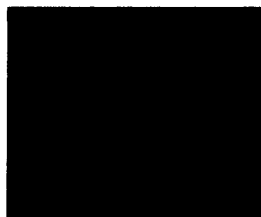


**1995**

**“SKILLS NEEDS ANALYSIS –  
THE WAY FORWARD”**



**REPORTS FROM THE 1995  
CUMBERLAND LODGE CONFERENCE**

PREPARED BY TARGET WITH SUPPORT  
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INTRODUCTION  
SKILLS ANALYSIS -THE WAY FORWARD  
THE EUROPEAN FRAMEWORK

**Hans Jürgen SCHMEHR**

**EUROPEAN COMMISSION, DG XXII - EDUCATION TRAINING AND YOUTH**

## **Five Years Cumberland Lodge and the Skills Issue**

Since 1990, Cumberland Lodge has been a place to discuss skills related issues on a European level. Starting with designing the so-called Skills Project, debate turned to identifying major issues in analysing and anticipating skills requirements and the necessary arrangements and as a consequence, on ways to ensure over time a highly qualified and adaptable workforce. Furthermore, some education and training elements for a genuine European model of development had been discussed in 1994. Now it is time - given the changes in European policies in vocational training - to take stock of the experiences and lessons learned, and to debate the ways forward under the new framework, the LEONARDO programme.

Skills (and training) needs analysis as developed under the Skills Project, is designed to support an anticipative, not reactive approach in human resource policies by all players involved. Behaving pro-actively has become a feature of major Community policies such as education and training. Furthermore, it is increasingly recognized that education and training not only constitute accompanying measures - let us say, to social policy - but they are policies on their own right. They have the advantage of marrying at the same time efficiency (e.g. productivity and competitiveness) and equity.

Thus, education and training contribute to what might become a European model of development, distinguished from the US and Japanese ones.

Some recent developments need further attention : a shift from education and training to learning can be observed. New approaches emerge alongside the concept of lifelong learning : the learning enterprise, the learning region and the European Community declaring 1996 as the European Year for lifelong learning.

The importance of investment in intangible capital - and hence in people - has been widely recognized over the last years both in the Community's and Member States' policies, be it in RTD, industrial policy, policies to promote competitiveness and innovation, the White Paper on Growth, Competitiveness and Job Creation or the Action Plan for job creation endorsed at the Essen European Council.

In that regard, the new LEONARDO programme sets out a set of Community supported measures which will bring analysis and anticipation centre-stage-hence the need for a debate on "the way forward".

## **Lifelong learning in and for the Information Society**

The Information Society has come to the forefront of the European debate over the last year. It is taken here as an example of a pervasive (or generic) technology - pervading the economy and the society at large.

However, it should be mentioned that the concept of pervasive technologies - including Information Technologies - has been debated for some years (re the 1991 IRDAC report on Skills Shortages and the 1991 Cumberland Lodge Conference). However, the debate including all aspects of socio-economic transformation has gained momentum and became broadly public following the publication of the report of the Bangemann Group in 1994.

What should be clear is that the Information Society will not become established between - for example - 26 April 1995 and 30 June 2004. It is a long lasting process already under way for years, and continuing over many years to come. What is important is to recognise that at an relatively early stage there is still room for a policy debate on the routes to go. In other words : a policy discourse is required pointing to the opportunities, but also to the risks involved, to clarify the options and to promote informed debate and choices.

Opportunities may include : a push for growth and employment, new opportunities in time disposal for individuals, and for those up to now excluded from the mainstream. Risks may include : job destruction as a result of the application of the new technologies ; compartmentalisation of individuals ; new barriers to access and participation.

Lifelong learning should and can contribute to achieving a balance between economic and social needs, between efficiency and equity. It is needed to make change happen. At the same time people have to learn to adapt to a changing environment. Learning how to learn is further required to use tools and to profit from new organisational arrangements for learning. All this is needed to avoid the risks and to take up the new opportunities offered.

However, crucial questions include those of equality of access to learning, quality ensurance, and the net-effect on employment being the result of the transformation process, which at the same time creates and destroys jobs. It seems indispensable to me that a strategy should be established which developes in parallel the kind of the information society Europe opts for, and the society of lifelong learning.

Examples on how the discussion in our area is developing on European level include the Commission's work programme for 1995 which - inter alia - announces a White Paper on educatin and training - Challenges for the year 2000, and a Communication on education and training and the information society. Furthermore, and following up on the Essen Council, the adaptation of member States' education and training systems is one of seven areas identified therein. A major conference is planned for 1996 on lifelong learning in and for the Information Society.

### **Five years Skills Needs Monitoring Project**

Before discussing "the way forward" on skills related issues and actions, it is useful to take stock of what has been done and what has been achieved so far.

The Skills Project, from its beginning, was developed under four strands :

- regionnally based analysis
- sectoral/technology focused work
- studies
- exchange of information such as conferences.

The methodology applied can be described as follows :

- to organise skills analysis and anticipation as a social process
- to improve reliability and the link to action through active participation of all players concerned

- to multiply the efforts on a European scale while avoiding dispersion
- to link analysis and anticipation to human resource policies e.g. in enterprises.

The Skills Project generated not only a lot of insight into the rational especially of enterprises. It also provided a range of examples of good practice fed back into the participating networks. Increasingly, we can witness examples of successful transfer of methods and tools between countries and regions and clearly, the Skills Project contributed to the setting-up of new arrangements. Overall, there was significant awareness-rising for the importance of investment in intangible capital.

During this Conference, there will be presentations and discussions on the following examples : studies on costs and benefits including a major one based on a sample of case-studies from enterprises, and an innovative example on quantifying costs and benefits of a training action in and for an enterprise.

This will be followed by a session dealing with methodologies : pointing to some basic rules when setting up skills needs analysis, and some ideas about how to measure skills shortages in a systematic way.

Furthermore, examples of action links of skills analyses will be presented, one focusing on working with a transnational network of enterprises, the other on the exchange of information and transfer of examples of arrangements between regions and countries.

### **The rational for skills analysis and anticipation**

Apart from its side-effects, e.g. the promotion of partnership between a variety of players in vocational training, the setting-up of arrangements on skills analysis and anticipation contributes to some basic objectives.

Firstly, it can be seen as a means to support competitiveness. Part of our economy is faced with increased worldwide competition with the Europeans losing some ground in especially, some "high-tech" sectors. We are faced over the last year with a net loss of jobs. What is needed in the area of tradable goods and services is to develop a strategy based on quality, innovation and a good cost/value ratio. To become highly innovative and productive and to secure a high level income, a high skills level of the workforce is required, which in turn calls for continuous up-dating and in many cases, up-grading of skills.

Secondly, the strive for competitiveness alone will not be sufficient to create the number of jobs Europe needs to reduce unemployment significantly in the years to come. This was largely debated at the 1994 Cumberland Lodge conference. We thus need more net job creation through new arrangements of working time, and the creation of new jobs in new markets including the creation of new enterprises. This requires inter alia active labour market policies, the development/adaptation of skills and qualifications to emerging occupations, and new approaches to learning including learning to learn and learning to do.

Thirdly, skills needs analysis and anticipation is a means to support quality and innovation in education, training and the skills acquisition process in general. A knowledge based society and economy where the importance shifts from hands to brains calls for more and more up-to-date skills, which are becoming - for a significant part - obsolete over time. Hence the need for ensuring lifelong learning, a broad right of access to it, and a training which is relevant : to train for tomorrow's, not yesterday's jobs. Obviously, to adapt the labour force to the new needs requires profound adaptation of education and training.

Hence, taken all these factors together there is urgent need for a more systematic and structured development of systems and arrangements for analysing and anticipating skills requirements.

### **Skills Analysis and LEONARDO**

Taking account of five years of activity, experience and of some of the ingredients of a European model of development, what is called for is the development of a (more) coherent strategy, which involves the various players and is based on the grassroots.

The skills issue, learning and human resource development should be approached in an integrated way, using transnational cooperation as a means for information exchange and transfer of examples of good practice. In doing so, future actions should contribute to achieving major social and economic objectives in the years to come.

This task should become a common feature on the European scene. To this end, the Community, through its new action programme LEONARDO - the programme for the implementation of a European Community vocational training policy - offers new possibilities.

Under its objectives, LEONARDO points to the promotion of lifelong learning and on-going adaptation of skills, as well as to the promotion of cooperation on skill requirements and training needs.

A variety of actions are open for skills related projects especially those in the context of supporting investment in continuing training for workers by the development of methods for anticipating requirements, and networks for the identification of requirements. Furthermore, under the Surveys and Analyses Strand of LEONARDO, provision is made for projects to analyse skill and qualification needs, by setting-up general arrangements for anticipating needs at the appropriate level.

Further interesting points of discussion may arise, such as the utility and rational for regional/national/Community/sectoral Skills observatories, as a complement to labour market on technology observatories.

The foundations are thus laid and new possibilities offered. It is now up to the players to take the initiative.





**UNIVERSITY OF WARWICK**  
**INSTITUTE FOR EMPLOYMENT RESEARCH**

**Costs and Benefits of Training in Europe**

**Robert Lindley**

**Session on 'Skills Needs and Investment in Human Resources:  
Costs and Benefits of Training'**

**Cumberland Lodge Conference on 'Skills Analysis - The Way Forward'  
European Commission Directorate General XII,  
Education, Training and Youth  
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The attached summary is taken from R. M. Lindley and T. Hogarth (1993). 'Costs and Benefits of Training in Europe'. Report to the Commission of the European Communities Task Force Human Resources, October.

Overall co-ordination of the study was the responsibility of Professor Robert Lindley, Institute for Employment Research, University of Warwick, United Kingdom. The following members of the research team co-ordinated the activities of the study in their respective countries.

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## SUMMARY

### COSTS AND BENEFITS OF TRAINING IN EUROPE

#### AIMS

This study is part of the research programme on training sponsored by the Commission of the European Community's Task Force Human Resources (TFHR). Previous work for the Task Force produced a *Feasibility Study on the 'Costs of Not Training'*.<sup>\*</sup> The present study represents a development of the analytical approaches put forward and two of the research proposals made in the Feasibility Study. The aims of this study were established in the following terms:

- to consider the relative strengths and weaknesses of the different national training systems in bringing about real benefits for companies;
- to identify the strengths and weaknesses of sectoral training strategies;
- to identify the strategic issues for the EC. In particular, how action by the labour market and training authorities should be targeted, how EC action at the transnational level could contribute, and how enterprises and individuals could help themselves to enhance the net benefits of training;
- to provide recommendations for future work on the costs and benefits of training in the EC during the 1990s.

These issues were to be addressed primarily from the employer's perspective. The research conducted has involved the synthesis of existing evidence and the design and execution of 48 case studies across six countries and four sectors. The purpose of the case studies was not to compare one country with another but to use the 'experimental variation' provided by Member States to explore the relationship between, on the one hand, employer behaviour with respect to training and the net benefits of training outcomes and, on the other hand, differently designed national education and training systems and different overall economic and labour market conditions. The countries selected were Germany, Spain, France, Ireland, the Netherlands and the UK.

The sectors were selected so as to introduce further variation through more differentiation with respect to the factors which are most likely to have an impact on employer training strategies. Product market situation, external labour market conditions, technological developments, corporate structure of the sector, and organisational strategies being pursued by the case study establishments were all taken into account. The case studies were drawn from electrical and electronic engineering; printing and publishing; telecommunication services; and business and financial services.

Previous research has indicated that the size of company/establishment is likely to affect the pursuit of a training strategy. Therefore, as far as possible, the selection of case studies incorporated both SMEs and large establishments.

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\* Lindley, R.M. and T. Hogarth (1992). *Feasibility Study on the 'Costs of Not Training'*. Report to the CEC Task Force Human Resources. Coventry: University of Warwick, Institute for Employment Research.

## **STRENGTHS, WEAKNESSES AND DILEMMAS**

In considering the relative strengths and weaknesses of different types of national or sectoral ET system, a number of key strategic issues present themselves. These relate, first, to the essential characteristics of a system's structure; second, to the conditions under which it is likely to be operating with regard to product and labour market developments; and, third, to government and EC funding of the activities carried out within the structure.

The standards of 'transparency, certification, acceptability and access' are, effectively, all being pursued in the achievements and current developments observed in the systems covered in this study. But there are marked differences in the degree of faith in whether or not meeting such criteria will suffice. Dual systems appear to score highly on the first three but access is limited to those who are employed or formally accepted as trainees by an employing organisation rather than a training provider. This is not a problem in periods of low, virtually frictional, unemployment but European labour markets no longer provide such environments.

The alternative strategy is to aim for strong internal labour market commitments to employer-based training supported by effective educational programmes created alongside a multitude of education-business links. This seeks to avoid the bureaucracy and lack of adaptability sometimes associated with dual systems but runs the risk of carrying too little weight because employers individually and collectively do not need to negotiate to the point of agreement. They can simply opt out.

Attempts to construct training systems that embody all four principles but focusing especially on transparency and certification seem to be setting up an appropriate structure but delivering on 'acceptability' is problematical without attention to institutional and behavioural patterns in the *labour* market. Furthermore, achieving wider access means paying attention to the need to harness existing 'purchasing power' more effectively and supplementing it where market failure, externalities or the level of uncertainty are sufficient to warrant it.

However, is the creation of a dual system a feasible option? Successful dual systems may be poor models to emulate for those countries that have not already got them. This is because the strains under which dual systems are likely to find themselves even in those countries and sectors strongly committed to training are likely to increase. These strains come from a combination of:

- rising skill-intensity,
- increasing investment required for the acquisition of sufficient skill in a wide range of occupations, from skilled manual workers through to managers,
- narrowing of the employment relationship with firms being more likely to externalise labour force adjustment,
- continuing high levels of unemployment, and
- 'demographic re-structuring' from smaller youth cohorts, rising female labour force participation and ageing of the labour force.

Countries with rather weak forms of business interest organisation (chambers of commerce, etc.) and limited sectoral and national social partnerships between employers and trade unions are especially likely to face difficulties in establishing a dual system.

Yet other models are not immune. Those based on qualification and employment systems rooted in strong internal labour markets and possessing a legitimacy underpinned by wider social recognition and state action which sets minimum financial conditions for training provision are also likely to be severely tested during the 1990s by the same factors mentioned above.

### **Training in Relation to the Company's Business Environment**

In relative terms the recession appears to have helped to increase the status of vocational education and training. The more capital-intensive a company becomes, the more important it is to get as much out of the existing equipment when investment in new technology is being curtailed or is under strong scrutiny because of economic and financial conditions. At least among the case study firms, this seemed to be a factor helping to defend the training budget, offsetting the impact of lower recruitment and some redundancy upon the requirements for training.

In addition, the organisational re-structuring taking place in some of the case study firms, notably those in telecommunication and retail banking, was also tending to generate additional training needs, again partly offsetting the impact of the re-structuring on employment levels.

So whilst external labour market conditions might have been expected to generate the usual counter-cyclical discouragement to investing in training, other factors have intervened, at least to some degree. Moreover, there is some evidence to suggest that a greater awareness of long-term considerations may reinforce commitments to training after phases of re-structuring are complete. In a sense, companies are likely to need to adapt their organisations continually and this sets up a dynamic case for training rather than a periodic recourse to training when particular problems arise.

Nonetheless, there are also potential dangers in a situation where companies with previously strong commitments to training - needs being related to the stages reached by employees in their career progression - are now targeting training more directly towards business needs. Sectoral training provision which arose as a by-product of generous (by present standards) training policies may be affected markedly. Thus those companies that have relied on others in their sector to produce, in effect, a surplus of trained people may find it more difficult to recruit trained personnel in the longer term even though present supply is sufficient because of recession and rationalisation.

In an era of more 'purposeful' training with some companies cutting back via targeting, there is a danger, too, that other companies may become complacent. For 'targeting' may be confused with short-termism and with the notion that training is a kind of fringe benefit which the company should not offer to its employers.

### **The Benefits of Training**

At the same time, the existence of dynamic benefits from training should be emphasised. This comes through very clearly from the analysis of the implications of product market developments for the supply of skills and the need for training. The principal benefits arise when companies are trying:

- to improve competitiveness in emerging high value-added segments of markets where the organisation is already operating;

- to develop flexibilities in the workforce in order to respond to changing product market developments;
- to maintain a high degree of quality control in the production of goods or services.

The main point about the above benefits from training is that the circumstances calling for such strategies are continually arising; they do not amount to once-off adjustments. Whilst this portrayal may be especially applicable to most of the sectors chosen for the case studies, the above judgement would seem to apply to most areas of traded goods and services.

This is not to say that those benefits described in this study as 'static' are unimportant:

- reductions in capital costs (via better utilisation rates through lower maintenance and/or organisational change promoting more intensive operation);
- reductions in material costs;
- higher productivity on main tasks;
- shorter lead times, firmer delivery dates;
- higher quality of final product/service.

The first three are likely to be especially apparent to companies. It is the last two which provide a stepping-stone to the recognition of the dynamic benefits emphasised particularly here.

However, considerable as the benefits from training are recognised to be, employers' remarks on the evaluation of costs and benefits of training raise another issue which has implications for national or EC attempts to foster more training through fiscal or regulatory means. This is the inherent difficulty that employers have in monitoring the costs and benefits of training and the views they have on the pay-off from greater effort to improve the basis they have for evaluating decisions in this area. Particularly striking have been those case studies in which, despite it being easier to estimate costs, employers have focused on necessarily qualitative evaluations of benefits; this is simply because they view a better understanding of the benefits from different types of training to be of more significance to promoting better business performance. This calls into question strategies which base intervention in the training market on the assumption that the volume of employer training expenditure can be manipulated predictably without actually being known.

### **Organisational and Technological Contexts**

The benefits of training also depend on the relationship between organisational and technological change. The study as a whole, both from the synthesis of previous research and the case studies conducted, has pointed to the intriguing range of occupational structures found to be operating with essentially the same technology. Relatively low skill strategies appear to be workable but they tend to reap only the static benefits of training. So they meet the demands of the present without preparing a configuration of workforce competences which makes employees more capable of adapting to changes which promote product or process innovation required in the future.

It is in these circumstances, also, that the link between high skill approaches to the implementation of new technology and more general issues of organisational design can be made. High levels of staff motivation and job satisfaction may increase the company's performance under relatively stable conditions but a greater pay-off is likely to come in situations of change. The benefits from training across a broader spectrum than might be justified in the context of the individual's work in a particular job then come partly from a collective return which could not be captured in a very narrow individualised approach to staff training.

Again, this is not to treat training as a fringe benefit but as part of a personnel strategy which stems from a certain view of the quality of activity that a company is trying to achieve as an aim in itself, albeit conditioned by the continuing viability of the enterprise.

The central implication of the above for national and EC-level strategies is that, as the demand for skills associated with higher level occupations increases throughout Europe, the relative roles of the education and training system will come under increasing scrutiny. The *viability* of dual systems and the *reliability* of educational programmes in playing a greater supporting role for economic adaptation and development are particularly important issues.

## **STRATEGIC CHOICES FOR NATIONAL GOVERNMENTS AND THE EC**

Given that the employment cycle in European labour markets has roughly doubled at the same time as each recession has deepened, it is necessary to consider the long-term implications of opportunistic resort to the external labour market for recruits as opposed to maintenance of training through the internal labour market. Reliance upon employers to provide the backbone of vocational training may become increasingly unrealistic in certain sectors. It is here where the possible strategy of providing a strong external training market needs to be considered.

As regards the internal/external training market issue, there would appear to be two competing strategies. The first seeks to incorporate within the enterprise as much training and internal labour force adjustment as possible, believing that if externalised it is much more difficult to handle - responsibilities are given up by management and the available instruments of non-enterprise policy (labour market programmes for the unemployed, etc.) are much less direct in their impact. The second strategy seeks to unburden the enterprise so that management has maximum flexibility regarding whether to redeploy, train, or make redundant. Here, the pay-off is expected to come from higher productivity which will generate higher demand and move jobs than would otherwise be the case.

This presents a dilemma. Will the development of an external ET market, offering better quality training and wider access, undermine the internal labour market commitments of those companies which have historically formed the backbone of the vocational training effort in a sector or country? The unemployed, women returners, those threatened by possible redundancy, and other employed people who want to invest in themselves, independently of their current employer, should benefit from the external training market strategy. But will the strategy also provoke a further shifting of the burden of training and employment adjustment from employers to individuals and/or the state?

Notions of social partnership combined with regulated labour and training markets may be seen as an impediment to efficient market behaviour. They may also be seen as a way of ensuring that corporate resources and management expertise search out high quality employment opportunities for longer than short-term pressures might otherwise allow them to do.



In devoting Structural and Cohesion Funds to the development of less favoured regions of the EC, the Community must clearly work with the countries concerned and respect their socio-economic traditions. However, some combinations of traditional practices make solutions to low quality employment and unemployment infeasible. In considering how to help organisations reap the potential benefits of investments in human resource, it is necessary to pay attention to the overall structure of the ET system and how this conditions the behaviour of employers and individuals.

Taking into account the past experience, present performance, and future environments facing employers in member states, the crucial ingredients in any strategy will be:

- (i) promote a highly credible external training market;
- (ii) in order to achieve credibility, ensure that new qualification schemes are seen as part of a *training* strategy in which people's skills are to be increased sufficiently to warrant certification rather than as a *certification* strategy which might encourage more people to train once their low-level skills are at least recognised;
- (iii) seek to *avoid* the separation of training from wage bargaining and labour force adjustment within the organisation;
- (iv) promote transparent training within enterprises so that member state and EC support is conditional on external certification;
- (v) underpin sectoral commitments by regulation, fiscal measures or both;
- (vi) work for the convergence of internal and external training systems so that they become mutually supporting and more integrated rather than for 'insiders' and 'outsiders', respectively, in the labour force.

Essentially, at national level, a mixed strategy is required providing an external market route, especially for SMEs and individuals whilst reinforcing the internal labour market commitments to train and retain (*sic*).

At EC level, the same principles apply. First, some EC actions are already compatible with the priorities given above: a consequence of working for greater mutual equivalence of qualifications where possible, and stipulating modular equivalence between parts of qualifications where they cannot be reconciled completely, is that greater transparency at national as well as EC level will be promoted. However, more emphasis should be given to the aim to achieve equivalent status between internal and external market routes to a qualification.

Second, deployment of EC funds should seek to encourage not just investment in training that will yield static benefits but in training environments that will enable organisations to recognise and reach for the dynamic benefits. This concerns both the long-term policies of employers regarding training and staff retention and the role of the education system in providing vocational education which will promote capacities to learn and adapt. Where costs and risks of mobility discourage employers from investing in these capacities, some mechanism must be found for offsetting costs and risks through part-funding by individuals and the member state or EC.

Third, the EC can keep active the idea that social partnership, in those industrial relations systems that allow for it, may be harnessed to improve training and shift the cost-benefit trade off in favour

of the benefits to companies and their employees. Moreover, experimentation with trade unions and professional bodies as training providers should be encouraged.

Finally, whilst the social partners represent best the interests of the majority of the organised employed, there is a need for watchfulness on the part of weaker work groups, especially women employees, the unemployed and women returners. At a time when new occupational and qualification structures are evolving, great care must be taken to minimise the barriers, both structural and financial, which are incorporated into new arrangements and to reduce those found elsewhere in the training and labour markets. A pro-active approach on the part of the Commission to scrutinise the labour market landscape in this way would reflect well its wider competence in the educational and training fields granted as a result of the Treaty on European Union.

## **RECOMMENDATIONS FOR FUTURE RESEARCH**

Whilst there is no intention to reiterate the recommendations for future research put forward in the *Feasibility Study on the 'Costs of Not Training'*, three proposals do arise directly out of the present study.

### **(i) A Study of Employers that Are Not Committed to Training**

The first proposal for further work on the costs and benefits of training in the EC is to extend the present research design to include a set of case studies (in the same sectors and countries) which focus on companies that have rather poor or non-existent training records. Given the findings of this study, the aim would be to obtain a better understanding of the strategic situations of companies that are much less committed to training and the perceptions of their environments that lead them to adopt such positions. The aim would be to seek, in a comparative EC context, insights into what changes in policy or economic environments might lead a larger proportion of companies to take a greater initiative in the training field and how the benefits of training experienced by companies analysed in the present study can be reaped by others currently less convinced that the costs justify the commitment.

### **(ii) Further Research on the Present Case Study Establishments**

The findings of the study have stressed the dynamic benefits of training but the research method has obviously not allowed for the monitoring of employer perceptions and behaviour over time. It is proposed that a longitudinal element should be added to the study by returning to the same companies to follow-up their training and personnel decisions through a 'company training dialogue' conducted with the researchers. In the first instance, this might cover a period of two years.

### **(iii) Bridging the Evaluation Gap between Education and Corporate Training**

The third proposal for research seeks to bring the world of educational evaluation together with that of training evaluation. We have seen how the case study companies do not expect to be able to produce sophisticated quantitative evaluations of the impact of their training activities on business performance. However, there is also the view that there should be improvements to the evaluation of the impact of training on competence, even if it is much more difficult to link increased competence to better company results in the market place.

Education and business share many problems in common in the field of evaluating human resource policies. This is despite the fact that the learning and socialisation of young people and the continuing education and training of adults are the end-products of the ET system whereas they are the intermediate activities or inputs into the process of production or service provision. The educational analogy of the training evaluation problem outlined above is that it is easier to test the impact of an ET course on the competence of the teacher than it is to assess its impact on the competences of the people taught by the teacher.

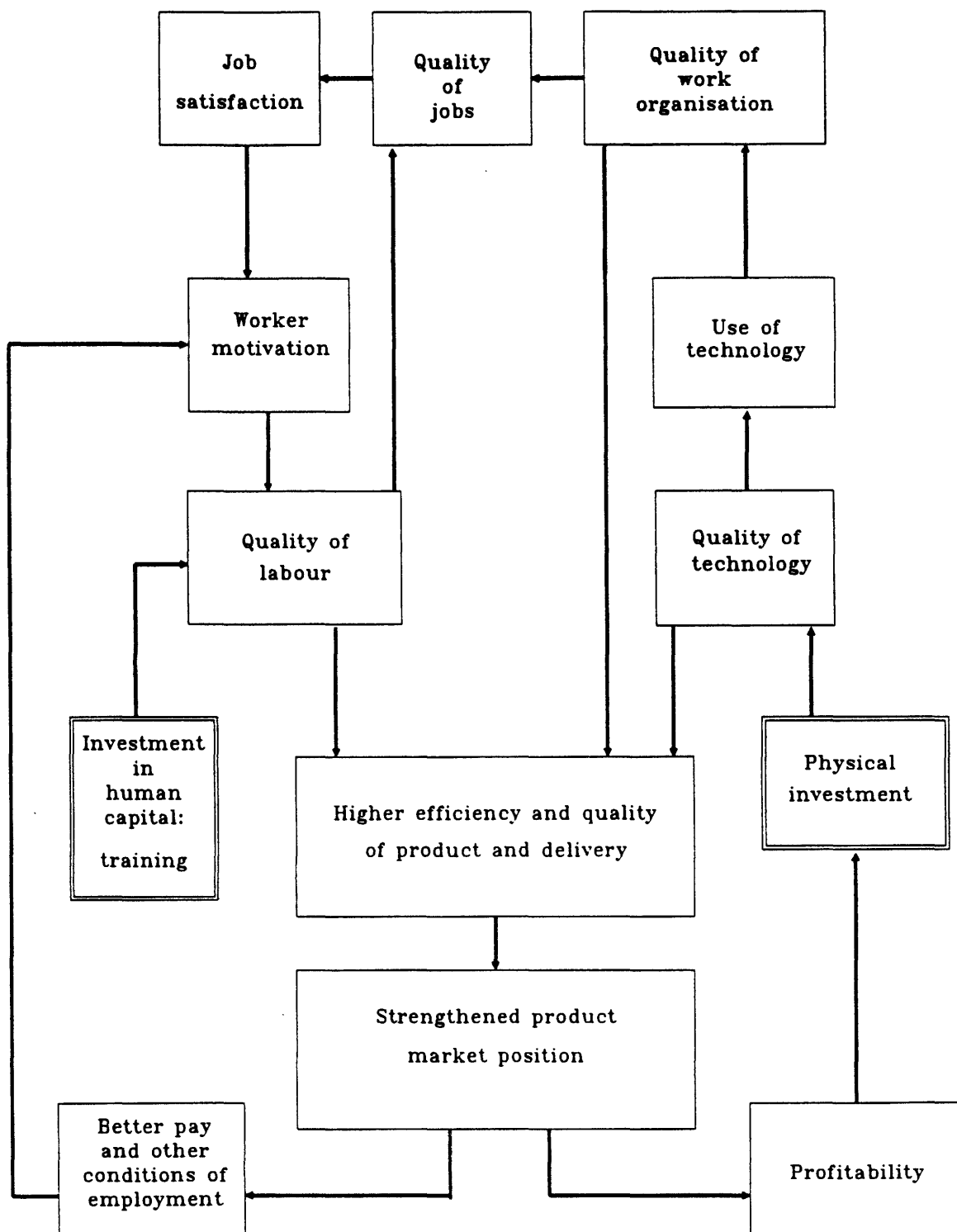
So, in this respect, there are two levels at which more communication is required between those engaged in the mainstream ET system and those involved in vocational training in companies. The first is that an enormous amount of educational practice is based on incomplete evidence, even speculation, about the most effective ways to teach particular cognitive and manipulative skills to particular people and the environments most conducive to learning. The same is true of training organised by employers. There is a need for the agenda for research and evaluation in these two fields to be shared rather than remain as separate as they are and for the existing research base to be made more accessible to both groups of practitioners (teachers and trainers) and researchers (evaluators of ET programmes and evaluators of training programmes in companies, including those concerned with hybrids such as the dual system).

The new impetus given to EC-level policy thinking by Articles 126 and 127 of the Treaty on European Union provides an opportunity to make advances in our understanding of the effectiveness of different educational and vocational training programmes and how far the market and non-market structures within which they operate can affect the outcomes.

It is proposed, therefore, that seminars and collaborative projects should be organised which bring together educational researchers and evaluators, corporate policy-makers and economists involved in the assessment of educational, training and labour market policy measures. The focus of the collaboration should be quite specific. For example, different schemes found in member states for the education and/or training of those intending to enter a particular occupational field could be put under multi-disciplinary scrutiny. This could help to promote co-operation, on the one hand, between different actors in the research and policy community and, on the other hand, between that group as a whole and the practitioner community in different countries including teachers, trainers and managers responsible for decisions in the ET field.

Finally, the role of evaluation as a source of information to all labour market participants needs to be stressed. Few countries have synthesised the evidence on behaviour in labour markets and ET systems in such a way as to provide a critical awareness of the problems which different actors in the system are likely to meet in pursuing their particular strategies. Moreover, at an EC level where Structural Funds are being devoted to the development of ET systems in member states, it is necessary to apply the lessons derived from existing well-established systems to the design of largely new systems or the reform of old ones and to anticipate problems which may emerge with systems that hitherto appear to have worked successfully.

Figure 1.1: The Potential Role of Training



**Table 1.1: The Costs and Benefits of Training: Static View**

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**Costs of training**

- capital consumption
- current expenditure
  - consumable materials
  - trainer labour costs
  - trainee labour costs
- foregone income
  - employer - foregone output
  - trainee - foregone income where trainee income is less than what would have been earned
- administration of training
  - training needs analysis
  - evaluation and accreditation of training
  - organisation of training

**Benefits of training:**

- output during training
- output after training less output which would have been produced in absence of training

**Externalisation/internalisation**

**Costs of externalisation**

- potentially higher cost from external fees than from providing training internally (training market uncompetitive)
- training less well matched to organisation's requirements
- costs of managing the training contract with supplier
- higher risk of trainee leaving organisation if training received has higher 'general' component

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continued

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**Benefits of externalisation**

- avoids problem of lack of economies of scale in training for the individual organisation
- access to higher quality - price ratio for training across a wide range of competencies
- increases supply of trainees because they see greater transparency and wider market for the skills being acquired

Note

Higher 'output' may come through several channels, for example:

- reductions in capital costs (via better utilisation rates through lower maintenance and/or organisational change promoting more intensive operation)
- reductions in material costs
- higher productivity on main tasks
- shorter lead times, firmer delivery dates
- higher quality of final product/service

All the above will be offset by any higher wage attached to post-training employment.

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**Table 1.2: The Costs and Benefits of Training: Dynamic View**

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**Costs of training:**

- use of sub-optimal occupational structures in order to facilitate training
- the loss of management time which could have been devoted to more dynamic activities

**Benefits of training:**

- facilitates adoption of closer to optimal occupational structures if shortages have been major constraint
- increases quality of human capital in a way which makes the organisation more adaptable to future change

**Externalisation/internalisation (as for static view)**

**Costs of externalisation**

- potentially higher cost from external fees than from providing training internally (training market uncompetitive)
- training less well matched to organisation's requirements
- costs of managing the training contract with supplier
- higher risk of trainee leaving organisation if training received has higher 'general' component

**Benefits of externalisation**

- avoids problem of lack of economies of scale in training for the individual organisation
  - access to higher quality - price ratio for training across a wide range of competencies
  - increases supply of trainees because they see greater transparency and wider market for the skills being acquired
-

**CONSUMER ORIENTED SELLING**  
**EVALUATION ON RESULTS IN TEXAS INSTRUMENTS**

**BARBARA GÜLPEN**

**UNIVERSITY OF NUREMBERG**



26. April 1995, Barbara Gülpen, Cumberland Conference

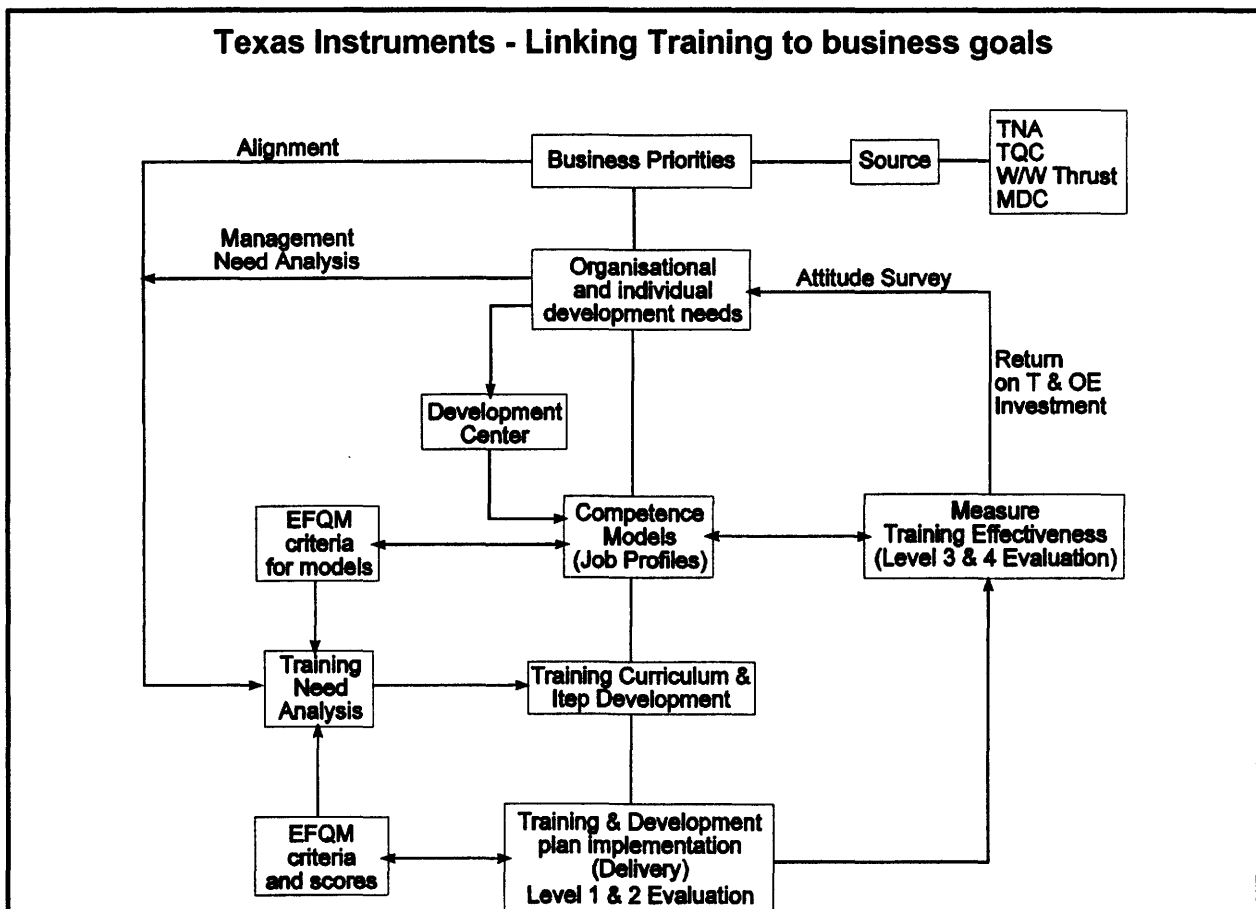
## COS (Consumer-Oriented-Selling)-Evaluation on the Results-Level

### Contents of Presentation

1. Background of Evaluation
2. Aims of COS-Evaluation
3. Underlying Concepts
  - 3.1. Evaluation Levels of Kirkpatrick
  - 3.2. Calculating Level 4 Results / Utility Analysis
4. Evaluation Design
5. Results of COS-Evaluation
  - 5.1. Utility and Sensitivity Analysis
  - 5.2. Other Results

### 1. Background of Evaluation

The evaluation of the Training "Consumer-Oriented Selling" took place at Texas Instruments. Texas Instruments linked the Training process already a few years ago to the Business goals. Now the evaluation process which is based on the 4 levels of Training evaluation criteria suggested by Kirkpatrick (see 2.1.) shall also be integrated into the process. Levels 1,2 and 3 already have been implemented but level 4 not yet. The project has the function of a pilot program for Texas Instruments in order to learn about it and be able to implement it to other trainings as well (see figure).



## **2. Aims of the Evaluation**

The aims of the evaluation project is to answer the following questions:

- a. What ist the Utility of the Training?
- b. What influences Training Success?

### **2.1. Evaluation Levels of Kirkpatrick**

Kirkpatrick, an american psychologist, already suggested in 1959 four levels of training evaluation criteria which only refer to the evaluation of output of training. Other psychologists proposed very similar levels but his is the oldest and therefore mostly referred to in the literature. The levels are:

<b>Level 4</b>	<b>Results/Utility</b>	<b>What impact has the training on the company?</b>
<b>Level 3</b>	<b>Behavior/Transfer</b>	<b>What do the trainees transfer to the job?</b>
<b>Level 2</b>	<b>Learning</b>	<b>What facts etc. did the trainees learn?</b>
<b>Level 1</b>	<b>Reaction</b>	<b>Did the trainees like the training?</b>

It is possible to evaluate a training on each of the 4 levels. The COS-evaluation was conducted on all of the 4 levels with special focus on level 4.

### **2.2. Calculating level 4 Results / Utility Analysis**

The utility of the training is calculated with a formula developed by the american psychologists Schmidt, Hunter and Pearlman in 1982 and modified by me by adding the parameter P to the formula:

$$\Delta U = T \cdot N \cdot P \cdot d_t \cdot SD_y - N \cdot C$$

$\Delta U$  = Utility of the training

T = Time (Duration of training effect in years)

N = Number of Trainees in the Training

P = Part/percentage of work which is affected by training  
(e.g. Sales make 78 % of the job -> P=0.78)

$d_t$  = real performance difference between trained and untrained measured in units of standard deviation of performance (this is the amount the trained group moves to right in the performance distribution, the questionnaire for measuring the performance for COS by the supervisors is added in the appendix)

$SD_y$  = Standard Deviation of untrained group in dollars (this is the money value of moving one standard deviation to the right in the distributen and can be calculated in three different ways; the easiest and proven conservative way is to take 40-70 % of

the average yearly salary of the trainees; another way are expert judgements by the supervisors)

C = Costs per training and trainee

### 3. Evaluation Design

The evaluated training had 16 participants of which 13 were still at their old positions when the last measures were made. The methods of measuring were observation (role plays in training), questionnaire (reaction, learning, performance measures) and interview (transfer level). A control group of 10 people was used for the results level. See the timetable in the following figure:

Timetable					
Group	Time of Measurement Level	short before Training (Okt.1994)	during Training (Okt.1994)	at end of Training (Okt.1994)	3 Month after Training (Jan./Febr.1995)
Trainees	Reaction			x	
	Learning	x	x	x	
	Transfer				x
	Performance	x			x
	Motivation	x		x	
Control-group	Performance	x			x

### 4. Results of COS-Evaluation

#### 4.1. Utility and Sensitivity Analysis

The following Utility of the COS-Training is calculated on the basis of the above formula:

Utility of COS-Training
$\Delta U = 1,25 \cdot 13 \cdot 0,7 \cdot 75.980 \cdot 0,78 - 16 \cdot 2.692$ $= \text{DM } 631.061$

Utility by Variation of single Parameters					
varied Parameter	Utility in DM				Utility equals 0, if (break-even-point)
$d_t$	(0,2) 149.537	(0,5) 438.451	(1,0) 919.974	(2,0) 1.883.021	$d_t = 0,045$
$SD_y$	(50.000) 400.553	(70.000) 578.003	(90.000) 755.453	(110.000) 932.903	$SD_y = \text{DM } 4.855$
T	(0,25) 91.754	(0,5) 226.581	(1) 496.234	(2) 1.035.540	$T = 0,08$ (= ca. 1 Month)
C	(2.000) 642.132	(3.000) 626.132	(4.000) 610.132	(5.000) 594.132	$C = 42.133$ per Trainee

The table shows the effect of varying one parameter of the equation on the utility. The very right column shows what has to happen to the parameter so that the utility equals zero. This makes clear that the costs of the training is a parameter which has the lowest effect on the training outcome.

#### **4.2. Other Results**

Other Results of statistically significant relations between variables found in the COS-Evaluation indicate, that the learning has no correlation to any other measured variable. The amount of transfer is dependent of the perceived personal utility of the training by the trainee and the performance is mostly influenced by the motivation. There would have been found more significant correlations, if the sample would have been bigger. Because of the small sample only very big effects could be detected.

The Results show that a in-house training marketing is very important in order to increase the perceived personal utility of the training and the training motivation. Another result is that the training has a very high positive outcome for the company which is in practice massively underestimated.

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# **Appendix: COS-Training Evaluation Questionnaire for the Performance ratings by supervisors before the training**

Please rate Mr. \_\_\_\_\_ skills in each of the following areas. (Please tick boxes)

The scales mean:

- 1,2 high accomplishment of the left characteristic;
- 3,4 partly accomplishment of the left characteristic
- 5 middle accomplishment (neither the left nor the right characteristic is specifically accomplished)
- 6,7 partly accomplishment of the right characteristic;
- 8,9 high accomplishment of the right characteristic

**His customer orientation is**

(Explanation: Customer orientation means that the objectives and needs of the customer are in the foreground and that customer satisfaction is realized as being very important for long term customer relations)

1 2 3 4 5 6 7 8 9

very high 

--	--	--	--	--	--	--	--	--

 very low

**His organizing/systemizing of work is**

(Explanation: Organizing means the systematic preparation, performance and post planning of the work - in this case the customer contacts)

1 2 3 4 5 6 7 8 9

very high 

--	--	--	--	--	--	--	--	--

 very low

**His communication skills are**

(Explanation: Communication skills in this context means the ability to listen actively, deal with questions, pauses and objections and to explain convincingly.)

1 2 3 4 5 6 7 8 9

very good 

--	--	--	--	--	--	--	--	--

 very bad

**His work motivation is**

(Explanation: Work motivation means the driving force to carry on with the job; this also includes the work energy.)

1 2 3 4 5 6 7 8 9

very high 

--	--	--	--	--	--	--	--	--

 very low

**His sales activities are**

(Explanation: Sales activities mean e.g. customer contacting, developing offers for customers, carrying out sales conversations or sales presentations with customers.)

1 2 3 4 5 6 7 8 9

very numerous 

--	--	--	--	--	--	--	--	--

 very little

**His overall performance is**

1 2 3 4 5 6 7 8 9

very high 

--	--	--	--	--	--	--	--	--

 very low

The sales activities (including pre and post call planning) approximately represent \_\_\_\_\_ % of the job.

Name of person who filled in this questionnaire: \_\_\_\_\_

**SKILLS NEEDS ANALYSIS**

**METHODOLOGICAL REFLECTIONS AND RECOMMENDATIONS**

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MAASTRICHT**

## 1 Introduction

In this presentation I would like to reflect on the projects undertaken in the Skills Needs Analysis (SNA) programme of the Task Force Human Resources<sup>1</sup>. In particular, I want to discuss the methodologies that have been used in these projects and their possible pitfalls. I will end with two proposals, which will focus on strengthening the methodological aspects of the SNA projects.

## 2 Evaluation of the methodologies in use

In the different projects of the SNA-programme, the typical methodologies that have been used were the following:

- \* case studies
- \* surveys
- \* expert meeting
- \* deskresearch

In most cases the methodology was a combination of these research strategies.

A first observation that can be made is that the variety in methodologies is very small. Although handbooks reviewing methods for SNA come up with more than 20 different methods<sup>2</sup>, only four of them were actually in use in the SNA projects. In particular, important methodologies like trendanalysis, econometric modeling, systemdynamics and scenario-analysis have been lacking.

This concentration on specific methods may have serious consequences for the validity of the results. In general, one can say that case studies tend to exaggerate the effects of e.g. technological developments on skills needs<sup>3</sup>. Case studies may be very powerful in examining the developments in one particular organisation or sector, but they typically don't take into account the offsetting effects of the same developments in other organisations or sectors. In this sense it is useful to combine case studies with aggregate studies in order to get a more balanced picture of these developments. Summing up, one could say that the question of the validity of the methods in use, has not been adequately dealt with in the SNA projects.

The same applies to the reliability of the instruments that were used. The Skills Shortages Update project for example showed that the way in which skills shortages were measured was very crude<sup>4</sup>. This implies that it is very hard to decide whether differences in skills shortages between regions or over time reflect real differences or merely reflect bias in the measurement instrument. However the reliability with which skills shortages can be measured is crucial for the SNA projects.

- 
1. In particular I refer to the different Skills Shortages Projects and the projects undertaken in the regional networks for Skills Needs Analysis. See: Target (1991), EC Skills Shortages Project 1990/1991. Final Synthesis Report; T. Casey (1992), Supply/Demand Interfaces in Education & Training in the Regions of the European Community; J. Oosterhuis & R. van der Velden (1994), Skills Shortages in the 90's.
  2. See for example R. Bilderbeek & R. Smits (1984), Methodieken en technieken van toekomstonderzoek an de aansluiting onderwijs - arbeid.
  3. See Oosterhuis (1994), Technological Change and Skill Requirements
  4. See: Oosterhuis & Van der Velden (1994), Skills Shortages in the 90's.

A third observation that can be made from the different reports of the SNA projects, is that theoretical references are often lacking. This is part of a more general problem. The whole area of human resources and skills needs lacks an overall coherent theoretical framework. However this framework is necessary to put the results of the projects into perspective and to form a solid basis for policy recommendations.

A final observation is that the projects have not been very critical on underlying assumptions. Let me illustrate this with an example. In a review of studies after the effects of technological developments on skills requirements, Oosterhuis (1994) showed that three different periods may be distinguished<sup>5</sup>. In the first period (roughly from 1955 till 1974), most studies showed that technological developments would have an upgrading effect on the skills requirements, thus resulting in an increased demand for higher education. In contrast, the second generation studies (roughly from 1974 till 1983) pointed out that the technological development would have a degrading effect on the skills requirements, resulting in a de-skilling of the labour force. The studies in the third period (from 1983 on) in majority showed mixed effects. The main conclusion from the latter studies was that the effect of technological developments was highly dependent on organizational features. Now the interesting thing is that the difference between the first two periods does not relate to the time period in which the studies were actually undertaken (some of these studies refer to data from decades ago), but rather to the period in which these studies were published. The results of these studies were very much in line with the political 'mainstream' of the respective periods: a rather optimistic believe in economic progress in the 60s versus a more pessimistic view on the capitalist economies in the 70s.<sup>6</sup>

The lesson to be learned is of course that researchers must be aware of the fact that they work within a particular economic and political context. In this respect, it strikes me that the main outcomes of the SNA-projects are rather unanimous. The overall conclusion is that there is a need for a highly and multi-skilled, flexible labour force in order to stay competitive and meet the challenges of a global economy. However, one must be very cautious that this is not merely a 'political correct' answer to the basic questions that were raised.

### 3 Proposals

In order to strengthen the methodological aspects of the SNA projects, I would like to make two proposals:

- \* an SNA Tool Kit and
- \* a Skills Needs Panel Study

The SNA Tool Kit is meant to be a handbook on SNA methods and instruments. This handbook must offer practical guidelines for researchers for which research questions and under which circumstances, which method is valid.

The classification of these methods and instruments could take place using the following 5

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5. J. Oosterhuis (1994), Technological Change and Skill Requirements.

6. Partly the differences in outcomes also result from differences in methodologies: aggregate studies in the first period versus case studies in the second period. This underlines the former argument for using multiple methodologies.



dimensions:

- \* Level (national; sectoral; regional; firm)
- \* Time (presence; future)
- \* Nature of skills needs (quantitative; qualitative)
- \* Function (monitoring; identify change; communication)
- \* Principal change agent (student; school; worker; firm; intermediaries)

The second proposal relates to the need for a skills needs panel study. I propose to start a panel study consisting of some 500 firms and labour organisations from different regions in the EU. This panel study must serve two purposes. First, it must provide an index on skills shortages and be used as a monitoring instrument on the development in skills needs. Secondly, it must provide a basis for further in-depth research. The panel study must serve as a major database for analyzing the effects of technological and organizational developments on skills requirements and for analyzing which strategies (e.g. training) seem effective in dealing with these changing requirements.

**SKILLS NEEDS ANALYSIS**

**PROCESS AND METHODOLOGY**

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**CHAMBRE REGIONALE DE COMMERCE ET D'INDUSTRIE DE BRETAGNE,  
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## **Skill needs analysis: Process and methodology**

### **Introduction**

The CRCI Bretagne was placed an order: Achieve a manual of good practice for skill needs analysis

Over the last 20 years, the economy has changed very fast; firms have had to adapt to a more demanding environment.

Reactions of organisation systems, machines and above all human beings have become crucial; Human resources, competence, initiative, innovation all have become key factors for success.

It is more and more essential to anticipate the skill needs, notably in order to help improving training programmes.

Indeed, this guide is an inventory of practices and methodologies used for skill needs analyses in Europe; it has come out from experiences in the network of University-Enterprise Training Partnership established under Comett

### **Explanation / Definitions**

Skill needs  
Qualification gap/shortage  
Training needs...

These are common terms in the education sector which are often used interchangeably in the documentation of Community education and training programmes (like Comett or Force), but current usage of those terms is vague and requires clarification.

A clear distinction should be made between the formalisation of the needs and the response to the needs

#### 1- Formalisation of the needs.

The concept of a skill (in the sense of a technical skill) has given way to that of competence based skills which are more complex and difficult to define. This includes not only technical competence and know-how, but also new transversal and personal skills: polyvalency, flexibility, ability to communicate, innovate, understand and manage new situations, respond to change...

If the concept of skill is to retain the meaning in the sense of a professional skill within a specific professional sector, it will be less relevant than that of competence because it will for example be related to developing links between work and training or identifying the personal professional project.

Skill needs analyses enable us to understand future changes, thanks to a mid term prospective approach. They are essential in/to the process of educating and training.

In reverse, qualification shortages/gaps analyses give a snapshot at a particular moment of the gap between existing competences (skills) and the quantitative or qualitative competences (skills) desirable for increased competitiveness.

## 2- The respond to a skill need

There are many possible strategies to acquire lacking competences (skills) needs: recruiting new staff, subcontracting, new work organisation, alliances and various types of partnership, consulting, and... of course, training.

When a training strategy is in place, an analysis of training needs takes place before the training is developed, so that the target audience, the contents, the teaching methods and other aspects of the training can be determined.

This training needs analysis develops from the analysis of skills needs and qualification shortages/gaps.

### The process

Comett Bretagne (CRCI B) has been placed an order by the Commission in order to

- \* capitalise and take advantage of experiences in Comett to be extended to the UETP network
- \* optimize the relation Competitiveness-skills

The UETP Comett Bretagne has in that process:

- \* set up 2 meetings for european experts:
  - Mrs Hane Shapiro - DTI (DK)
  - Mrs Monica Turrini - SCIENTER (I)
  - Mrs Anne Caillaud - IDEES 4X4 (F)
  - Mr Claudio Dondi - SCIENTER (I)
  - Mr Tom Casey - CIRCA group (IRL)
  - Mr Tom Evans - UETP CITE (UK)
  - Mr Alain Gourves - CRCI Bretagne (F)
  - Mr Martin Hamer - UETP Target (UK)
  - Mr Roger Petts - UETP target (UK)
  - Mr Sören Stromberg - UETP Southern Sweden (S);

- \* these experts have also been requested a written contribution to the project;
- \* then a questionnaire was mailed to each UETP (both regional and sectoral UETP) as well as other protagonists like project pilots (extremely high response rate: 47%).
- \* those results have been analysed and synthetised by Mrs Anne Caillaud (consulting firm IDEES4X4) who wrote up the manual.

This manual is essentially pragmatic and contains the following:

- \* light on various practices, and an explanation of principles;
- \* methodological clarification, and a proposal for indicators of success;
- \* list of contacts/experts, resource people in the field;
- \* short bibliography;
- \* first list of projects supported by the UETPs (135 summaries)

This manual is intended to provide future promoters in this field with elements of reference and guidance they will need for skill needs analysis.

## Results

### Concept of significant practice

The study has clarified the concept of « *good practice* ». Dealing with analyses of skills and qualification shortages/gaps, such a concept must be handled with great care, since the specific situation and the individuals involved are factors as important as the methodologies chosen. Methodologies cannot be seen as recipes which guarantee success; they are rather tools which can be used to identify the specific needs of that particular situation.

Then experts preferred the term « *significant practice* »

Significant practice is characterised by the 4 following criteria:

- \* identified and obvious need
- \* involvement of partners
- \* methodologies and appropriate tools
- \* real impact and continuous monitoring.

### Utility of skill needs analysis

Our economy has changed over the last 20 years from a production based economy to a market based economy; this explains the significant developments which have taken place in identifying skills and anticipating their future evolution:

- \* the approach to identifying skills has changed from quantitative to qualitative, required by the complex environment; the process becomes interactive.
- \* the concept of job based on technical skills is moving to the concept of professional environment or competences/skills defined in terms of professional knowledge, skills and behavior;
- \* theory, statistics will be developed into action plans, very pragmatic, designed and implemented by participants themselves. Most is based on interactivity, cooperation and partnership.

### Actors/protagonists

Whichever process is adopted, many participants are involved:

- \* companies, branches, and professional associations
- \* those engaged in initial and/or continuing professional training
- \* public institutions, organisations and decision makers.

Analysis of skill needs and qualification gaps/shortages are an intermediary step between gathering relevant information and deciding on a strategy for action. They are a response to two parallel developments:

- \* the generation and use of potential skills by those involved in a particular sector which are necessary for the clarification of decision making now and in the future
- \* a dialogue between those involved and their subsequent participation, promoting the development and enhancement of dialogue between industry, individual enterprises, social partners, education and training sector and decision makers.

## **Outline Classification**

Analysis of Skill needs and Qualification shortage/gap can be classified as following:

- \* geographically based analysis focused on employment opportunities at regional or national level;
- \* sectoral analysis of a particular professional sector or technological domain;
- \* enterprise analysis at the level of individual companies or organisations;
- \* profession-based analysis of specific occupations or professional groups
- \* personal analysis, such as individual skill assessments.

Many permutations are possible through combining categories. Some analyses may bring a transnational element into play.

This classification demonstrates the specific nature of an enterprise analysis, in terms of exploiting the results, working with the partners involved, and contributing to a transnational dimension. Geographical and sectoral analyses, and hybrid approaches based on these analyses, are closer to the methodologies themselves and the tools available for use. They can be clearly distinguished from the steps associated with exploiting the results, and those supporting a transnational dimension.

## **Key points in the analysis process**

Four essential points:

- \* increasing reliable information sources
- \* bringing the various partners together with a view to implementing results
- \* clearly defining the area under investigation
- \* validating the results

## **Practical advice**

There is no single model to adopt; rather there are many different approaches which can be used simultaneously. However, some advices have to be considered:

### **1 - Launching the analysis**

- \* right from the start, plan the project
- \* develop and test the methodology
- \* definition of the sample group

### **2 - Involving the partners**

- \* through groups in which they are represented
- \* integrating them into the steering group developing the action plan
- \* semi-structured interviews
- \* validating the first results
- \* creating opportunities for contact
- \* developing a specific action plan with them, ensuring an outcome and follow up.

### 3 - Gathering data

There are many different methods for collecting data

- \* bibliographic research
- \* monographs
- \* (external) experts
- \* survey: written questionnaires, phone interviews, on the ground survey

### 4 - Analysing data: quantitative and qualitative data

#### **Pitfalls to avoid**

Some problems occurred frequently:

- \* amateurishness
- \* different partners, different approaches
- \* hazards
- \* inconclusive data or no data
- \* unclear results

#### **Conclusion**

This manual focuses on comett support to the analysis of skill needs and qualification shortages. Comett has made a major transnational contribution in that field:

- \* in strengthening the prospective approach of both employment and training;
- \* in informing and introducing all participants to european practices;
- \* in emphasizing the specific needs of small and medium businesses/enterprises for managing recruitment and skill needs in line with future requirements;
- \* in supporting the formalisation, comparison, cross-fertilisation, capitalisation, and diffusion of practical examples, at both regional and sectoral level, producing results which enable the essential anticipation of skills and qualifications.

**CEC SKILLS PROJECT 1990 - 1994**

**SUMMARY OF PROGRAMME**

**ROGER PETTS**

**CHIEF EXECUTIVE, TARGET**



**TARGET**  
**CEC SKILLS PROJECT**  
**1990 - 1994**

**1.0 OVERVIEW**

The Skills Project started in 1990 with a research programme designed to identify skills issues across the Community based on information drawn from both industry and training. This information would be used as a basis for the development by the Commission of a Community-wide strategy on skills and human resources. The method of research entailed the formation of a network of UETPs, which over subsequent phases of the programme extended to include enterprises and training providers in Germany, Greece, Portugal, Spain and the United Kingdom, and across market sectors including Electronics/Computers, Food/Beverage Processing, Manufacturing, Civil Engineering, Banking/Insurance and Retail. The network allowed direct access to the business world at a 'working' level and this opportunity was used to not only update information on skills issues and identify new ones, but, most importantly, to see and record how individual enterprises were addressing and overcoming problems. The whole programme has worked on the basis of linking analysis with action and thus gaining collective benefits from both. The following sections describe each phase of the Skills Project in more detail. Detailed reports on all phases of the programme are with Jurgen Schmehr.

**2.0 PHASE 1 (PILOT PROJECT)**

- Four participating areas:
  - Thames Valley, United Kingdom
  - Western Greece
  - Dublin, Republic of Ireland
  - Nord-Pas de Calais, France

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TARGET's role was to co-ordinate the overall programme and operate in the Thames Valley.

- The objective of the pilot phase was to test the feasibility of utilising a network system to identify realistic and factual information on skill shortages. It was also structured to address a key issue - much of the existing research findings did not correlate with the hard experience of people operating on a day to day basis with enterprises in areas of high skill shortages.
- The scheme was completed in five months and led to the decision to expand the project into Phase II.

### **3.0 PHASE II**

#### **3.1 OBJECTIVE**

The success of Phase I in terms of operations, and the validity of the findings drawn from industry, indicated the desirability of extending the project (and especially the network) to as wide a range of operation as possible.

#### **3.2 METHODOLOGY**

The methodology used for 'cascading' the programme to a wider audience was to get each of the four units participating in the pilot project to select a further five regions drawn from a variety of Member States plus two extra from the then East Germany. This resulted in the following regions becoming involved:

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-	Hainaut	Belgium
-	Nord-Pas de Calais	France
-	Pays de la Loire	France
-	Greater Copenhagen	Denmark
-	North Jutland	Denmark
-	Berlin	Germany
-	Bremen	Germany
-	Cottbus	Germany
-	Saxony-Anhalt	Germany
-	Weser-Ems	Germany
-	Eastern Macedonia/Thrace	Greece
-	Western Greece	Greece
-	Campania	Italy
-	Liguria	Italy
-	Palermo	Italy
-	Limburg	The Netherlands
-	Central Region	Portugal
-	Setubal	Portugal
-	Dublin	Republic of Ireland
-	Mid West Ireland	Republic of Ireland
-	Castilla y Leon	Spain
-	Guipuzcoa	Spain
-	Valencian Community	Spain
-	Anglia	United Kingdom
-	Mid Glamorgan	United Kingdom
-	Thames Valley	United Kingdom

TARGET's role was to co-ordinate the overall programme and to run one of the groupings of five areas.

A further five regions were subsequently added to the network:

-	South & West Jutland	Denmark
-	Auvergne	France
-	West Attica	Greece
-	Emilia Romagna	Italy
-	Asturia	Spain

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3.3 **FINDINGS**

The findings of all the regions were generally similar, except for those in the former East Germany which had distinctly different issues. The messages that were identified included:

- Lack of support for SMEs.
- Lack of effective interface between industry and training.
- The difficulty industry had in addressing change, both internal and external.
- Lack of quality of young people coming out of school.
- There were variations between market sectors that needed to be explored.
- The need for better channels of communication between industry, between industry and training, and between governments/CEC and industry/training.

These and other issues could be seen to be serious inhibitors to the development of an adequate supply of skilled, flexible personnel that was required to address the needs of the next decade and beyond.

However, the key message coming from this phase was the need to understand the issues in more detail and, critically, to gain the perspective of enterprises and training providers who actually operate in a working environment on a day to day basis. Supporting this was the need to open up a two-way communication channel between policy makers and enterprises/training providers.

Based upon this background Phase III of the project was created.

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**1990 - 1994**

**4.0 PHASE III**

**4.1 OBJECTIVE**

The network base established during the first two phases was made up of UETPs or similar organisations. What was now needed was to extend the network into the business world. It was also necessary to have a closer look at market sectors.

**4.2 METHODOLOGY**

The methodology used to achieve these objectives was as follows:

- (A) Selection of four market sectors:
- Manufacturing (focused on Agricultural Machinery)
  - Civil Engineering
  - Food/Beverage Processing
  - Electronics/Computer
- (B) Four working parties established to address each sector. Each working party was headed by a chairman who had been closely involved in a previous phase of the project.
- (C) Each working party was made up of eight businessmen and four training providers drawn evenly from Germany, Greece, Portugal and the United Kingdom. The businessmen representing both large and small enterprises.

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From previous work on the Skills Project and other CEC activity there was a considerable amount of data available on the level and type of skills issues that existed across the Community. The focus, therefore, of this element of the project was to use this data, supplemented by direct input from working party members, as a base for defining and implementing the corrective actions needed to overcome these issues. In addition, to start to identify examples of good practice and, using the network that had been established, commence the process of documenting and communicating these examples across the Community.

Using a series of meetings throughout the year as a base for defining and monitoring actions, each working party was able to provide a 'grass roots' perspective to the issues associated not only with their industry but also on a more generic basis. Individual and collective actions were taken between meetings, resulting in some very positive projects being developed on a transnational basis and involving both businessmen and training providers - a significant step towards a greater understanding between the two groups and providing numerous examples of co-operation and interaction between Member States.

#### 4.3 FINDINGS

During the initial part of the project working parties concentrated on identifying the key issues and problems that existed in their respective market sectors. Drawing from available information and supplementing this by up to date personal experience, issues became focused into two categories:

1. Those common across Member States and across market sectors.
2. Those specific to one market sector.

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**1990 - 1994**

Key factors in these categories were:

**Common Issues**

- Mismatch between what industry expects and what schools/training deliver.
- Inability of industry to help itself generate the skills required.
- Gap in technical training in Portugal and Greece.
- Effectiveness in the quality measurement of training.

**Industry Specific**

- Negative image of certain industries impacting recruitment (Civil Engineering, Food/Beverage Processing, Manufacturing)
- Limited amount of quality management training in Manufacturing and Civil Engineering.
- Long term stagnation in Civil Engineering and Manufacturing creating a limited supply of innovative thinkers.

A series of recommendations was put together, as well as a number of specific actions (all contained in the Phase III Synthesis Report - December 1992).

The strategy of directly involving industry and training in the universal problem of skill shortages clearly worked. There was a wealth of ideas, examples of good practice and recommendations that emerged from working parties in all the four market sectors. The enthusiasm generated by individual working party members was outstanding, as was the change in their attitudes towards the Community and what collective action can bring.

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Not only were effective networks established at the grass roots but additional 'spin off' activities were developed that had a life of their own and that benefited individual organisations and market sectors.

Many of the issues identified were not new but coming directly from industrialists and trainers who collectively were seeking solutions they provided a new perspective and a realism that is sometimes missed during general research. The main benefit, however, came from the fact that it was shown that answers do exist in many cases but had not been communicated even within national boundaries or within an industry and certainly not on a transnational basis. Many of these answers were ones that address common issues and could be implemented across national boundaries. In many instances existing practice or a new idea had been stifled because of lack of communication and ways needed to be found for co-ordinating and developing mechanisms to ensure that existing answers to problems were captured and shared.

Phase III of the project was a catalyst, resulting in networks being established and finding immense benefits through interaction. Using the base created it was now important to identify examples of good practice and to create a mechanism for sharing the information. This requirement focused itself in the development of Phase IV of the project.

**5.0 PHASE IV**

**5.1 OBJECTIVE**

Working through established networks focus was given to the following specific areas of concern:



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- Employment Policies
- Human Resource Development
- Coping With Internal Change
- Coping With External Change
- Interfaces Between Enterprise/Schools/Training
- Negative Images of Some Enterprises/Market Sectors
- Reasons Preventing School Leavers Meeting Skill Needs of

Industry

The work in this phase was to address each specific issue and it varied from the research previously conducted in that it focused strongly on specific examples of good practice, with a subsidiary objective of strengthening and improving the networks previously established by involving them as much as possible.

## 5.2 METHODOLOGY

This phase operated in the following regions:

- Western Greece (Patras, Greece)
- Weser-Ems (Osnabruck, Germany)
- Castilla y Leon (Spain)
- Saxony-Anhalt (Magdeburg, Germany)
- Central Region Portugal (Aveiro, Portugal)
- Thames Valley (United Kingdom)

TARGET's role was to co-ordinate the overall programme and to operate in the Thames Valley.

Each regional chairman (from the areas identified above) relied a great deal on going back to enterprises and training providers involved in Phase III and located in their geographical area.

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Approaches were made to 457 organisations across six market sectors and a number of support and training groups. The breakdown is as follows:

<u>Sector</u>	<u>Less Than 60 Employees</u>	<u>50-200 Employees</u>	<u>More Than 200 Employees</u>	<u>Total</u>
Food	22	23	21	66
Manufacturing	25	24	17	66
Civil Engineering	24	25	18	67
Electronics	30	20	16	66
Banking	23	22	21	66
Retail	22	21	17	60
Business Support Organisations				20
Others				21
Training				25
<b>TOTAL</b>	<b>146</b>	<b>135</b>	<b>110</b>	<b>457</b>

### 5.3 FINDINGS

Findings against each of the issues are contained in the Phase IV Synthesis Report - July 1992. It includes a summary of key issues and associated examples of good practice. In addition, a complete register showing over 300 examples of good practice was developed.

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**6.0 PHASE V**

**6.1 OBJECTIVE**

The challenge now was to try and ensure that these examples were migrated to as wide a range of enterprises and training providers as possible. It was also necessary to understand the implications of transferring between Member States, market sectors and enterprise sizes. In addition, there was a need to instil, through catalytic action, positive thinking among enterprises and an awareness of the opportunities that existed through sharing information.

**6.2 METHODOLOGY**

Four regions were selected for the operation - all involved in Phase III of the project:

- Weser-Ems (Germany)
- Western Greece
- Central Region Portugal
- Thames Valley (United Kingdom)

Regionally based guidance committees were established and were made up of three people from the business world and one training provider drawn evenly from all four Member States and representing the various market sectors involved in Phase III, so that each committee had representatives from all the other regions involved.

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Each committee was tasked with taking the International Register of Examples of Good Practice to 75 enterprises in their area of operation and seeking their co-operation in implementing in their organisation part or all of one or more examples. There is a target for each committee to have 15 enterprises involved in implementing examples.

**6.3 FINDINGS**

This phase is due to be completed in November 1994. Detailed results from other regions are not available at this time, although informal input shows the phase proceeding well. In the Thames Valley the situation is excellent. At the time of writing this summary 21 enterprises are actively involved in implementation and a further 5 at least will do so. There are a number of examples where enterprises at first glance saw nothing new in the examples but on closer examination they inspired new ideas which were being developed. There has been universal support and endorsement from industry for this action, which is seen by them as a positive and direct way for transnational co-operation and support for both industry and training.

**7.0 PHASE VI**

The status of the Skills Project is as follows:

- Networks at both UETP level and industry level have been established and work extremely well.
- Clear evidence of examples of good practice has been documented.

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**1990 - 1994**

- Considerable momentum has been generated.
- There is a very high level of goodwill and willingness to participate by industry.
- A successful two-way communication channel has been opened between industry/training and the Commission allowing for more informed input to strategic and tactical thinking.

However, a number of elements need to be addressed:

- Expansion of the model to as wide a range of regions/Member States as finances will allow.
- Further examination of existing enterprises involved in testing examples.
- Expansion within existing regions to enterprises not yet involved.
- To maintain the momentum to ensure that skills related matters under Leonardo can be carried forward from a vibrant and active base.

**OREF**  
**Pays de la Loire**

**TRANSNET**  
**Report**  
**Employment/Training Observatories**

**Cumberland Lodge - April 27 1995**

**Arnaud du CREST**  
**Directeur**

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## **Employment / Training Observatories**

- 1. distinction between data collection and decision making authorities**
- 2. participation in the processing of information**
- 3. do it or have it done ?**
- 4. to analyse the activity of a territory**
- 5. no prediction !**
- 6. How efficient is an observatory ?**

**examples :**

**Observatori ocupacio formacio , (Valencia, S)**  
**OREF, Nantes, (Pays de la Loire, F)**  
**RTW Magdeburg (Saxe Anhalt, G)**

## Employment/Training Observatories

This document addresses a few basic questions regarding the creation of OREFs (Regional Employment/Training Observatories), questions derived from the concerted analysis carried out by the Transnet<sup>(1)</sup> working group. The report then presents 3 examples of Observatories in Valencia, Magdeburg and Pays de la Loire.

### 1 Distinction between data collection and decision-making authorities :

Over the past few years, observatories have sprung up in various socio-economic areas: observatories for housing, transportation, health, economic conditions..., and more recently for employment and training.

The creation of these observatories seems to respond to the necessity, arising from an increasingly complex society, to dissociate the collection and processing of information from the decision-making processes. It is no longer possible for ministries or trade institutions to ensure alone both of these tasks. This observation is based on the following two facts:

**- a true representation of reality requires multiple angles of perspective.**

This is a well-known fact in the representation of objects: in order to visualize a cube, you must walk around and look at it from different angles. This applies as well to economic and social data. Thus two types of observatory co-exist: those who carry out the studies themselves (and operate as consulting firms) and those who collect data and sometimes assist their members in conducting the studies (networks).

**- credibility of the information, or more specifically its acceptance, is improved if the information provider is not directly connected to the information processor.**

The number of unemployed calculated by a statistical institute is more credible for the public at large than the figures calculated by the Ministry of Labour. In addition, two types of provider/processor connection exist, either operational (direct link, if not hierarchical), or functional (indirect link).

The table below illustrates 3 regional examples of this typology.

Type of information provider/processor connection	Consulting Firm	Network
operational	Valencia (S)	
functional	Magdeburg (G)	Nantes (F)

<sup>(1)</sup> Experimental programme of regional experience exchange relative to skills needs (skills shortage), carried out in 1994 by the Human Resources EU Task Force. Report drafted by Arnaud du Crest (OREF Pays de la Loire).



## **2 Participation in the processing of information :**

Observation is a process of social transformation. The beneficiaries of the information, who are also the producers of a part of this information, can only accept, validate and hence use the collective information if they are closely involved in its processing. Two examples:

- pooling several surveys on youth entry on the job market raises the problem of defining "entry on the job market". A working group is set up to define jointly what is meant by "entry on the job market". The use of a definition external to the group would be meaningless.

- compilation of a regional data base on training and employment must be validated step by step by the main information providers who will subsequently participate in the presentation of this data base during training sessions.

Networking relies on two prerequisites.

First, that the network members are able to provide data or analyses, and consequently that they are in position to do so over the same geographic area as the Observatory's.

Secondly, that the institutions involved are securely established and acknowledged as independent, and sufficiently so not to fear any manipulation or abuse.

It has been observed that this type of organization is more difficult to find in southern Europe (Italy, Spain, Greece) than in central or northern Europe (Denmark, Netherlands, France). Thus in Greece, all statistical data are centralized, which fails to allow for any regional consultation. In France, the functioning of the partnership between State and Regional Council varies according to the political and institutional evolutions (decentralization).

## **3 Do it or have it done?**

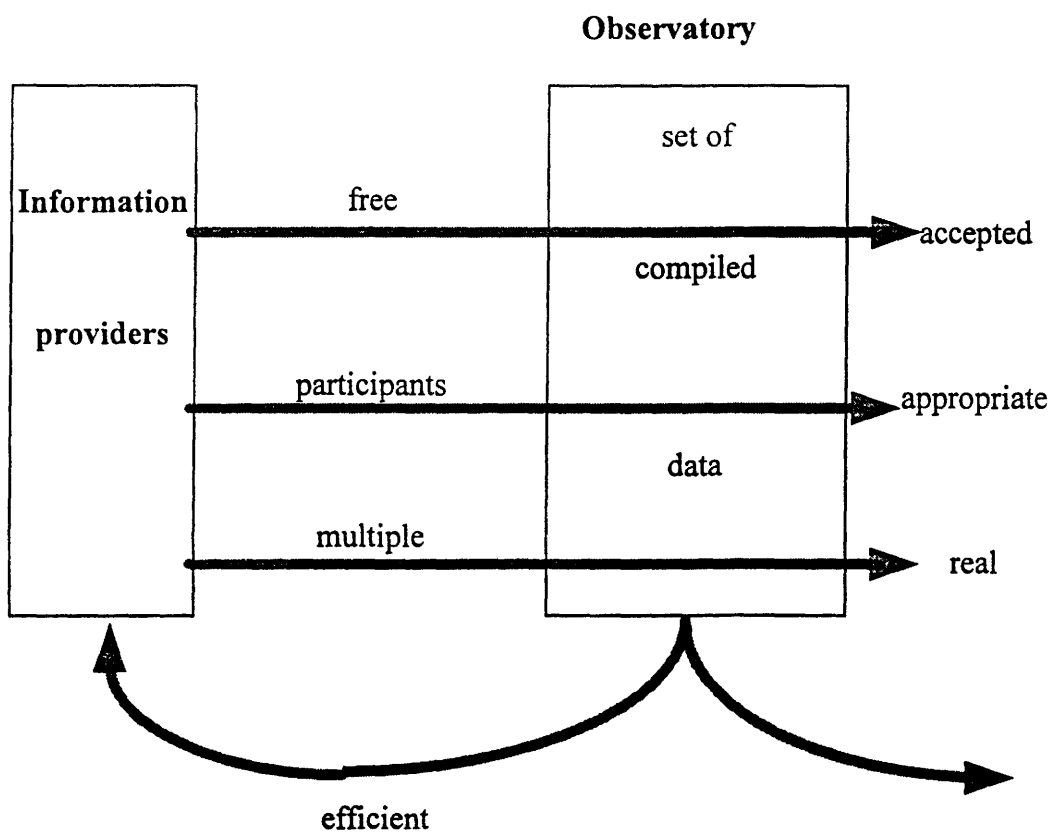
Some OREF observatories carry out studies themselves on behalf of regional decision-makers (e.g. Valencia in Spain and RTW in Magdeburg). They analyze "skills needs" via questionnaire surveys, the Delphi method or round table consultation... They then produce studies on the evolution of work stations, demographics or new technologies.

Others develop tools for use by the regional players, without however producing any studies themselves (OREF of Pays de la Loire, France): e.g. directory of regional studies, local institutions working on employment and training, computerized data bases, methodological guides. This keeps the network alive and going, considering that carrying out studies implies a specific strategy of internal development to the detriment of the network's growth. The observatory therefore has an educational function as well as a function of transfer of methodology, both vertical - methods external to the regional partners, e.g. introduction of a data base programme originating from another region - and horizontal - transfer of knowledge among partners. As an example, between educational and training partners: "I teach you the analysis of balanced workforce between training levels, and you teach me how to analyze hiring flows".

#### 4 To analyse the activity of a territory :

The Regional Observatory is a tool of common and general interest, in the sense of the activity of a territory rather than of the territory of an activity. Accordingly, in the case of a network, it consists of general-purpose institutions: administrations, chambers of commerce or trades, labour and management representatives, research centres... The connection with professional branches is a relationship of work, collection, processing and utilization of data, rather than of policy-making.

An information strategy cannot be conceived by merely summing up interests which are inherently sectorial.



## **5 No prediction !**

The purpose of the Observatory is to provide analytical tools and methods. Which precludes for instance any research on a (mythical) balance between the demand (of employment) and the supply (of training). Accordingly, the Observatory provides tools for prospective studies (i.e. to describe the scope of possibilities).

For our purposes, a distinction must be made between prospective (scope of operation of an OREF), planning (ensuring the consistency of public policies) and programming (multi-annual action plan), the latter two being out of the OREF's range of action. We chose furthermore not to use the term of "prediction", in view of its pernicious effects in the field of employment/training as demonstrated by numerous studies.

The Observatory should not be regarded either as a short-term management tool, since it has no effect on the current situation.

## **6 How efficient is an Observatory?**

The efficiency of an Observatory is dual.

On one hand, the information circulates freely between institutions in the Region. Any stagnant information which fails to circulate within a given area, not for lack of willingness but for lack of questioning, must be freed.

In addition to a common culture, this also requires sharing the concepts applied and the knowledge of their potential effects on the institutions.

Secondly, this information should serve as a support to actions (implementation of actions benefitting employment) or to decisions (planning of training programmes).

Observation modifies reality. This is true in physics and just as true in the field of employment and training. Try publishing the rate of entry in the job market corresponding to a given diploma fallen into disfavor, and you will soon find that the following year students are orienting themselves towards other educational channels.

Nevertheless, the information received is not unequivocal: each one can interpret it in his/her own way. As an example, supplying a number of annual trainees twice as high as the hiring flow for the concerned activity/training channel, can give rise to two types of interpretation: either too many people are trained, or this surplus of trained persons promotes the fluidity of the system. Information receivers are active, and this is indeed the very condition for information to be effective (i.e. to have an effect).

Information should not be published for any specific intended purpose. In any complex system, any type of network, the goal targeted by an action quickly escapes beyond the author's control, under the influence of the various components in the system.

### 7 Three types of Observatory

No example exists which could be transposable as such. The three examples presented here present the interest of illustrating three types of characteristic profiles. Neither one undoubtedly could be qualified as "exemplary".

	<i>Observatori ocupacio formacio Valencia, (S)</i>	<i>OREF Nantes Pays de la Loire, (F)</i>	<i>RTW Magdeburg Saxe Anhalt (G)</i>
STRUCTURE	Ministry of Labour	Network	Autonomous
PRODUCTIONS	<ul style="list-style-type: none"> <li>• Prediction</li> <li>• Status by sector</li> <li>• Studies partly subcontracted</li> </ul>	<ul style="list-style-type: none"> <li>• Data bases</li> <li>• working groups</li> <li>• Consulting</li> </ul>	<ul style="list-style-type: none"> <li>• Economic analysis by sectors</li> <li>• Training needs</li> </ul>
STAFF	17	2	6
ADMINISTRATIVE AUTHORITY	<ul style="list-style-type: none"> <li>• Regional government</li> <li>• Work Council</li> <li>• Administration of professional training and social integration</li> </ul>	<ul style="list-style-type: none"> <li>• Ministry of work (national level)</li> <li>• Regional Council (Department of Training)</li> </ul>	<ul style="list-style-type: none"> <li>• Regional government</li> </ul>

# OREF

## Pays de la Loire

### Presentation of OREF's activity

The OREF Observatory is a regional network created by the State and the Regional Council in January 1993, to work in the field of employment and training. It combines several regional administrations as well as labour and management representatives, who contribute together to the operation of the Observatory.

The OREF is involved at three levels:

#### 1. Construction of tools

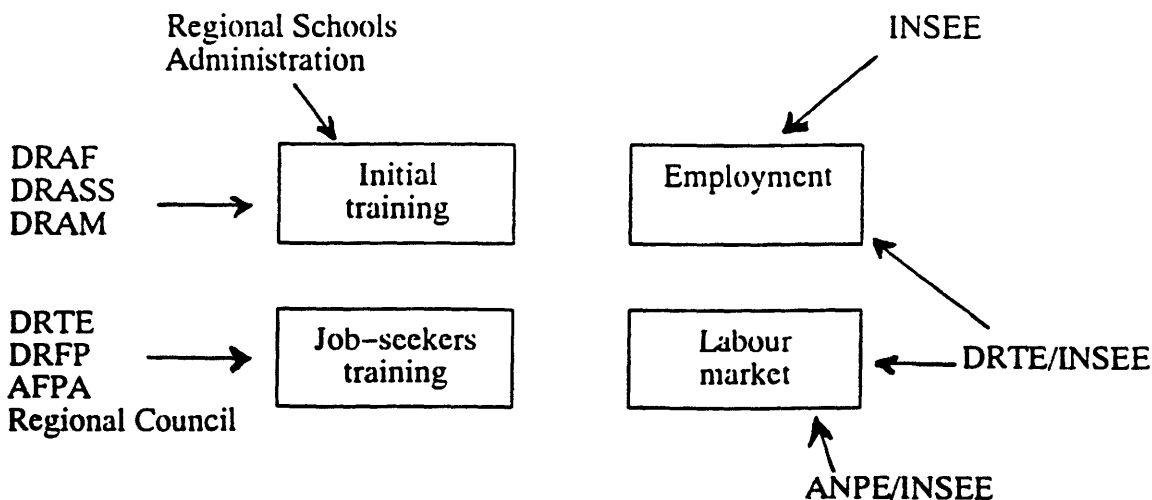
The tools developed share two common features: they cover both the field of employment and the field of training, and they are developed by working group within the OREF.

To identify partners and local players: a directory listing local institutions working on employment and training (nearly one hundred). Document published in April 1993.

To inventory the studies carried out in the Region (over 50 between 1990 and 1993): a directory of regional studies. Published in February 1994 and updated annually.

To collect statistics on employment: two computerized data bases on employment, initial and in-service training, unemployment, according to the type of training (ARGOS base, published in September 1994) or to the geographic area (FIDEL base in cooperation with the INSEE, to be published in late 94).

#### Flowchart of the ARGOS data base



## **2. A network of regional coordination**

The OREF constitutes a meeting place propitious to initiate transversal concerted analysis in the fields of employment and training.

A package entitled "15 questions on employment and training" presents the major common questions and provides elements of information on the regional situation.

A working group is currently analyzing a series of local studies in order to define a methodological framework for this type of study. A second group is working on methods designed to monitor entries on the job market.

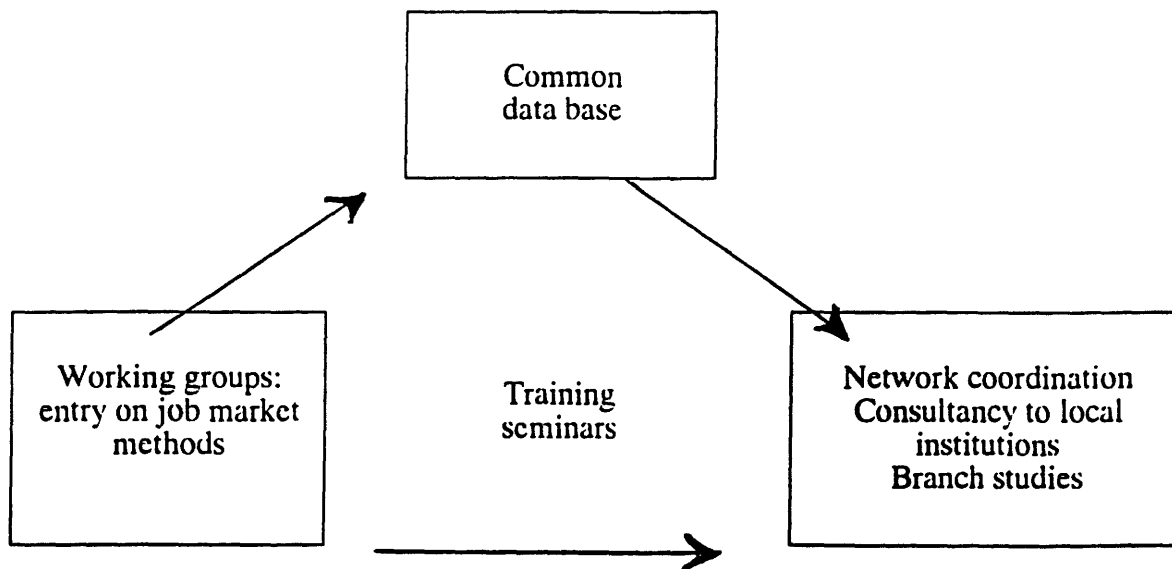
Technical or training seminars are organized three or four times yearly.

## **3. Technical support**

The OREF provides technical support (on employment/training data) or methodological assistance in various areas:

- development of the Regional Training Master Plan and of the Youth Training Plan.
- studies of local institutions.
- a European programme on skills needs analysis
- branch studies,

It is also involved in regional training programmes.



#### 4. A hybrid network

These actions are implemented according to a principle of cross-fertilization of the various fields. The "15 questions" package was prepared by ten authors from the fields of initial and in-service training, employment and labour. Likewise, the ARGOS files were compiled from information originating from 13 different institutions.

Yet the products born from cross-breeding generally cannot reproduce on their own. Accordingly, the role of the OREF staff (2 persons) is to establish contacts and provide for the right conditions for the reproduction of the network created.

This cross-fertilization takes place in three locations: the Bureau and the Steering Committee for orientation policies, the Technical Committee and the Working Groups for their implementation. These entities are autonomous to the extent that they are in the service of each and every member institution of the network, but not to any particular more than the others. A total of over forty persons participated in 1993 in one or several of the operations.

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Chairman: Marcel Albert (Regional Council)

Vice-Chairman: Joseph Salvi (Regional Director of Labour & Employment)

Director: Arnaud du Crest

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DRAF: Regional Administration of Agriculture  
DRASS: Regional Administration of Health and Social Affairs  
DRAM: Regional Administration of Maritime Affairs  
DRTE: Regional Administration of Labour and Employment  
DRFP: Regional Administration of Vocational Training  
AFPA: National Association for Adult Vocational Education  
ANPE: National Employment Agency  
INSEE: National Institute of Statistics and Economic Research

**FLOCHART of OREF OPERATION**

