skills required by the company have to be communicated: it is essential for everybody to know what is expected of professionals and managers, of generalists and specialists. Learning in fact cannot remain the exclusive responsibility of the company: it is also the responsibility of each individual. And experience teaches us that training will not produce significant results unless the individuals addressed feel personally responsible for their own heritage of skills.

Another vital aspect that is less self-evident than it might seem is that the training process must produce results and that these results must be measurable. With that in mind, Fiat is trying out new ways of verifying the effective transfer of learning to the workplace, as well as ways of assessing the economic return on investment in training.

5.3.3. Integrating The Company Training And National Education Systems

Although a modern company is a centre of production, know-how and skills generation, there are many areas in which it cannot replace the schools and the universities. In fact school and university remain the heart of the training system both for the young who are approaching the world of work for the first time and for the less young who find that they need to retrain and to acquire new skills. All over the world, the attempt is being made to raise the quality of training by means of a closer dialogue between the educational institutions and the business community, a dialogue that takes account of the abilities and skills of both parties and seeks not to separate but to integrate.

That is the framework for the increasing number of collaboration agreements between companies and universities. Fiat, for example, has been working for decades with Turin Polytechnic and other universities in Italy and abroad. Most recently we have launched numerous training projects with universities in the countries where we have already set up or intend to set up new centres of production. Examples include a number of polytechnics in Poland, universities in Brazil and Argentina and comparable institutions in India.

These collaboration agreements take a variety of forms. They comprise teacher exchange schemes in which university lecturers give science courses in our companies and Fiat managers take their experiences into the lecture halls of the universities. They also include the joint organisation of post-graduate courses, short degree courses and work experience periods for students, as well as joint research projects of mutual interest.

5.3.4. Conclusions

Fiat experience in the field of education leads us to conclude that any training system which aims to be a real bulwark of competitiveness has to be simultaneously global, total, flexible and integrated into the educational system. A global training system is one that is not just potentially active anywhere in the world, but one that has the ability to act as a vehicle for comparison, exchange and mutual enrichment between different cultures.

Total means the ability to offer simultaneous training to people with very different needs: to young people in their first job and older workers, to professionals and managers and to ensure that all learn equally effectively wherever they start from and whatever course they follow. Next, a system is flexible if it targets continuous innovation, because it has the ability to respond to, indeed anticipate the signals of change both in methods and in technologies that are appearing at an ever faster rate. The training system also needs to be integrated into the education system because neither party can walk alone towards the "society of knowledge". However they must

go side by side, joining forces and combining the skills of all those in both the public and the private sectors who are committed to the investment in intelligence.

Finally, it cannot be forgotten that the success of career-long training depends on the involvement and the active participation of the trainees. Each individual has to be committed to taking the lead in updating and building on his or her skills, aware of the inextricable link between that commitment and his or her own career prospects and personal gratification.

6. References

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