

# Training in Europe

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in Europe 2000: background report  
Volume 1

Pascaline Descy, Manfred Tessaring (eds.)

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**Original language version**

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## Preface

Research on vocational education and training (VET) strives to produce reliable information and knowledge on the processes, influences on and impact of training in social and economic fields. It is a pre-condition for appropriate policy-making. The central objectives of VET research are to:

- analyse the needs, processes and strategies for acquiring and updating competences;
- shed light on the relations between actors at various levels, with different interests and time-scales in a system of lifelong and lifewide learning;
- discuss approaches and problems related to the assessment, recognition and social valuation of skills and competences – acquired by formal and non-formal learning;
- elucidate the links between training, labour market and social systems which touch upon legal and institutional frameworks and social, economic, technological, cultural and demographic developments;
- point out the relevance of learning, training, skills and competences for the emerging 'knowledge, information, learning or service society', for social cohesion, citizenship and economic and individual performance;
- assist the various actors in VET in their search for options, in making informed decisions and in following up or assessing policies.

Vocational training is not one-dimensional or a single discipline. It involves economics, sociology, pedagogy and educational science, psychology, technology, demography, etc. A comparative overview of VET research is hampered by the fact that systems and organisation of VET and labour markets are different across countries, due to different traditions, norms and values. Research carried out in other countries is not always transparent because of language problems, lack of knowledge and appropriate tools for exchange of information (e.g. networks). Last but not least, although many problems and challenges are similar in European countries, solutions

proposed by research vary greatly due to different views, theories, approaches and methods.

With this report, Cedefop continues the reporting system started in 1998 with the publication of the first report on VET research in Europe.<sup>1</sup> These reports aim to provide comprehensive and up-to-date information on key issues of VET, the main theoretical and conceptual approaches and empirical findings of research in different countries and disciplines. Furthermore, they attempt to draw conclusions and propose recommendations for researchers and decision-makers. We are confident that the reports will contribute to an improved cooperation both within the research community in different countries and disciplines and between researchers, policy-makers, practitioners and a wider public.

This second research report on vocational training builds upon the first report. Some topics have been deepened or updated with new research findings; some new issues have been added to reflect current debates. This background report contains original contributions by researchers from various disciplines of VET research. It is the basis for the synthesis report to be published separately by Cedefop<sup>2</sup>.

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1) The research reports contain a background report with original contributions of VET researchers on various aspects, and a synthesis report, elaborated by Cedefop.

Background report: Cedefop, ed., 1998. *Vocational education and training – the European research field. Background report 1998* (2 volumes). Cedefop reference document. Luxembourg: EUR-OP.

Synthesis report: Tessaring M., 1998. *Training for a changing society. A report on current vocational education and training research in Europe 1998* (2nd ed.: 1999). Cedefop reference document. Luxembourg: EUR-OP (also available in German, French and Spanish).

2) Descy P., Tessaring M., 2000. *Training and learning for competence. Second report on current vocational training research in Europe 2000*. Cedefop reference document. Luxembourg: EUR-OP, forthcoming (also available in German, French and Spanish).

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Publication of this report would not have been possible without the active participation of experts in different fields of VET research. We would like to express our thanks to all of them, and also to all those colleagues who undertook the strenuous work of translating and editing this publication. We owe particular gratitude to Ms Herpin who did an excellent job in organising this project.

The active participation and valuable comments and support from experts and partners within and outside Cedefop, from the European Commission and Cedefop's Management Board is greatly appreciated.

The contributions to this background report cover six main fields:

1. VET systems, coordination with the labour market and steering;
2. lifelong learning: challenges and reforms;
3. training and employment in a company perspective;
4. employment, economic performance and skill mismatch;
5. individual performance, transition to active life and social exclusion;
6. research activities in non-EU countries.

The first part discusses issues of steering, financing and coordination and contains six contributions.

*L. Lassnigg* discusses the profiles of 'VET professionals' – teachers and trainers, policy-makers, social partners, practitioners and associations and others. His focus is on: (a) alternative means of steering and coordination beyond the traditional market-bureaucracy dichotomy; (b) the professional model of the higher education system; (c) the network model of the new types of company organisation; (d) the corporate model of industrial relations.

*A. Green et al.* provide an overview and analysis of current funding arrangements for VET

in seven European Member States. He discusses in particular the financing of initial training, continuing training and training of the unemployed.

*J. Lasonen and S. Manning* proceed to a comparative investigation of European strategies to improve the standing of VET against general education. These strategies aim to improve training systems and the recognition of vocational skills within the labour market.

*A. Bouder et al.* study various aspects of the role certification systems can play, in a broad sense, in the very different ways in which skills are recognised in enterprises or in the labour market.

*J. Bjørnåvold* discusses the theoretical basis and European initiatives to identify, assess and recognise non-formal learning. He proposes a cluster according to contextual characteristics and reviews the approaches chosen by different countries and the European Commission.

*M. Brugia and A. de Blignières* analyse several dimensions influencing the evolution of the profile of teachers and trainers in Europe based on discussions held in the Teachers and Trainers network (TTnet).

The second part consists of four contributions dealing with the challenges and reforms imposed on VET systems by new professional profiles and the implementation of a lifelong learning strategy.

*M. Ní Cheallaigh* provides a comprehensive overview of the central elements of current lifelong learning strategies in EU countries which signify a shift towards a new paradigm compared to the strategies prevalent in the 1970s.

*J. Onstenk* discusses the needs and prospects of curricular redesign and didactic innovations of VET as a response to changes of job profiles and skill requirements. This refers to new skills needs, developments in the labour market and the responsiveness of VET systems.

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*P. Dehnbostel and G. Dybowski* identify strategies implemented in a number of countries concerning increasing flexibilisation, differentiation and individualisation of training paths. The authors discuss principles of linking learning and work at enterprise level.

*R. Loos* provides a review of VET practices in the environment field, comparing five EU Member States through case studies.

The third part is dedicated to training and employment aspects at company level and is composed of six contributions.

*J. Dejonckheere and G. Van Hootehem* analyse globalisation, division of labour and training needs. They criticise overoptimistic views of the replacement of old production and organisation concepts with new ones.

*S. Hanchane* (with the collaboration of *P. Méhaut*) debates the role of training within external, internal and occupational labour markets. He touches upon strategies of enterprises and individuals concerning the formation and accumulation of human capital.

*P. Trouvé et al.* present a comprehensive overview of the main driving forces of employment and training strategies of small and medium-sized enterprises in several European countries. The paper illustrates the complexity and at the same time diversity of this field of VET research.

*B. Nyhan* analyses human resource development policies in a European context by looking at strategies for building a socially sustainable industrial/working life society in Europe.

*S. A. Westphalen* discusses the objectives and trends of human capital reporting at enterprise level and the implications for measuring and developing human resources.

*M. Bellman* presents methodological considerations and empirical studies based on company and enterprise surveys which demonstrate the potential of this research for vocational training, in particular when matched with employee surveys.

In the fourth part, four contributions are dedicated to employment, economic performance and skill mismatch.

*J. Planas et al.* deal with the dynamics of the supply of and the demand for skills in the labour market. They plead for a change in perspective, taking formal qualifications as well as other competences into account in labour markets.

*J. Bollens* discusses the relationship between unemployment and skills in a dynamic perspective. He opposes two theories explaining the persistence of unemployment in Europe: skill mismatch and incidence of long-term unemployment and the different policy measures related to these.

*F. Büchel* discusses overqualification and analyses two central aspects of overqualification research: the reasons why people are employed in jobs which require lower skills as well as the problems of finding valid measures for analysing such a situation.

*R. Wilson* reviews work on demand and supply forecasts by sectors, occupations and qualifications at national, regional and enterprise levels. He discusses the pros and cons of forecasts and alternative 'qualitative' approaches.

Section five deals with individual performance, transitions to work and social exclusion.

*F. Pfeiffer* reviews research on the determinants of participation in training and on the impact of training on individual performance, such as wages, unemployment, productivity and mobility.

*D. Hannan et al.* present a comparative empirical study on school-to-work transitions in several European countries. Discussed are the main approaches, databases and some initial results of research projects carried out within EU research programmes.

In addition, *D. Hannan and P. Werquin* proceed to a summary of comparative European research on school-to-work transition with particular attention to issues funded under

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the TSER programme. They discuss findings concerning education and labour market change and the dynamics of education to work transition in Europe.

*J. Vranken and M. Frans* analyse selection and social exclusion mechanisms as well as training offers for target groups. Exclusion from training programmes is approached from different points of view: institutional, economic, cultural, psychological and political.

*J. Brandsma* discusses training and employment perspectives for lower qualified people and presents the results of a research project on the effectiveness of training programmes for the long-term unemployed.

Part six is dedicated to a presentation of VET research outside the European Union.

*O. Strietska-Ilina* presents an overview of the state of affairs in VET research in 11 countries of central and eastern Europe and attempts to analyse the responsiveness of VET research to the major socio-economic challenges occurring in the process of transition in these countries.

*U. Lauterbach et al.* provide an overview of VET research in selected non-EU countries (Australia, the US, Canada, three South American countries, Japan, the Peoples Republic of China, the Russian Federation, Turkey and Switzerland. They indicate the main

institutions and activities of VET research including that carried out by international associations and organisations.

Finally, it appeared essential to conclude this report with a presentation of selected research projects supported by the European Commission within the Targeted Socio-Economic Research programme (TSER) and the first generation of the Leonardo da Vinci programme. Synopses of projects relevant to the themes treated in this report are presented.

Concluding the presentation of EU commissioned research, *L. Van den Brande* outlines the 1998-2002 key action on: 'Improving the socio-economic knowledge base'.

The broad field of research in VET in Europe is by no means exhausted in this report. But it is hoped that the review of current research on a number of issues relevant to vocational training will contribute to enhance transparency and cooperation between all actors involved – researchers, policy-makers and practitioners –, to stimulate debate and facilitate decision-making on practical measures.

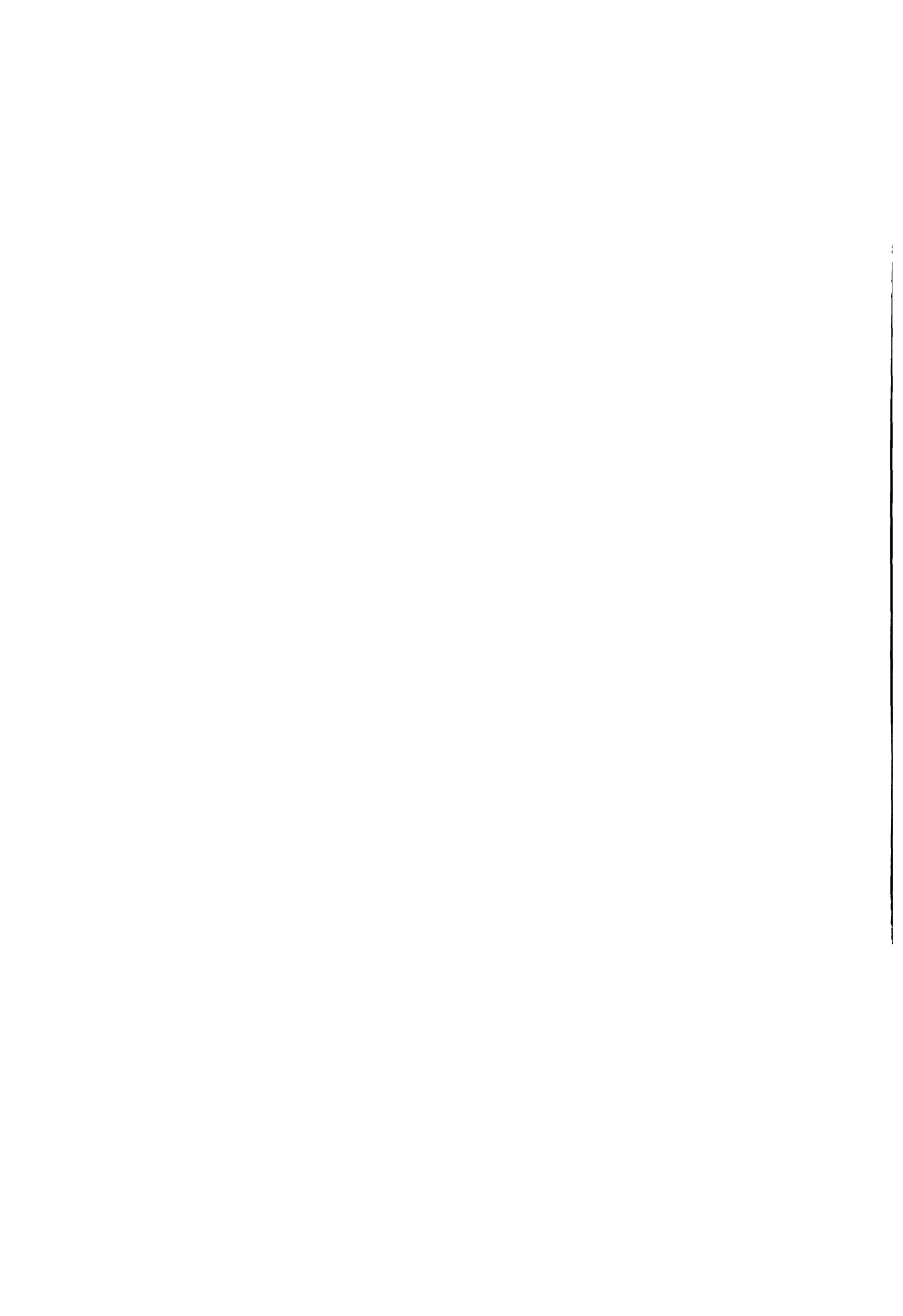
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**Part one:**

**VET systems,  
coordination with the labour market  
and steering**





# Steering, networking, and profiles of professionals in vocational education and training (VET)

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**Lorenz Lassnigg**

## **Abstract**

*This report studies the different profiles of professionals in vocational training systems ('VET professionals') in terms of their relations with the steering and coordination mechanisms within these systems. The 'new institutionalism' approaches in organisational theory on coordination between players and units in social fields provide the theoretical background. Vocational training is perceived as a complex area in which various types of players at both individual (pupils, parents, teachers, employers, etc.) and organisational level (schools, training providers, companies, political organisations and interest groups, state bureaucracies, etc.) must coordinate in order to make useful headway. The focus is on alternative means of steering and coordination beyond the traditional market-bureaucracy dichotomy, the professional model of the higher education system, or the network model of the new types of company organisation, or the corporate model of industrial relations.*

*The first section deals with conceptual aspects, developing in particular a general framework for coordinating training and employment. In the second section the concepts of innovation research and learning organisations are pieced into this framework. In the third section the link is created between coordination and steering mechanisms and the professional categories in vocational training. In the fourth section political approaches and steering and coordination strategies are discussed in terms of the general framework. In the fifth section some conclusions are drawn, which also take account of the problems of comparative and cooperative research for policy learning and policy borrowing.*

*The general conclusions are as follows: coordination mechanisms should be shaped on the basis of an analysis of the existing structures, the main flaws and shortcomings should be identified, and concrete solutions be found to overcome them; available structures should be viewed as a complex system of relations between various types of players, many of whom can be identified as 'VET professionals'; to a certain extent the way in which the coordination system works reflects the type of division of labour amongst these categories of 'VET professionals'; the skills and cooperation of the 'VET professionals' should be drawn on in order to develop coordination and steering strategies, which should take particular account of the role of teachers and trainers as core professionals; in this sense the identification and further development of new forms of division of labour amongst these professional forces and the creation of adequate structures for professional development are important elements of innovative coordination policy. Policy learning and policy borrowing processes in the European and international field are facilitated by splitting the coordination system and steering strategies up into multiple elements, and by analysing their systemic interplay.*

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## Introduction

This report studies the different profiles of professionals in vocational training systems ('VET professionals') in terms of their relations with the steering and coordination mechanisms within these systems. The 'new institutionalism' approaches in organisational theory on coordination between players and units in social fields provide the theoretical background. Vocational training is perceived as a complex area in which various types of players at both individual (pupils, parents, teachers, employers, etc.) and organisational level (schools, training providers, companies, political organisations and interest groups, state bureaucracies, etc.) must coordinate in order to make useful headway.

Some research has been done, and even more political attempts made to gain more insight into these coordination processes and to work out new models. This usually centres on the market-bureaucracy dichotomy, with other coordination mechanisms being taken less seriously. The professional model of the higher education system or the network model of the new types of company organisation, or the corporate model of industrial relations can be seen as alternative coordination mechanisms.

More recent European proposals from the field of vocational training policy, as well as proposals from other international organisations (e.g. UNESCO) use the network metaphor as a way of improving coordination in vocational training. It is hoped that by creating informal or even more highly formalised network links between the various players, rigid hierarchical relations can be loosened up more flexibly than would be the case with a major reform to the system. The role of the social partners within this strategy is also highly rated as an element for improving coordination and steering, particularly through the involvement of the employer's side. This also comprehends the coordination mechanism of the association and the way how it relates to the network model.

Such political proposals on new forms of organisation besides the two traditional forms of market and bureaucracy tend, however, to

be rooted more in practical, 'voluntaristic' considerations rather than building on a theoretical basis supported by research.<sup>1</sup> The question arises as to whether such strategies, which may appear highly idiosyncratic given the variety of different structures of vocational training, can actually be fitted in a general theory-based framework which can also serve as a basis for *policy learning*.

The alternative models of steering and coordination – professional oligarchy, networks, associations – focus attention on the players involved, their scope for decision-making and action, their strategies and strategic options, and on factors which influence decision-making processes. The bureaucratic model only considers regulation from the centre and through the formal channels of the decision-making process resulting from this authority. The market model only takes account of players at individual level, and decisions which influence the logic of monetary exchange. The alternative models take into consideration many additional elements, but in so doing also greatly complicate the issue.

The argument will be developed along the following lines:

1. The first section deals with matters of concept, in particular developing a general framework for coordinating training and employment.
2. In the second section the concepts of innovation research and learning organisations are integrated into this framework.
3. In the third section a link is created between coordination and steering mechanisms and the professional categories in vocational training.

<sup>1</sup> Quite some controversy still rages today over development trends in the relationship between education and employment. In a recent international study on the development of qualification systems in the global economy, David Ashton and Francis Green have demonstrated very clearly that 'despite an increasing effort on the part of empirical researchers, there remain enormous gaps in the knowledge of the magnitude of any links between skill formation and economic performance' (Ashton and Green 1996, p.2).

4. In the fourth section political approaches and steering and coordination strategies are discussed in terms of the general framework.
5. In the fifth section some conclusions are drawn, which also take account of the problems of comparative and cooperative research for policy learning and policy borrowing.

## **1. Regulation, coordination, steering and cooperation in VET systems – conceptual issues**

It is assumed that one of the essential roles in the steering of vocational training systems is to ensure that vocational training meets the needs of the employment system. This is no mean feat, since it implies that steering must not only take place within a system, but rather that it crosses system boundaries, with the result that internal steering of vocational training is at least influenced, if not determined to some extent by external demands.<sup>2</sup> In order to describe these problems more clearly, we will begin by making a conceptual analysis of the steering and coordination problem, covering the following main aspects:

- a tighter definition of the vocational training system according to its specific characteristics;
- the development of a general framework for defining the problem of coordination between education and employment beyond the state and the market;
- the main forms and dimensions of steering in vocational training (organisational steering mechanisms, structure of study courses, steering of the teaching-learning processes);
- steering tasks and strategies of reform.

<sup>2</sup> The notion of system is loosely and heuristically used to denote a set of elements which exist together within a systematic relationship (i.e. taking no account of the high theoretical load of system theory); it is assumed, however, that a certain degree of care is needed in creating system elements, system boundaries, etc.

### **1.1 Background: VET systems as an element of 'system building' and overall policy trends**

#### ***1.1.1 System building***

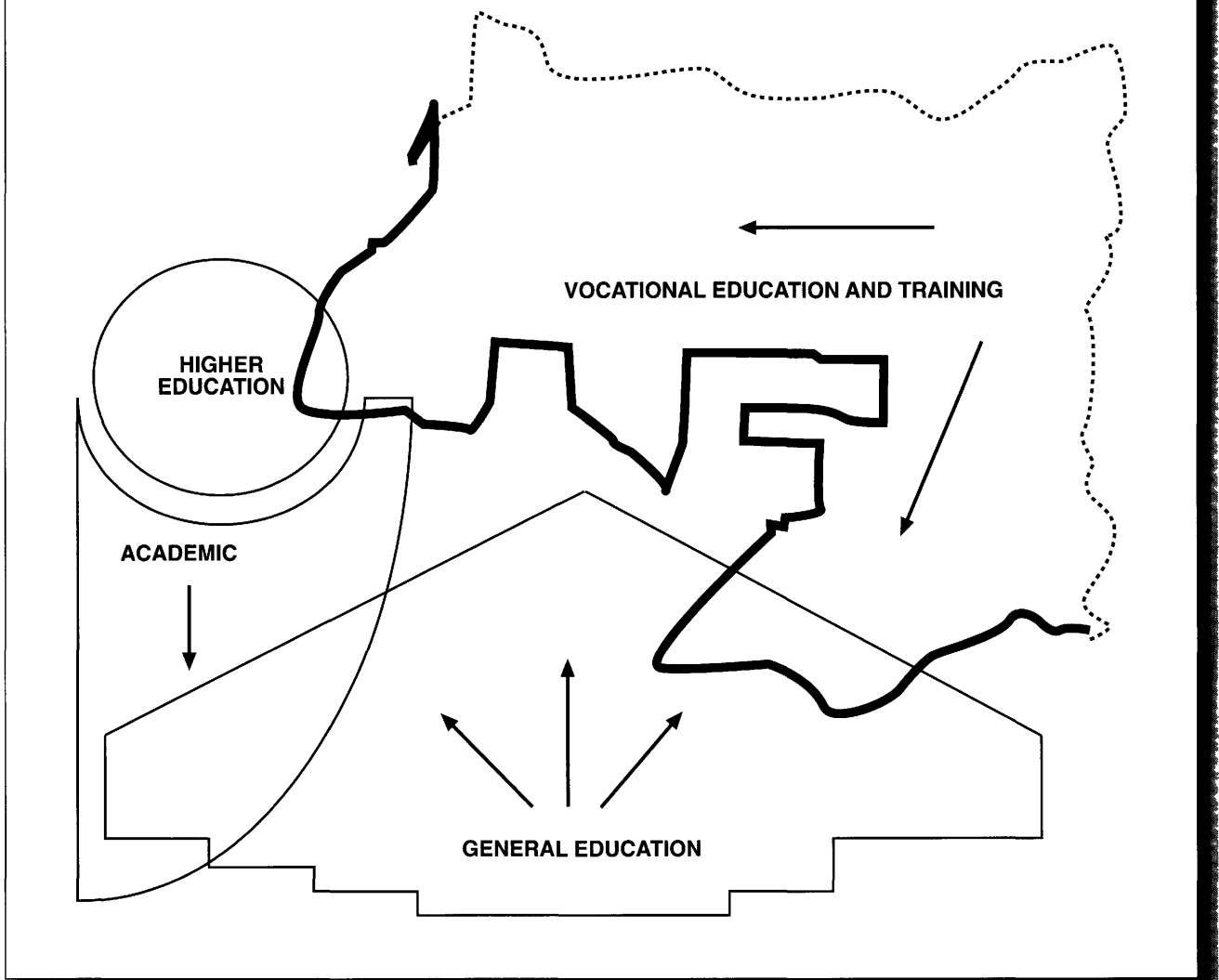
Nowadays the term 'training system' trips very easily off the tongue, as if it were some sort of clear-cut entity. The contemporary training system, however, should be seen as just one stage in a long-term historical process of system building. This system building can be seen in stylised form as the 'approximation' of three separate areas – compulsory general education, higher education and vocational training (this process is illustrated in Figure 1). From this perspective it is presumed that the different parts of the education system have special links with other different societal sub-systems, and different fundamental social functions are revealed<sup>3</sup>.

There is a special link between vocational training and the employment system, since at the outset vocational training was anchored within the employment system<sup>4</sup>. It was only with the progressive institutionalisation of the education system that it broke away and was coupled to the other branches of the education system (compulsory general education, higher education).

<sup>3</sup> These areas or sub-systems are dealt with in rather separate and distinct 'discussions' in accordance with the different links and task assignments: irrespective of the different formations of the respective education systems, higher education research and vocational training research are separate from general education research, and there is very little transfer between the two sides (cf. e.g. OECD 1995).

<sup>4</sup> The term 'employment system' is not exempt from problems either. It is used in analogy to the term 'employment' as meaning all those organisations in which employment (independent or not) occurs as an economic activity (as a contribution to GDP); the term is thus distinct from the term 'labour market', which denotes the idea of assignment in employment, as well as from the term 'occupational system', which denotes specific types of institutionalisation of employment, and in particular from the term 'work', which tends rather to denote the content and social side of a basic human activity.

Figure1: 'System building' of education and training systems (stylized)



This vision alters the understanding of the problem of coordination in many respects since

- ❑ the coordination tasks of vocational training work in both directions, both vis-à-vis the other spheres of the education system and vis-à-vis the employment system;
- ❑ coordination between vocational training and employment appears not as something to be created virtually 'from scratch', but rather as a recasting of practices which have always existed<sup>5</sup>; and
- ❑ the question concerning these previous practices is pushed to the fore, meaning that a suitable strategy for analysis must be found.

The variety of vocational training in Europe and the OECD area is much greater than in other areas of education, and comparative research is much less developed. It was only in the eighties that any major progress was

<sup>5</sup> This raises the issue of the fundamental 'alienness' of working and learning which has nowadays become a basic thesis in highly prominent educational policy discussions about the 'subordination' of education to the economy (cf. e.g. the criticism which the Council of Education Ministers levelled at the European Commission's White Paper on Education Policy, amongst others; Official Journal of the European Communities, 6.7.1996, C 195/2). The high degree of publicity given to this question can possibly be explained as biased perception as a result of an over-generalised Fordist-Taylorist influenced vision of employment.

made in this field of research<sup>6</sup>. One thing which the different systems do have in common is that the development of the various branches started from different points (cf. Schneider 1982; Boettcher et al. 1992):

- the predecessors of higher education, which constitute the first sector to be set up, and, quite closely related to them, foundation courses, which form the outset of today's academic secondary schools (or streams);
- compulsory general education systems, which evolved into the compulsory sector;
- and the various vocational training activities with apprenticeships representing a very important institution in history<sup>7</sup>.

The historical development which has led up to the contemporary education system starting in the seventeenth or eighteenth century can be seen as a process integrating the sectors evolving from the various starting points. Consequently, even today the flaws and tensions are still visible on the boundaries between these realms, which for so long existed parallel or largely separate from one another. The institutionalisation of education and its differentiation from other social activities came about in parallel with the system-building process. Two further aspects which are of importance to vocational training are the following:

1. The integration of elementary and higher education took place at an earlier stage, and the wave of educational reform in the sixties and seventies, which brought about the development of comprehensive systems

<sup>6</sup> UNESCO's initiatives were an important step in this direction (cf. Tippelt 1997); '...as yet no-one has carried out a comprehensive comparative study of the development of vocational training in industrially progressive countries' (Lauglo 1997, 113).

<sup>7</sup> Although the apprenticeship system continues to be an important part of the vocational education system in only a few countries today, it may be assumed that the principle of apprenticeships (learning on the job from a master craftsman) was much more widespread in the past.

and broader access to the higher education sector, can more or less be equated with the concluding point of this integration. Vocational training tended still to be a realm apart, and in the majority of countries it was not really an issue in the reforms<sup>8</sup>.

2. Vocational training should be envisaged from the outset as a combination of informal learning in the workplace, and formal activities in separate courses and organisations<sup>9</sup>. The separation or differentiation process means that activities in the workplace, or certain parts of them, were gradually transposed to special organisations<sup>10</sup>. Not only is this differentiation less advanced than in the other two branches, it also seems to have been developing in a contradictory manner over recent decades: in the sixties, with only the odd exception the clear trend within educational policy was still to keep vocational training separate from working life and integrate it into the formal education system – since the emergence of 'vocationalism', and even more so since the movement towards *Human Resource Development* (HRD) in the eighties, this trend has slackened off, or even been reversed. The links between work processes and learning processes are stressed in many new approaches and concepts, in particular in connection with models of the 'learning organisation'. It is possible that this trend will also spread to

<sup>8</sup> The discourses which related particularly to vocational training about 'manpower planning' in the sixties can be used as an example, although de facto they almost exclusively considered higher education and the problem of raising access barriers in this field (cf. e.g. Papadopoulos 1994).

<sup>9</sup> This combination appears de facto in all education processes, albeit to different degrees and with different significance. Compulsory general education for example can be seen as a combination of processes at home and at school, and must also take account of what is meant by 'socialisation'.

<sup>10</sup> This process of separating out parts of the education system can also be observed with a time lag in the countries of the Third World, and is also reflected in political discussions (cf. De Moura Castro and Cabral de Andrade 1997).

vocational training and to a greater emphasis on the reintegration of training in the activities of actually performing a job (see also part 2 of this report and the report by Dehnbostel/Dybowski in the previous volume).

### **1.1.2 Policy trends for coordination and steering**

This view of developments is of major importance for questions of policy, regulation and the steering of training systems. In terms of parts of society, vocational training has its own special position when compared with the other two sectors of the education system: vocational training was originally rooted in the employment system itself, whilst the other two fields are more closely tied to the public sector, with higher education establishments also being linked to the professions. Apprenticeships, which are often classed as 'traditional' or 'pre-modern', can thus be seen as a paradigmatic form of vocational training. Schools and institutes of higher education providing vocational training were also originally founded and run by the business sector in many countries<sup>11</sup>, whilst compulsory general education was an element in nation-shaping and the development of the modern nation-state. For this reason, the paradigm of the state-owned public system which dominates compulsory general education is not really applicable to vocational training, and even the state-market dichotomy as the predominant regulatory mechanism is not suited to vocational training.

Over recent years, however, the lion's share of discussions on training policy has centred on this alternative:

<sup>11</sup> Although they may not always have been founded directly by companies, it was nevertheless often the case that associations of companies in certain sectors had a considerable say in the founding of such schools. These vocational parts of the education system also often did not fall originally under the auspices of the education authorities, but rather were considered an aspect of trade and industry. This development can be regarded as a cooperative area of the education system.

- The initial stage, between the fifties and the mid-seventies, was characterised by attempts to develop better planning mechanisms within the state bureaucracy. This period of nationalisation and legalisation is characterised by the organisational control of the huge expansion in the education system, based on a high level of confidence in technocratic planning, and monitoring of the most important quantitative parameters of the education system (demography, pupil numbers, demand for training places, staying on and school-leaving rates, etc.).
- Following a period of uncertainty in the second half of the seventies, which was accompanied by all manner of criticism of the bureaucratic model and technocratic policy<sup>12</sup>, the strategy of deregulation became more widespread, as did the creation of market mechanisms within training systems ('quasi-markets'), and in most countries steps were also taken in this direction (Whitty et al. 1998).

This general seesawing between state and market was also reflected in the field of vocational training. In the planning age, for example, sharp criticism was levelled at the apprenticeship system, as being inadequate for the public interest, and there were all sorts of proposals for stricter regulation and nationalisation (cf. for Germany, e.g.: Deutscher Bildungsrat 1969; Kell 1997). During the ensuing period the state-market dichotomy is described as *the* 'crux of the international debate on how vocational training systems should be regulated' (Koch and Reuling 1998, p.3).

The conventional discussion about coordination of vocational training ties in with this – more so than compulsory general education, for example – because it obviously has to sat-

<sup>12</sup> Important aspects of this criticism are: Action research as an alternative to technocracy (Wagner 1990), Professionalisation as an alternative to bureaucracy (Deutscher Bildungsrat 1972), Ecological Strategies as participatory inclusion of the most important players concerned (Bronfenbrenner 1979).

isfy economic interests, whilst at the same time broader social and societal interests must be borne in mind. In this context, the limitations of market-based coordination have already been dealt with in great detail: on the one hand in terms of 'market failure' and the possibility of improving the market's allocatory role through public intervention, and on the other hand in terms of aspects which 'may not be easily generated through the market, even if the government intervenes with subsidies and information' (OECD 1996, p.165). These aspects of 'public good' were brought into the economic discussion by Musgrave (1959, p.44) as the qualitative elements of education, in terms of 'tolerance', 'integration' and 'cultural heritage'. Further aspects, which especially concern vocational training as a 'public good', are for example 'employability', 'transferability', or also the prospective provision of qualifications for future requirements (cf. European Commission 1996). Possibly the most essential aspect of coordination will be to strike a satisfactory and dynamic balance between these different and conflicting interests and objectives between 'market failure' and 'policy failure' (cf. also Booth and Snower 1996, Chapter 1).

Burton Clark's (1983) paradigmatic analysis of the higher education system can be used as an example of the extended view of coordination mechanisms. It drew a distinction between three fundamental mechanisms: bureaucracy, market and professional oligarchy, with existing systems being perceived as specific mixtures of these mechanisms. Two essential conclusions can be drawn from this:

1. firstly, the relationship between the state and the market is seen not as a dichotomy, but rather as a progressive gradation;
2. secondly, the analysis makes reference to other mechanisms beyond the state and market, sometimes appearing in various combinations with the former.

A more general investigation of coordination mechanisms is carried out under organisational theory, where there is a similar extension beyond the arsenal of the two traditional mechanisms of state and market, particularly towards networks and corporative associa-

tions. An important step in this theory is that the coordination of life in society is envisaged as a social dimension in its own right. Moreover, the 'other' mechanisms are no longer perceived as subordinate special cases or exceptions to the traditional 'main forms' of coordination, but are rather placed on an equal footing with them (cf. Powell 1991; Thompson 1991; Streeck and Schmitter 1991).

Closer consideration of some important aspects or developments in the political sphere can be of some help in clarifying the interplay between the various mechanisms:

- a) firstly the policy of the 'welfare state' and the bridging of the systems divided between education and employment through the creation of bureaucratic planning mechanisms;
- b) secondly, the types of vocational training systems and the special coordination in the apprenticeship system;
- c) thirdly, the beginnings of professionalisation as an alternative to bureaucracy;
- d) fourthly, systemic differentiation and the dynamics of reform;
- e) fifthly, the 'crisis in the welfare state', the market economy approach, and new ways of combining state and market;
- f) sixthly, the particularly complex nature of vocational training;
- g) seventhly, new approaches to coordination between the different components of the education system (compulsory general education, higher education and vocational training).

As has already been mentioned, the main political strategy of the fifties and sixties, which also led to greater formalisation of the education system, can be summed up by the terms 'legalisation' and 'nationalisation'. The extension of rational planning within the state bureaucracy was seen as the most important development strategy. To a certain extent education was seen as a part of the welfare state, with the duty of guaranteeing the right to education, a policy which was supported both by the public as well as by most



of the players involved (cf. Widmaier 1981; OECD 1981). As the influence of ideas about the economic and social structural change towards the tertiary sector, and the contribution of technology and the 'human factor' to economic development grew, the planning paradigm was also extended to the links between education and employment. The '*manpower planning*' concept became an important strategic element in education policy, and one of the most important objectives of the OECD's strategy at this time was to set up planning bodies or departments within Member States' education administrations (Papadopoulos 1994; Hinchcliffe 1987). Since there was little confidence in the market, attempts were made to extend state bureaucracy into the labour market using the planning paradigm. This perspective soon proved inadequate, however.

One important reason why this perspective was far too abstract and idealised was that the vocational training system could only be steered by state bureaucracy up to a certain point. Even if the setting up of planning bodies had proved successful, they would not have held sufficient sway over vocational training. The OECD classification (OECD 1989, p.8)<sup>13</sup> of post-compulsory systems distinguishes between three types of systems:

1. school systems, which also include vocational training (e.g. the Scandinavian system);
2. systems based on apprenticeship (e.g. Germany, Austria and German-speaking Switzerland);

<sup>13</sup> A new typology was developed for worldwide use by the ILO (1998, pp. 69-82), which takes account of vocational training more closely: three basic types are distinguished: firstly, '*Cooperative Systems*' which correspond to apprenticeship training; secondly '*Enterprise-based systems*' including the Japanese system and a type of the 'voluntarist system' with the United Kingdom as an example; and thirdly '*State-driven Systems*' in which the distinction is once again drawn between a demand-oriented and a supply-oriented system. This typology does not however extend to the relationship between vocational training and general education.

3. and mixed systems, which sometimes have a very high, sometimes a very low vocational training content (e.g. the United Kingdom, the Netherlands and France).

From the point of view of coordination and steering mechanisms, the apprenticeship system constitutes a case apart, which can be seen as a paradigm for vocational training. General political discussions often see this model as being predominantly market coordinated. But this structure is really determined by a complicated combination of mechanisms. Firstly, this combination includes the market (particularly for the assignment of training places and applications), then the state bureaucracy (for the rather marked regulation of framework conditions and for part-time schooling for apprentices), and thirdly a mixture of additional mechanisms, which are less obvious: corporate self-regulation by interest groups (employers and trade unions) is an essential element in this system, and to a certain extent 'professional' mechanisms also play a role, with professional groups ('training professions') taking an essential part, and with training taking a comparatively long time. The meaning of 'professionalism' in German is somewhat different to its meaning in Anglo-Saxon usage, where the term is more closely related to academic professions. In any case, the professional structure confers a special form upon the labour market, which is not easily grasped<sup>14</sup>. Whatever the specific significance of this

<sup>14</sup> There are different interpretations of the significance of the vocational structure of the apprenticeship system, ranging from the concept of 'occupational labour markets' (Sengenberger 1987) to emphasising the difference between 'training occupations' and 'employment occupations' (Brenner 1997). It can be assumed that many things are left to be clarified in this sector and that there are many misconceptions and a lot of exaggeration, all of which require clarification. Rolf Arnold and Gisela Dybowski-Johannson (1995, p. 325), for example, are emphasizing a proper understanding of vocational change as being the central interface between the development of learning organisations and vocational training in Germany. David Marsden (1986, Ch. 8) again stresses the importance of vocational structures for the workings of labour markets, but from another perspective.

structure, the professional groups within the apprenticeship system are highly institutionalised, and constitute social units which bridge the two sides of the labour market, which thereby becomes somewhat tied in with the organisation of the system.

The bureaucratic structure of education systems must also be differentiated according to additional characteristics which obviously play an important role for coordination. Even before these questions had taken on any prominence in education policy, Margaret Archer (1979, p. 628, p. 671) had worked out how important the degree of centralisation was to the dynamics of development and the dominant pattern of reform strategies. Since the various groups of players in the two basic forms of centralised or decentralised systems interact differently, this in turn produces different long-term patterns of development: 'stop-go' cycles in centralised systems and 'incremental change' in decentralised ones. Burton Clark (1986) also picks out similar basic patterns in his comparison of European systems with the American higher education system. A further important dimension in this context is described as 'fragmentation-unification', virtually as a horizontal dimension of unification (Scott and Meyer 1991, p. 131).

Increased criticism of the bureaucratic model of the education system was given greater prominence in the early seventies in Germany, for example, by the *Deutscher Bildungsrat* (Education Council), which was influential at least in terms of ideology. Initially, however, criticism was not levelled at the high degree of legislation, nor at state organisation, but rather at the bureaucratic structure of schools, which was considered to be incompatible with their teaching role. The role of teachers as the lowest rung of the bureaucratic structure of authority was criticised, and a *professional model* was demanded. Co-determination and greater collegial autonomy along the lines of more highly decentralised systems (e.g. such as those in England) were important points (Deutscher Bildungsrat 1972). Simultaneously, however, demands were made for more legalisation and regulation of the decentralised and less closely regu-

lated apprenticeship systems. Similar moves towards a stronger legal foundation, particularly in the field of vocational training, can also be observed in other countries, e.g. Austria, the Netherlands and Finland over the same period.

The next stage was reached when the 'crisis in the welfare state' emerged in the eighties, and the market mechanism grew in importance as an alternative to bureaucracy. The professionalisation strategy never matched the high level of influence which the market strategy had temporarily acquired. The thrust of educational policy was changing, and decentralisation, deregulation and devolution of authority became the most important points in the reform of the education system in many countries (OECD 1996, particularly pp. 172-173; cf. also Whitty et al. 1998). Parents opting for state schools, increased autonomy for schools through the shifting of decision-making processes, 'accountability' and changes to state responsibility became essential policy aspects. The creation of quasi-markets, 'the separation of purchaser from provider and an element of user choice between providers' became a central element of reform (Levacic 1995, p.167). The state, however, did not disappear, it just took on a different role, described by Guy Neave (1998) as the 'evaluative state': The state-education relationship was recast, with new intermediate bodies ('trusts', 'agencies', etc.) being drawn into the equation which relied more on 'leadership' and management methods than on the traditional structures. A more recent analysis of reform strategies in five countries draws the conclusion that '...there does appear to have been a convergence of policies, at least in our five national settings. These involve an apparently paradoxical combination of state control and market forces or, to put it more specifically, a combination of an 'evaluative state' and 'quasi-markets' (Whitty et al. 1998, p. 12).

So it transpires that in the general school system and that of higher education, where these analyses were carried out, the abstract market-state dichotomy is not really suitable for understanding developments. New combinations and types of organisation are coming

into being, both at school level, but also on the level of more aggregate systems. The task in hand is more complicated in vocational training since at least two additional dimensions need to be taken into account:

1. firstly, the greater internal differences and the many schools, training channels and possibilities;
2. secondly, and still more importantly, there is quite a marked link with the economy, the labour market, and the system of employment.

The first point indicates that competition was always present in vocational training, since young people were called upon to choose between various options. Structuring this choice is therefore one of the most essential tasks for coordination in vocational training, which is also closely tied in with the other sectors, since they influence the choice made whilst also representing alternatives in themselves. The second point indicates that the vocational training system is broadly expected to fulfil objectives imposed upon it from the outside in any case. The choice of vocational training courses will always be more heavily influenced by expected employment prospects than is the case in the other sectors, even though these links and influences are difficult to judge and assess (cf. Raffe 1999). The trend towards 'economic rationalism'<sup>15</sup> in education policy in the eighties, which is so often stressed and criticised seems to be of little relevance to vocational training. On the contrary, signs in this sector point in the opposite direction: towards the enrichment of vocational training through the addition of more general and foundation elements<sup>16</sup>.

Finally, the relationship between the three parts of the educational system – compulsory

<sup>15</sup> Whitty et al. (1998, 37-38; cf. also Pusey 1991, Marginson 1993) describe 'economic rationalism' as follows: education is becoming a commodity, the most important political aims are developing an efficient and effective system for distributing these goods. Other aspects are the major importance of economic aims (with education being separated from social and cultural aspects), the use of the market metaphor, and a central administration for the education system to promote these aims.

general education, higher education and vocational training – has lately become an important aspect of political discussion in the most recent OECD publications. A redefinition of higher education is being suggested, according to which universities together with the other organisations at post-secondary level (non-university institutes of higher education, and the numerous forms of adult education and further training) would be merged in a catch-all system of 'tertiary education'. The boundaries between the 'scientific' and research functions and the 'purely' educational and training role should be loosened up in this system (OECD 1998a). A further proposal against the background of the development of a solid policy towards life-long learning concerns organising the links between the various parts of the education system. 'In many countries goals and agendas of different parts of the system are implicit or have not recently been reassessed and, consequently, may pull in different directions.' (OECD 1996, p. 188). Improved interplay between general and vocational education, as well as between secondary and tertiary education and between formal and informal education is seen as the prerequisite for the development of life-long learning.

## 1.2 A generalised framework of the coordination system

The second central element of the conceptual analysis of the steering and coordination problem lies in the general shaping of the coordination system. Here a heuristic framework is developed which is admittedly rather 'loose' and which starts by breaking down the scope

<sup>16</sup> In order to better distinguish these aspects, the OECD suggested a three-level classification of post-compulsory education, which can appear in different combinations (OECD 1989, pp. 20-21):

1. *general* (contains elements which continue and extend compulsory general education);
2. *foundation* (aims at 'preparation... to pursue certain types of study', which may be more narrowly or more broadly defined); and
3. *specific* (aims at 'ready competence and expertise in the chosen field or occupation').

of possibilities for coordination processes in a stylised manner along the following lines:

- a) types of *players* involved;
- b) in the affected *sectors*;
- c) at different levels of society;
- d) who handle the various coordination and steering *tasks*;
- e) through numerous possible *interactions and mechanisms*.

This analysis shows how the conventional approach to the coordination problem, starting with the general market-led steering mechanism which is seen as dominant, or through hierarchical or bureaucratic forms, seriously restricts the scope for conceivable solutions from the outset. The helpful decrease in complexity which results from this generalisation is bought at the price of conceptual simplification which brings processes on the boundary between education and employment to the fore and greatly reduces the number of possible coordination mechanisms.

The essential element in all of this is that the basic problem of steering mechanisms is perceived as a 'zero-sum' type of problem between market steering and bureaucratic steering, where each time round one mechanism is highlighted at the expense of the other. On the one hand, the complexity of the problem is revealed when the coordination system is broken down in this way, since the coordination problem does not only exist across system boundaries, but also implies an interface between the two general mechanisms of bureaucracy (education) and the market (employment). On the other hand, however, this approach makes it possible to open up the scope of the question by building up an area of intermediate, alternative and complementary mechanisms and types of organisation, where there is room for the conceptual integration of many other mechanisms (particularly interorganisational networks, organisation by associations, corporatism). This means that the perspective is somewhat altered, since these mechanisms as they are mentioned in the concept of the 'evaluative state' are not just taken up by chance, but are in-

cluded from the outset as integrated and, in principle at least, equal components of the coordination system, but are not viewed through bureaucratic versus market spectacles.

### 1.2.1 The field

The first step towards providing an explicit reconstruction of the area in which coordination between education and employment takes place is actually to 'deconstruct' the complex field in order to analyse the players involved and their areas of action. It is the types of organisation in which coordination takes place, and the possible connections which the coordination system can form which stand in the foreground, rather than the empirical relations that can be observed.

#### 1.2.1.1 The players

The diagram (see Figure 2) highlights the different types of players in the field of coordination. Four separate columns are shown (education system and employment system, both being split up into supply and demand side), with players on the different levels:

- the individual *micro level* (teachers, pupils, educators, employees, jobseekers, employers, etc.);
- the *macro level* of national<sup>17</sup> institutions and organisations (ministries, school administrations, unions, employers' organisations, etc.), – overlapping with the meso level – and also regional bodies with greater or lesser clout (*Länder*, communes, regional associations, etc.);

<sup>17</sup> The international or transnational level would be a further level which might be considered, but this level is not yet very developed in the education world (e.g. education policy is subject to the subsidiarity principle within the EU). The question of whether there is any interdependence with the international level and what the trends are in this regard in the system of coordination between education and employment is undoubtedly an important one nevertheless, to which adequate importance will have to be attached in future research.

- and, in between, the organisational *meso level* (schools, companies, etc.);
- alongside these types of players in the coordination system in the narrowest sense of the term there are also other more general ones who play a greater or lesser role, particularly the institutions within the political system (legislation, government, political parties, etc.) and the labour market institutions which connect the two sides of the market (labour market service).

It is essential that the fabric of relations be seen as open and dynamic. In the reality of a coordination system, which essentially will still be nationally organised today, these players or types of players can each be analysed in concrete terms, and potentially there is interaction between all these groups which is related to coordination.

#### 1.2.1.2 The tasks

Coordination procedures are interactions and relations between the players, which aim at striking a balance between the two poles of the coordination system, demand for training and demand for manpower. In schematic form the coordination procedures can be distinguished in terms of a quantitative and a qualitative structural dimension, so that certain chains of actions and causations are set off, triggered in particular by the two vertices:

- a) In quantitative terms we are talking about transitions, often in the form of decisions about selection or capacity.
- b) In qualitative terms it is largely a question of establishing and changing the structure and profile of training courses or jobs, in other words 'shaping' the profile, as it is known in vocational sociology.

What should be stressed is that, whilst on the one hand these two dimensions run independently of each other, on the other hand they also interact: quantitative variations can have serious indirect effects on the qualitative structure. One example of this is the effect of increased student numbers in higher education, which is described in terms of the tran-

sition from the traditional elite higher education system to the modern mass higher education system, and possibly beyond to a universal higher education system (OECD 1998a, p. 9; drawing on Martin Trow and Ulrich Teichler).

Using this heuristic representation, it is possible to analyse real coordination processes. For example, it can be used to draw up international comparisons of coordination systems, which to date have at best only existed in very patchy form (as a step in this direction cf. OECD 1998b).

Tentative mapping of coordination tasks links them with the numerous political proposals being bandied about at the moment (see Figure 3). Such mapping can provide a point of departure for more concrete discussion of political strategies.

#### 1.2.1.3 Mechanisms of coordination

It is easy to see that there is a very broad spectrum of coordination processes within this perspective, which are almost unmanageable in any real system. Literature on mechanisms of social coordination in the framework of institutional organisational theory can help to reduce this complexity (cf. in particular Thompson et al. 1991).

In this framework (cf. diagram in Figure 4) four coordination models in particular are picked out, as shown in the diagram:

1. *Hierarchy, bureaucracy, central planning.* In this model, coordination comes about through the bureaucratic integration of the columns, with central tuning at macro level. This is obviously not possible to the same extent in every column, which is why this mechanism is indicated for education supply.
2. *Market.* In this model, coordination is regulated by individual compensation and feedback processes in a system with two interdependent markets (education market and labour market). This mechanism obviously does not cover any of the procedures at the higher levels.

Figure 2: Stylized actors and coordination tasks

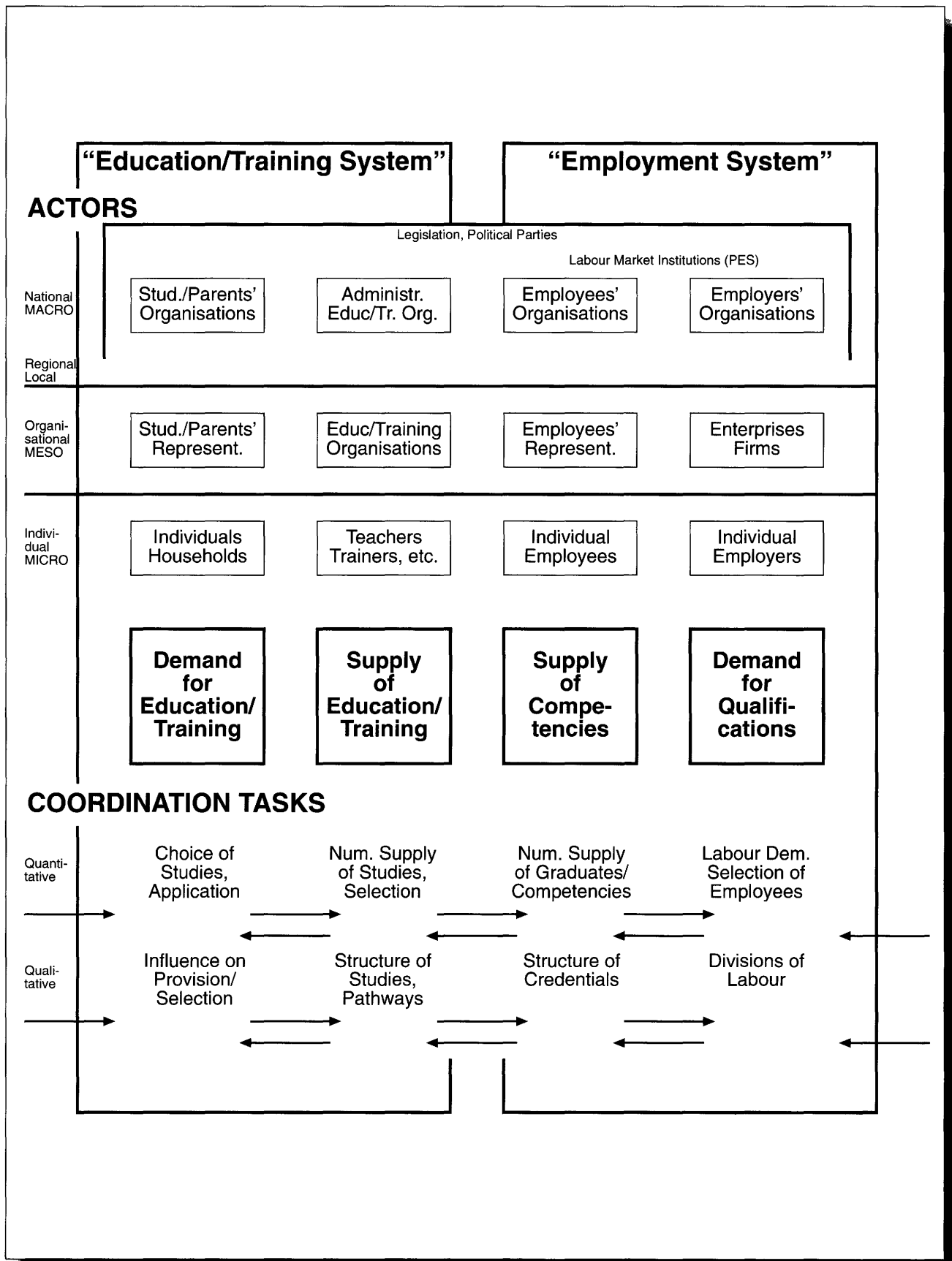


Figure 3: Mapping of coordination tasks and main policy options

COORDINATION TASK	QUANTITATIVE	QUALITATIVE
<b>Coordination between education/training demand and supply</b>		
	numerical allocation - determination of numbers, - provision of study places, - determination and selection of applicants	shaping the profiles - composition of curricula, - breadth - depth, - study lines - modules
<b>Main policy options:</b>	<ul style="list-style-type: none"> <li>- Social demand approach, quantitative (allocation), qualitative (adaptation)</li> <li>- Strengthening market forces concerning allocation (vouchers), selection/promotion (costs, incentives), information (signalling test results)</li> <li>- Guidance and counselling</li> <li>- Testing/assessment at entrance</li> </ul>	
<b>Coordination of the teaching/learning process</b>		
- Pupils/students management	selection, retention during the teaching/learning process	transformation of potentials to competencies
- Personnel management	<ul style="list-style-type: none"> <li>- workload</li> <li>- working conditions</li> <li>- determination of salaries</li> </ul>	<ul style="list-style-type: none"> <li>- preconditions (training, etc.)</li> <li>- division of labour among professionals</li> <li>- progression, further training, careers</li> </ul>
- Resources management	allocation of resources in relation to study-places	standards for the utilisation of resources in relation to study-places
- Shaping of learning environment	selection/allocation of learning sites	design/utilisation of learning environment
<b>Main policy options:</b>	<ul style="list-style-type: none"> <li>- standards and assessment</li> <li>- new teaching/learning methods (teaching -&gt; learning)</li> <li>- new technologies</li> <li>- integration of formal and non-formal learning, workplace learning</li> <li>- professional policies, change of working conditions and division of labour, continuing training</li> <li>- input-related standards</li> <li>- new methods of resource acquisition (levies, training funds)</li> <li>- new organisation/management methods (TQM, etc.)</li> </ul>	
<b>Coordination between competencies/qualifications demand and supply</b>		
	numerical allocation - transition from education/training to work	<ul style="list-style-type: none"> <li>- determination of credentials in relation to the labour market structure</li> <li>- relation of attainment to credentials</li> <li>- shaping the qualification profiles of working life</li> </ul>
<b>Main policy options:</b>	<ul style="list-style-type: none"> <li>- competency-based assessment, creation of credentials independent from certain studies</li> <li>- combination of study and work (apprenticeship, HRD)</li> <li>- partnerships education and training - enterprises</li> <li>- including representatives from working life into steering bodies</li> <li>- development of anticipation mechanisms of development and change of demand for qualification</li> <li>- transition policy</li> </ul>	
<b>Overall policies</b>	<ul style="list-style-type: none"> <li>- development of the knowledge base, educational R&amp;D</li> <li>- overall change of the steering system</li> <li>- policies for lifelong learning</li> <li>- education and training policies as elements of innovation policy</li> </ul>	

3. *Association*. In this model, coordination is prompted through organised relations between players who in principle share similar interests, with consensus-based negotiating systems playing an essential role. This mechanism has been well tested for the more complex levels in the area of the employment system (employers' organisations, trade unions); it also exists in quite a pronounced manner within the field of education supply (for example in the shape of educators' organisations), but will be less marked in the area of demand for education (parents, young people, students, etc.).
4. *Networks*. Another model comes in the form of social networks, which are 'neither markets, nor hierarchy' (Powell 1991), nor associations either. An essential characteristic of this type of organisation are direct links with a certain permanence between the players, which are maintained through informal ties. It is the *trust* built up amongst the network members that provides the coordination medium, rather than money or formal authority.

The first two mechanisms have played a clear role in political practice and literature about the coordination of education and employment, or are still doing so: the *manpower* approach to manpower planning corresponds to the bureaucratic model<sup>18</sup>. The first step is to forecast future manpower requirements, and to plan the supply of education accordingly. The demand for education should then fall in with the forecast, with varying degrees of lee-

<sup>18</sup> The relationship between research in the manpower model and the bureaucratic model was obviously only indirect, in that the analysis of the economic factors and the prognoses or projections based thereupon were intended as data inputs for state planning purposes. On the other hand, however, the model nevertheless assumes that self-regulation through the market alone does not work. The social demand model for the planning of training should also be mentioned as an alternative to the manpower model; it places primary emphasis on developments in the training market as a factor to be taken into consideration in education policy planning (cf. Contributions in Psacharopoulos 1987).

way. The economic *human capital* concept of striking a balance using individual transactions corresponds to the market model.

With the concept of manpower planning having proved unreal and unworkable for many reasons, and with many lines of argument long claiming the market model to be unsuited to general coordination (cf., for example, Blaug 1971), it seems reasonable to sound out the potential of the other models. Problems related to the two traditional coordination mechanisms – plan (bureaucracy) and market – are largely to do with future expectations and dealing with uncorroborated information. Suffice it to mention here *false prognoses* or the notorious *roller-coaster effect*.

### ***1.2.2 Coordination, boundaries and networks***

In principle, then, bureaucracies meet with markets on the boundary between education and employment<sup>19</sup>, which means that two different coordination models need to be coordinated. In principle, the discussion as to the workability of these two models in the plan-market dichotomy stems from the fact that it is implicitly assumed that the mechanism in question is extended to the other system. The concepts of association and network have the comparative advantage of permitting a large number of flexible coordination processes; on the other hand, however, this very complexity raises the possibility of contradiction and friction between players.

Four different types of interaction between players can be seen in the diagram showing coordination relations (see Figure 5):

Network relations of types 1 to 3 are plausible in many respects, as for example the in-

<sup>19</sup> The position of individual players can be interpreted in different ways: are pupils (or parents) part of the school as a bureaucratic organisation, or do they belong to the system's surrounding environment? A new perspective from the point of view of a consequent customer orientation vis-à-vis the demand for education is developed in OECD 1998a.



Figure 4: Stylized actors and mechanisms in the coordination system

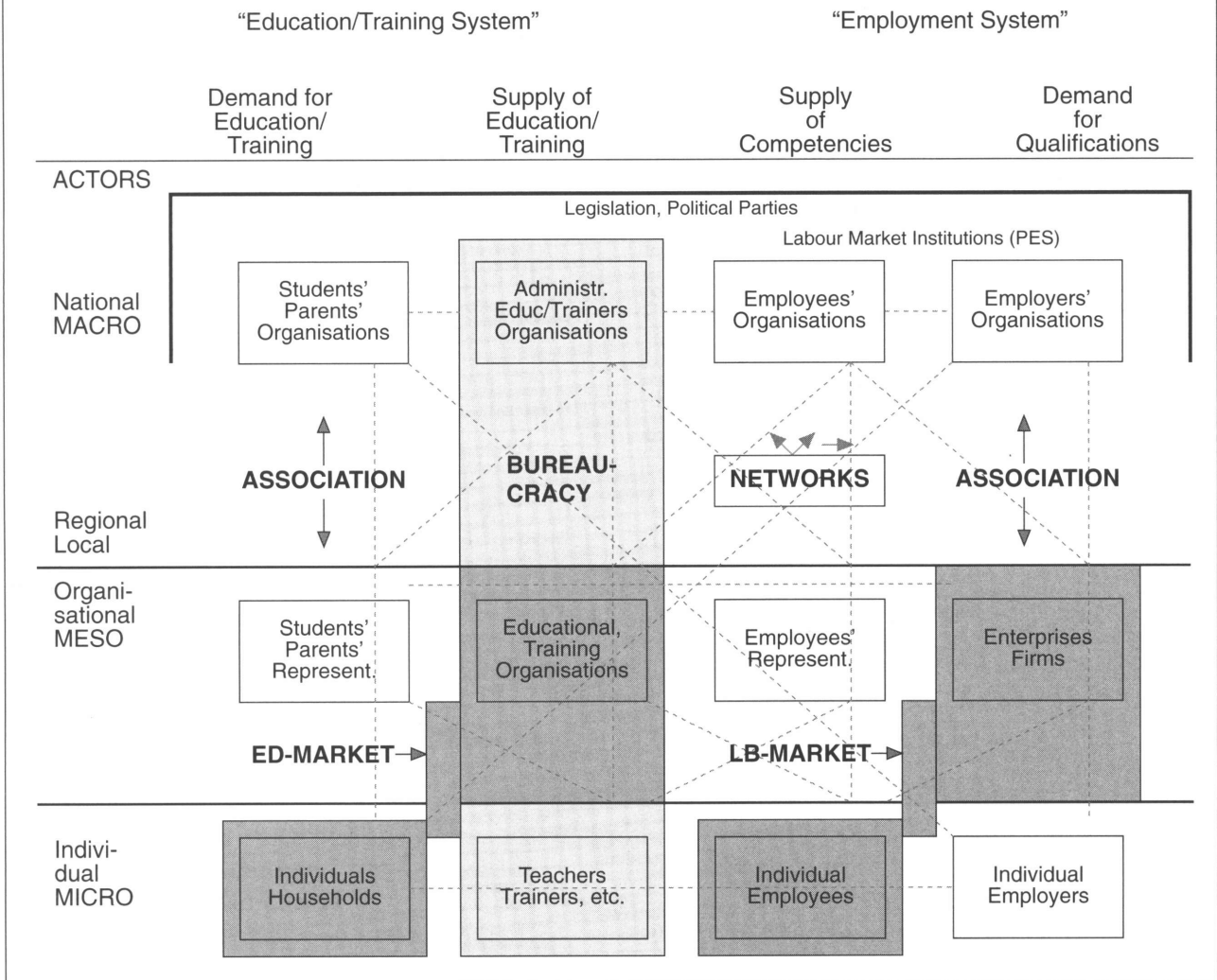


Figure 5: Types of ties in the coordination system

	<i>Within the columns</i>	<i>Between the columns</i>
<i>Within the level</i>	<b>Type 1</b> (e.g. between national ministry and national teacher representation)	<b>Type 3</b> (e.g. between individual parents and individual teachers)
<i>Between the levels</i>	<b>Type 2</b> (e.g. between individual players and their organisations)	<b>Type 4</b> (e.g. between national employers representation and a school)

formal networks of relations in bureaucratic systems, or the local networks between the various types of players. For coordination between education and employment, however, what is needed are links which cross the 'system boundaries' – because of the interdependencies which have already been mentioned, presumably above all in the case of type 4 relations, which are the least likely. Coordination processes in the network mode need connections which encompass the scope as broadly as possible and with a certain density. This complexity and diversity would appear to represent a peculiarity of the education-employment coordination system, since previous analyses of this type of field or networks between organisations tended to cover players of the same nature (particularly companies), or different players on just one level (e.g. policy analysis), and certainly not so many types of players of such different sorts all at one go (cf. Scott and Meyer 1991).

Obviously, many of the possible type 4 ties are highly improbable. Two types of organisation can be applied which possibly embrace the entire system:

- a) *Balance of interests in the political system or in corporate forms.* Political parties, for example, are presumably still organisations which most widely cover the various levels, and also the players from the different columns; to a certain extent interest groups can also be seen as a framework for far-reaching ties (Streeck and Schmitter 1991; Archer 1979).
- b) *Occupations and professions.* (Academic) professions stand out in particular because they embrace both forms of professional practice (self-employed and dependent), and also training. To a certain extent this also holds true for occupational organisations, although in this field there is often a clearer separation between the employer and the employee side. Sociological analysis of occupational systems has described occupational groups' control of training, for example, as an important element of the professional associations (and where access to training is involved, this control also extends to demand for education) (Beck et

al. 1980). It can also be assumed that under static conditions and apart from certain monopolies and interest-related shortages, a system of professional organisations would be well-suited to carrying out the decentralised coordination of education and employment in its field.

### 1.3 Steering: main dimensions and policy options

This type of approach opens the door to the possible fragmentation of the coordination problem into a multitude of different mechanisms, which together can form different configurations or regimes (cf. Schmid 1996). The general diagram of the coordination system as shown makes it possible on the one hand to criticise the one-sidedness and shortcomings of the traditional approach, whilst on the other hand permitting the integration of a large number of rather pragmatic and political strategies in terms of solving the problem of coordination.

The following general bases for political strategies can be picked out:

- the organisational structures at the different levels, within which the various players are linked (particularly the distribution of powers of decision-making);
- the structure of educational and study paths (content and qualification), their division into units, and the structuring of possible pathways;
- the structuring of the teaching-learning processes in the system (learning environment), which is determined in particular by the model and profile of the educators, the distribution and nature of learning sites, and how much account is taken of the context for the learning process.

If the concluding picture of international educational development from the point of view of the OECD is followed (Papadopoulos 1994), then these elements can also be used to reconstruct the different political focuses: the period of macro planning for education growth within the rational paradigm was followed

around 1970 by a shift towards quality aspects at school level<sup>20</sup>.

Major projects were carried out on innovation at the micro level (OECD/CERI 1971, 1973, 1978), and the concepts of planning, research and development were reviewed and revised (OECD 1974a, 1974b). Over the following years, the curriculum and teacher policy crystallised out as important focuses (OECD 1976, 1979).

One major shortcoming in this whole process, however, was that initially initiatives at micro level were not used in the shaping of the macro structures. This only happened to any great extent during the neo-conservative attack on the welfare state in the eighties.

### ***1.3.1 Structures for steering***

The dominant ideas about the creation of new steering systems are strongly influenced by public choice-based approaches, which paradigmatically lay behind the World Bank's educational policy recommendations (cf. Lauglo 1997; de Moura Castro and Cabral de Andrade 1997; Middleton et al. 1993). The steering concept moves within the range between state or policy failure and market failure. Systems must be created, which can provide players with behavioural incentives along the lines of what they want to achieve.

In the case of education policy, the central issue is the relationship between the players within the bureaucratic systems, and the external 'stakeholders' (pupils, parents, employers, local communities). The basic assumption is that because the balance between the costs and returns of change is wrong, people within the bureaucratic system inevitably opt for the status quo, with the result that 'inertia is the rule', and there is no adaptation to external requirements. Regulation would appear first and foremost to serve the internal players,

and, moreover, is impermeable to external influence. Any attempt at reform which is not sufficiently rewarded is therefore doomed to failure.

Claudio de Moura Castro and Antonio Cabral de Andrade (1997, p. 86) base their theory on the assumption that education reforms of the past often produced negative results because, when taken to the extreme, the demand for increased effort brings with it greater uncertainty, resulting in badly defined and uncertain aims of improved 'quality'. By shifting decisions to the lower level of achievement, the link with external 'stakeholders' can be strengthened, possibly resulting in a better balance of interests.

In the case of vocational training, it is the employers who are seen as the most important external 'stakeholders' – 'they are the market'. In his interpretation of the World Bank policy paper, de Moura Castro (1995, p. 4) expresses the situation unambiguously: 'The rule is simple: no demand, no training. In other words, the demand for training has to be closely monitored and only that training which responds to a clearly identified demand should be offered. No more, no less'.

Consequently, steering structures should be created which make it possible for the employer to exert some influence, and which at the same time also allow their demands to be assessed:

- ❑ the setting up of collaborative steering organisations which give employers real influence over decisions and provide sufficient scope for a balance of interests between the different 'stakeholders';
- ❑ a second condition is the setting up of mechanisms for feedback, evaluation and anticipation of demands on the labour market for the vocational training institutes;
- ❑ thirdly, practical cooperative links should be established between vocational training and the employment system in order to bring these two worlds closer to one another.

These points concern the organisational links between the different players.

<sup>20</sup> This shift can be linked with the 1970 Paris Conference which guided attention onto '...specific micro-educational problems, directed at enhancing the effectiveness of educational systems, as against the more global approaches of the past' (Papadopoulos 1994, p.73).

### 1.3.2 Structures of studies

The structure of courses refers in particular to the way in which the content of training is organised. Although it is the curricula which form the actual core, a whole host of other more process-related elements are also involved, which affect the steering of access possibilities, the choice of educational pathways, and the accompanying signalling systems composed of formal requirements and qualifications. As regards the study structure, four dimensions can be distinguished, which form different policy options:

- a) The first dimension regards *the way in which the targeted qualification elements and the content of learning are conceptualised*. The most important distinction affects the traditional division into academic subjects (the fragmentation of knowledge, the 'Triumvirate' of knowledge, skills and attitude, etc.; cf. Eraut 1994, p. 15) as opposed to the new, more holistic elements (basic skills for learning; basic job-oriented or generic skills, key qualifications, contextualised key qualifications; cf. Brandsma and Nijhof 1999, p.4), which basically aim at facilitating and improving the transfer (this is dealt with in more detail in the framework of conceptualisation of forms of knowledge in Section 2).
- b) The basic pattern for *allocating general and specific elements of qualification* can be shaped either using the model which 'uncouples' general and specific education (general and foundation elements in the formal education system and specialised elements in employment), or according to the model which moulds itself to fit in with apprenticeship.
- c) The third dimension concerns the creation of *longer and more complex* training pathways which tend to aim at a more holistic pattern of qualification, or its fragmentation into *flexible modular* systems.
- d) The fourth dimension concerns *the relationship between education processes (curricula) and certificates*, which can be planned either separately or in association, as well as – closely related thereto – the sort of standards which condition quali-

cations (traditional exams or competence-based qualifications, group-reference-based or criteria-based assessment).

There are pros and cons attached to both ends of this dimensional scale, which have so far prevented any clear-cut assessment from being made (cf. e.g. OECD Votec study; OECD 1998c; Lassnigg 1997). These dimensions can be used as parts of broader political strategies whose degree of coherence varies. Real systems are complex mixtures of these elements, which can develop in any direction.

### 1.3.3 Shaping of the teaching-learning process

Attention has recently shifted more closely to the conditions governing the teaching-learning process, since the significance of the contextual conditions for learning have become clearer (Brandsma and Nijhof 1999). The traditional separation between the content and processes for putting this content across, which finds expression in the categories of curriculum development, subject teaching, and learning methodology, is brought into question for approaches using learning in practical contexts in particular. There is still a very big difference, however, between the predominant models and these newer concepts. Some important dimensions in this context are the professional profile of the educators and the design of the learning site. In this context, the following points are important in terms of policy options:

1. The first point concerns the basic conception of professionalising the teaching profession. Important proposals refer to the concept of the *reflective practitioner* (Altrichter and Posch 1990; Elliott 1993). Recently, there have been calls for the creation of traditional professional characteristics: autonomy, self-regulation and a specific code of ethics (Hartmut von Hentig suggests a 'Socratic Oath' in analogy to medicine; cf. Hentig 1994, p. 258f.; see also Hargreaves 1997; Mc Laughlin 1997 in the Anglo-Saxon field).
2. The second element concerns the division of labour between professional profiles in the education sector, and particularly to

what extent educators can cope with even more complex forms of share-out, similar to roles in the HRD field (this is covered more thoroughly in Section 3). Two basic categories of educators are contrasted here, which also represent very different learning environments: teachers and trainers.

3. The third element concerns the organisation, range and format of teaching environments. For a long time hence, the choice will continue to be between school and non-school, but another important question concerns the utility of certain types of 'practice simulation' (Nieuwenhuis and Mulder 1999).
4. The fourth element concerns the organisational model which underlies the various different learning sites. Organisational models in this area vary between the school as a part of bureaucracy, and the company as a context for practical learning as representing the two points of departure. But 'educational organisations...are usually thought of as *not* fitting the overall image of a machine bureaucracy' (Scheerens 1997, p. 289). There is a trend in certain circles towards company-based organisation, but its suitability for organising learning processes is also being brought into question<sup>21</sup>. The concept of the learning organisation offers an alternative (this point is dealt with more thoroughly in Chapter 2; cf. De Caluwel et al. 1988; Finger and Buergin 1999).

We can now come back from this last element of the meso-organisational level of educational

<sup>21</sup> Whitty et al. (1998, p. 14) for example interpret the reforms which they investigated within this field between bureaucracy, market and the traditional understanding of politics. On the one hand they argue that 'recent research suggests that the fragmentation of bureaucratic systems of education is leading to a polarisation of provision' (i.e. between 'good schools' and 'failing schools'), an essential factor being that the good schools develop the skills for market economy behaviour, and at the same time there is a 'consolidation of traditional academic models of schooling' – as a conclusion they state: 'The key issues, therefore, are likely to remain political ones which need to be pursued in the political arena'.

organisations to the model of steering mentioned at the outset in the public choice perspective, and refer to the institutionalist counter or competitive model. Different points of view are bound to emerge at theoretical level according to whether one considers the system from a macro, micro or meso point of view. Even if this can be 'logically solved' by contrasting the various premises, the mixed policy options and proposals which can form workable configurations still have to be dealt with.

The core of institutional understanding of educational organisations can be traced back to Karl Weick (1976)<sup>22</sup> and John W. Meyer et al. (1983), and is based on the hypothesis of the 'loose coupling' of processes to their technology. The 'production model' is rejected for schools on the basis of the way in which the education and training processes are understood. The terms 'institutional' versus 'technical' are used to contrast the underlying rationality of the training organisations with the rationality of the factory (Meyer et al. 1983), and the essential point is that the learning process in the school is conceptualised as being '*inherently non-technical*'. This organisation can therefore not be built up on its technical functions, tending to act more as a protective screen against the unsolvable conflicts about the '*right technique*' for the processes within it: '...institutionalised organisations (...) buffer their structures from the actual technical work activities (...) using such techniques as certification, delegation, secrecy, and ritual, these organisations attempt to decouple their technical work from the organisational structure (...) the institutional organisation turns its back on its technical core in order to concentrate on conforming to its institutional environment (...) a school, to survive, must conform to institutional rules (...) that define teacher categories and credentials, pupil selection and definition, proper topics of instruction, and appropriate facilities. It is less essential that a school's teaching and learning activities are

<sup>22</sup> The term 'loose coupling' is often used in literature, but usually it is not understood in its essential meaning, but rather as a loose coupling between organisational units.

efficiently coordinated or even that they are in close conformity with institutional rules.' (Meyer et al. 1983, pp. 46-47; cf. also Scott and Meyer 1991, pp. 122-126)

This interpretation makes it clear that the main thrust of the 'market-oriented strategy' is more or less diametrically opposed to the rationality of the 'institutional' viewpoint, the processes are interpreted in a more or less 'technical' manner, 'grass roots' activities should be more closely attached to the organisational framework, etc. If this interpretation of educational processes is applied to vocational training, it reveals the complicated links which exist between schools and companies as 'technical organisations', and also that the two different rationalities coincide within the company-based training process.

This contrast emerges in the Taylorist-Fordist model in particular, which is also authoritative as a paradigm of industrial organisation for 'technical interpretation'. If the new ideas about company organisation are taken as the basis, however, with the buzzwords being Post-Fordism, 'lean production', 'lean management', flat hierarchies, self-directed work, etc, it can be assumed that the two opposing models will converge – companies could become more 'institutional', whilst educational organisations could also become more 'technical'. This development could be characterised by professionalisation and learning organisations. Human resource development can play a key role in these processes, and vocational training can act as mediator in such developments. In order to shed more light on these elements, attention must be focused on the interfaces between the educational organisation and the employment organisation; learning in the workplace, 'tacit knowledge', informal learning, and the learning society become important terms.

## **2. New policy strategies for steering VET systems**

As a second step, the conclusions drawn from recent innovation research are tacked on to the conceptual analysis of coordination between education and employment. This brings

a second axis into the picture, which has a dynamising and concretising effect at many levels, and also suggests new focuses for political strategies.

### **2.1 VET, innovation systems, and innovation policy**

The basic question is how the concept of the innovation system can be integrated into the relations between education and employment. Essentially, two processes lie at the focus, production of knowledge and learning, which have been analysed in terms of their economic and social importance, and have been further developed into the concepts of the learning economy, or even the learning or cognitive society in connection with new, more general socioeconomic paradigms (cf. in particular, Lundvall and Borras 1999; see also Lassnigg 1998). The following new formats in the relationship between training and employment derive from the results of this research, and also refer to the problem of coordination:

- In the concept of the innovation system (Lundvall 1992; Nelson 1993) the processes and players which act as a driving force in economic and social innovation dynamics are made explicit. This makes visible the relations of interaction and cooperation which are being developed and becoming more intense between players in the education system (higher education in particular) and players in the employment system (e.g. development teams within companies). The processes of knowledge production for the development and constant renewal of the knowledge base are emphasised in terms of their crucial importance for economic activities in the course of technical-organisational revolutions and globalisation. Ideas about the division of labour between the players and institutions involved become blurred, the original linear model (basic research -> applied research -> industrial development -> application) is replaced by the model involving complex and contingent networking, in which completely different players can take on different tasks. This creates new or stronger direct interactions and cooperation on the innovation dynamics axis,

which may even extend beyond the original boundaries between part-systems.

- Learning takes on a new prominence in two respects within the employment system, firstly through learning processes in many ways becoming a necessary part of labour processes, and secondly through the productive, knowledge-producing character of learning processes as opposed to their reproductive nature coming to the fore (Argyris and Schoen 1978; Nonaka and Takeuchi 1995). Institutionally speaking, this development is expressed in the appearance and development of 'Human Resource Development' (HRD) approaches, which reflect the formation of a new training system within the employment system itself, which is also essentially based on the inclusion of informal learning processes.
- Within the education system traditional relations between the sectors (compulsory general education, higher education and vocational training), their functions and the predominant picture of learning within the sectors is reshaped. The duality between production of knowledge, which is institutionalised in the research role of higher education in particular, and the distribution of knowledge as part of the educational and training function comes to the fore and becomes more complicated<sup>23</sup>. Higher education loses its monopoly on the production of knowledge, and at the same time it becomes increasingly tied in with cooperative production processes, and extending access to knowledge production processes gains in importance. This gives

<sup>23</sup> Influential theoretical approaches to higher education research have distinguished the societal function of universities as a place for the production of knowledge and of 'cultural fiduciary' from their educational function, and brought it to the fore (cf. Parsons and Platt 1973; Kluever 1983; Stichweh 1991). Those functions were often neglected in the era of education growth, and even today the universities are frequently seen mainly as part of the education system. A new perspective came into being with the sociological analysis of the 'new production of knowledge', which in turn diminished the role of the universities in this context (cf. Gibbons et al. 1994).

greater and more universal importance to those forms of knowledge which were traditionally taught by higher education, and the question arises as to how to achieve better integration and dovetailing between the different sectors of education. The question of integration between vocational training in the formal education sector and developing vocational training in the company sector itself (HRD) arises in the case of vocational training on the basis of the new points of emphasis concerning necessary learning processes towards access to the knowledge-producing functions.

## 2.2 Learning organisations and knowledge production

The first concrete point of reference for the development of new coordination and steering strategies to stem from the conceptual considerations on the role of innovation dynamics for the coordination system is the interplay between the learning organisation and the production of knowledge, with the consequent demands on training. The linkage of labour processes with different types of learning processes, which are aimed at further developing the production processes, lie at the heart of the different concepts of the learning organisation. In terms of ideals, this concept contrasts with the Tayloristic and Fordist concepts of manpower usage, which are based on the greatest possible standardisation and minimisation of qualification requirements, and strict separation of actual labour processes on the one hand, and of planning and development on the other.

Unlike the ideas of technological determinism, the development of learning organisations is seen not as a necessary, but rather as *one* possible strategy for using technological achievements to improve competitiveness against the background of globalisation. Achieving this strategy will demand organisational developments on the part of companies and backup for them through appropriate institutional framework conditions. One of these conditions is the availability of the necessary qualifications potential, and the mechanisms for further developing qualifications.

1. A first question for training policy concerns the development of learning organisations within the training system itself. This ties in closely with the development of forms of organisation which in the Taylorist and Fordist paradigm were shaped by the bureaucratic model, which also determines large areas of the training system.
2. A second question relates to the consequences on training policy of the growing importance of the knowledge base and the opening up of access to knowledge and to practices which produce knowledge. This question swings in very closely with the conception of types of knowledge and their dynamics. The distinction between codified knowledge and tacit knowledge which is closely connected to the linkage of informal learning and formal learning processes, and Bengt Ake Lundvall's classification (know why, know what, know how, know who), as well as certain dynamics between these forms of knowledge are central concepts in this context.

The new ways of looking at knowledge, learning and organisation are an essential link to training policy. The theories developed about knowledge refer to the older but long little-headed distinction drawn by Michael Polanyi (1958) between explicit (codified and media-transferable) knowledge and tacit knowledge: knowledge which one possesses but which cannot be transmitted in words. The essential point is that practical uses of knowledge usually include a component of tacit knowledge; tacit knowledge stands out in that it

- is embodied in people and
- tied to the practical context,
- so that it can only be passed on and learned in social processes.

This brings with it essential consequences for the social organisation of production processes, because learning and qualification are thereby given a new value. Because the value of *tacit knowledge* is rising in the course of the information explosion with increasing

availability of codified knowledge which can be mechanically transmitted, the social organisation and the institutional structure of the employment system take on a key role. From this point of view, the use of information technology is an indispensable means for keeping pace in the innovation process, but at the same time this is not enough for particular achievements where the stage of codification and the creative use of codified knowledge play a decisive role.

The implications for the development of qualifications and skills can be exemplified in the two dimensions of different forms of knowledge and the dynamics of the transition from *tacit* to *codified* knowledge. Three essential trends stand out in particular:

1. the *know why*, which can essentially be characterised through scientific, theoretical knowledge, increases in importance compared with *know what*;
2. the ongoing renewal of know how and know who becomes the most important factor in economic success;
3. the further development of networks which can provide access to the knowledge required becomes a further decisive factor of success.

From the point of view of training policy, three challenges emerge in particular:

- i. the further development of organisational forms;
- ii. the linking of formal and informal learning processes; and
- iii. moving beyond the strong focus on know how and know what in favour of putting greater emphasis on the other forms of knowledge (know why and know who).

### **2.3 Networking and policy learning**

A further point of departure for developing new strategies of coordination and steering comes in the development and structuring of organisational links between the players in



the coordination system under the buzzwords networking and policy learning. An analysis of the innovation system reveals the complex interactions which exist between a great variety of players, although in this concept the education system tends usually to be analysed purely in terms of higher education's function of producing knowledge, with the vocational training system being excluded. But this point of view is not logical, since it implicitly limits the role of vocational training to the traditional reproductive elements.

Thus the question arises as to how a new configuration of the players can also lead to more active involvement of the vocational training system in innovation dynamics. This question concerns the background to professionalisation in the field of vocational training, and can be asked at various levels:

- a) at actor level: which players bring about coordination between education and employment, and which players provide the link to the innovation system
- b) at the organisational form or coordination mechanism level: what role is played in this context by the organisational forms beyond bureaucracy and market, which were recognised as essential components of innovation dynamics (in particular networks and corporate associations) and
- c) at knowledge base and policy learning level: which mechanisms for the further development of the knowledge base exist within the coordination system itself, or at the interface between the coordination system and the innovation system, and how is this reflected in the specific links with the political decision-making system.

These elements provide the conceptual background for an analysis of professionalisation and the professional categories in the field of vocational training.

## 2.4 Adaptation and shaping

Finally, it has to be asked what vocational training's influence and scope for shaping could be in connection with economic and so-

cial innovation dynamics<sup>24</sup>. In the conventional discussion, coordination between education and employment, particularly when vocational training is being discussed, tends to be synonymous with reactive adaptation, the main problem stemming from the exactitude and speed of this adaptation.

From an institutional point of view, this method of tackling a problem is based on a naïve understanding of the basic structure of the coordination problem, which on the one hand gives an elliptical interpretation of the role of vocational training, and on the other hand hypostatizes and reifies the employment system at the same time. The basic pattern for this traditional line of argument is that the shaping of vocational training should track 'real' developments in the field of employment as closely as possible – however it overlooks the basic premise of institutional thinking on the education system, that the institutionalisation of education in turn contributes to the social construction of reality (cf. Meyer's classical contribution 1977).

This line of thinking means that the understanding of professional activities, and in particular the social understanding of professions themselves, is in each case essentially constituted by the respective vocational training system and the knowledge base which lies behind it. This aspect comes across clearly in the analysis of the professions and professionalisation, where these arguments emanate from the professionals themselves. In the other less obvious areas, where this 'subjective' factor tends to be left in the background and reality is constructed by other players or in the political system, this aspect is less clear. Therefore within institutional thinking the old question as to whether training policy should be given a reactive or a proactive slant is redefined in two respects:

<sup>24</sup> This question was also one of the basic questions behind the EUROPROF project which focused on the possibility of professionalisation of VET professionals: Leonardo-da-Vinci project No 3366 'New forms of education of professionals for vocational education and training' (EUROPROF); cf. Also Heidegger 1997, Rauner 1995.

- a) it is not a question of recognising the 'real' occupational challenges, but rather of constructing suitable profiles; and
- b) it is not so much the temporal dimension, i.e. whether 'reality' is pre- or post-ceded which stands in the foreground, as the conceptual question concerning the relationship between the endless multiplicity of 'real' occupational activities on the one hand, and the institutional ways in which they are organised, and the question of reshaping and changing these forms on the other hand.

Proactive shaping thereby becomes first and foremost a problem of conceptualisation of the employment and occupational system. The conceptualisation which the players have of the vocational training system itself, and to what extent they can control the knowledge base of their own professional or occupational field thereby takes on a central role.

### 3. VET professionals and steering mechanisms

In the third stage, the 'VET professionals', that means the various categories of qualified employees within the vocational training systems, are studied in terms of their role within the coordination and steering system. This analysis draws on material which was collected in the course of recent European projects (in particular Cedefop 1995a, 1995b, 1997, as well as EUROPROF), and interprets this material within the conceptual framework just mentioned. Since there has never been a tradition of comprehensive comparative analysis to date, and the scale of the actual project cannot do justice to the many different structures within individual vocational training systems, the evidence is limited so far, which means that the generalisations drawn are therefore open to further differentiation and investigation<sup>25</sup>.

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<sup>25</sup> The influence of the Austrian system on the author doubtless also plays a certain structuring role which may sometimes put a specific emphasis on certain points, which would not appear under other circumstances.

The term 'VET professional' is frequently used in relevant discussions. It might however be useful to briefly discuss this term as it gives rise to some lack of clarity. Initially, high-status occupations with considerable power were described as professions, with the following characteristics usually being attributed (cf. e.g. Torres 1991; Alisch et al. 1990):

- ❑ specific expertise or knowledge base, which tends to be closely related to a specific scientific discipline;
- ❑ a system of regulation and control, within which the processing of a specific occupational area is reserved specifically for this profession by the state, and which is subject to auto-control;
- ❑ a specific code of ethics which provides the basis for auto-control, and in conjunction with that a special system of values;
- ❑ a type of self-organisation which also regulates access to the profession, and special training as well as certain practical requirements.

It is easy to see that professional groups of educators fulfil very few of these criteria, 'VET professionals' usually even less so than other categories of teachers and trainers. The consequence of this was that teachers were classed as a *semi-profession* (Etzioni 1969; cf. also the early twist of meaning of the term into 'bureaucratic professions' by Leggatt 1970, p. 160).

Since then, attention has shifted to focus more closely on the process of creating and developing professions, definitions were made more flexible, and the dissociation from other forms of professional work is seen these days in a less absolute, more fluid way (Abbott 1988). It is particular discussions about the definition and control of a certain occupational field and the institutionalisation of a specific knowledge base as a basis for legitimisation of occupational autonomy which have come to the foreground (Di Maggio and Powell 1991).

Two aspects should be stressed in the development of and research into professionalism for our purposes:

Firstly, the connection between professional work and work in bureaucratic organisations, and, secondly, the content of professional work. Professional work in the strictest sense of the term was originally seen in contrast to work in bureaucratic hierarchies as exclusive, and consequently the spread and predominance of Taylorism and the Fordist model in the sixties and seventies led to an image of 'de-professionalisation', with some people even talking of the 'proletarianisation' of professions. Professional forms of work, however, proved more able to survive than had been predicted by this research, with new production concepts and the post-Fordist paradigm in particular stressing re-qualification and re-professionalisation – nowadays it is the relationship between professional work and bureaucratic hierarchies which is being studied. 'The dominance of bureaucratic hierarchies is over', writes Lynne Zucker succinctly, for example (1991, p. 160), in her study of the interplay between 'bureaucratic authority' and 'expert authority'. Different forms of complementarity and interplay which can be studied in more detail in the system of vocational training and co-ordination between training and employment have taken over from the dichotomy and exclusion between hierarchy and profession.

The second aspect, the content of professional work, was largely ignored by classical sociological research into professions. Recently major progress has been made, which is based on similar access to the innovation research sketched out above. Michael Eraut's book (1994) about the development of professional knowledge and skills is a milestone with direct reference to the teaching professions. The link with innovation research is provided by the study of professional work in management in relation to the development of learning organisations and the related learning processes in the interplay between forms of knowledge, between tacit knowledge and codified knowledge. Professional work stands out particularly due to the great importance of the implicit components, which implies particular conditions and also difficulties in shaping formal training for learning these qualifications.

### 3.1 Main categories of VET professionals and their roles

The starting point for analysis of the most important categories of 'VET professionals' is a vague definition, which is based on observation of the most important functions in the vocational training system. Here, the conception of the vocational training system as expressed above should be taken into account: firstly, the relative autonomy in terms of other sectors of education (elementary and higher), and, secondly, the relative overlapping with the employment system. The professional categories responsible for vocational training are spread across the different organisational spheres, they work in formalised state or private educational establishments, in companies, are self-employed, etc. This applies to those areas where 'VET professionals' are employed.

Contrasting vocational training (VET) and Human Resource Development (HRD) can be very productive for the purpose of understanding jobs, roles, functions and positions<sup>26</sup>, since there is a highly differentiated analysis of roles and positions in the HRD field.

#### 3.1.1 HRD practitioners and their roles

In contrast to the dominant role of teachers and trainers in vocational training, this classification covers a much broader spectrum of roles and duties. The activities leading up to the construction of the *American Association for Training and Development* (ASTD) were an important step towards the professionalisation of the HRD field, with systematic investigations and developments of the roles and functions of HRD practitioners being un-

<sup>26</sup> A distinction is drawn in literature between two approaches to the analysis of elements which make up job profiles: the more European approach (task analysis) which refers to activities, and the more American approach of role analysis which refers to outputs. Carrying out tasks or roles requires specific competences which represent a level of analysis unto themselves. Certain professional positions can be made up of specific combinations of tasks or roles which demand specific competencies for them to be performed (cf. de Rijk and Nijhof 1997).

dertaken since the eighties. In the nineties, this approach was put to good use on a broader European scale, particularly through the activities of the University of Twente.

The classification of HRD roles in the USA (McLagan and Suhadolnik 1989, p. 20) is important in this context:

- Marketer
- Needs Analyst
- Researcher
- HRD Materials Developer
- Organisation Change Agent
- Instructor/Facilitator
- Programme Designer
- HRD Manager
- Administrator
- Individual Career Development Advisor
- Evaluator

Various studies considered the usability of this classification in the analysis of European HRD practitioners (cf. de Rijk et al. 1994; Valkeavaara 1996, 1998; Odenthal and Nijhof 1996). Similarities and differences emerged with the US structure, which in turn can be seen to be in motion (McLagan 1996)<sup>27</sup>. The European surveys, which are possibly distorted by sampling errors and the small sample size, tend to coincide on a high dominance of the following four roles, with the Instruc-

<sup>27</sup> The 1989 role structure is revised for a new study of HRD roles in the USA, which on the one hand takes more account of organisation development and consultants, and on the other hand suggests more complex role definitions which are more closely related to organisational dynamics: e.g. HR Strategic Adviser instead of the different roles of Marketer, HRD Manager and Administrator; or HR Systems Designer and Developer and Learning Program Specialist instead of HRD materials Developer and Program Designer; new roles are Organisation Design Consultant and Performance Consultant, the original specialised roles of Evaluator and Needs Analyst are absorbed into the more complex new roles; only two of the original roles remain unchanged (Instructor/Facilitator and Researcher), and two more are still couched in similar terms (Organisation Change Agent, but with a stronger emphasis on the outside as Consultant; and Individual Career Development Advisor but with a sharper separation between development and career as Individual Development and Individual Career Consultant (cf. also Odenthal and Nijhof 1996, pp. 88-89).

tor/Facilitator role being ticked by 85-95% of respondents:

- Instructor/Facilitator
- Programme Designer
- Organisation Change Agent
- Needs Analyst

The other three roles in the above order were ticked by 50% of respondents in Germany, and they were also frequently mentioned, although in different configurations, for the other European countries looked at. The following roles from the ASTD classification were much less frequently ticked by participants (e.g. in Germany by a maximum of one third of respondents), and can be seen as more highly specialised roles in Europe:

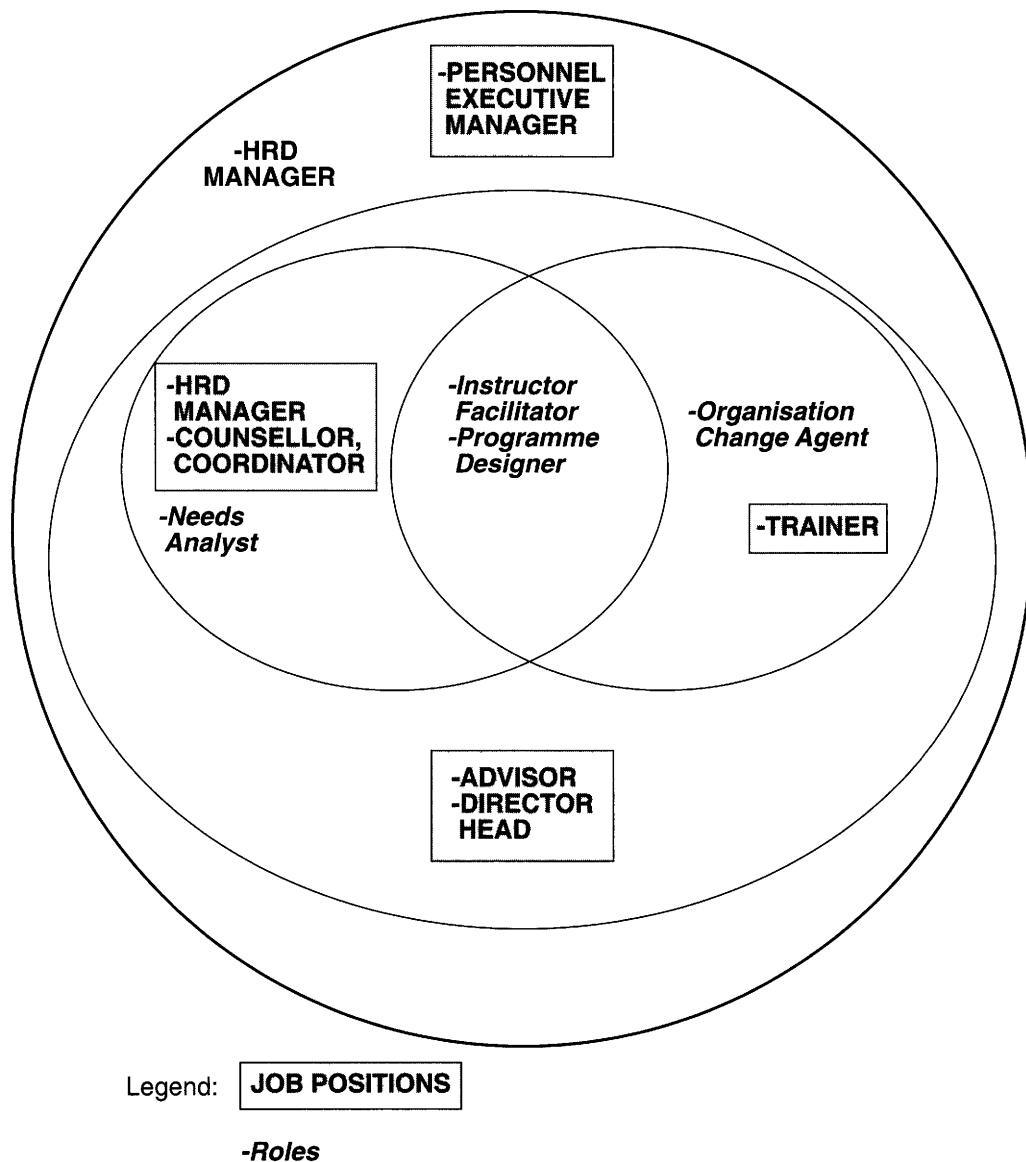
- HRD Materials Developer
- Marketer
- Individual Career Development Advisor
- Evaluator
- HRD Manager
- Researcher
- Administrator

Once again, there are different degrees of emphasis on these various roles from one European country to another: in Ireland and England, the roles of HRD Manager and Administrator were regularly ticked, whereas in Germany HRD Materials Developer, Marketer and Individual Career Development Advisor and Evaluator are the most frequently encountered specialised roles; in Italy, Individual Career Development Advisor and Evaluator were mentioned comparatively rarely; in England, Research and HRD Materials Developers play a comparatively more important role.

The job titles which are given to the different roles were also established. The most important headings proved to be:

- Trainer
- Advisor
- Training or HRD Manager
- Director or Head
- Personnel or Executive Manager
- HRD Coordinator, Counsellor
- Researcher

Figure 6: HRD Roles and self-reported job positions of German HRD personnel



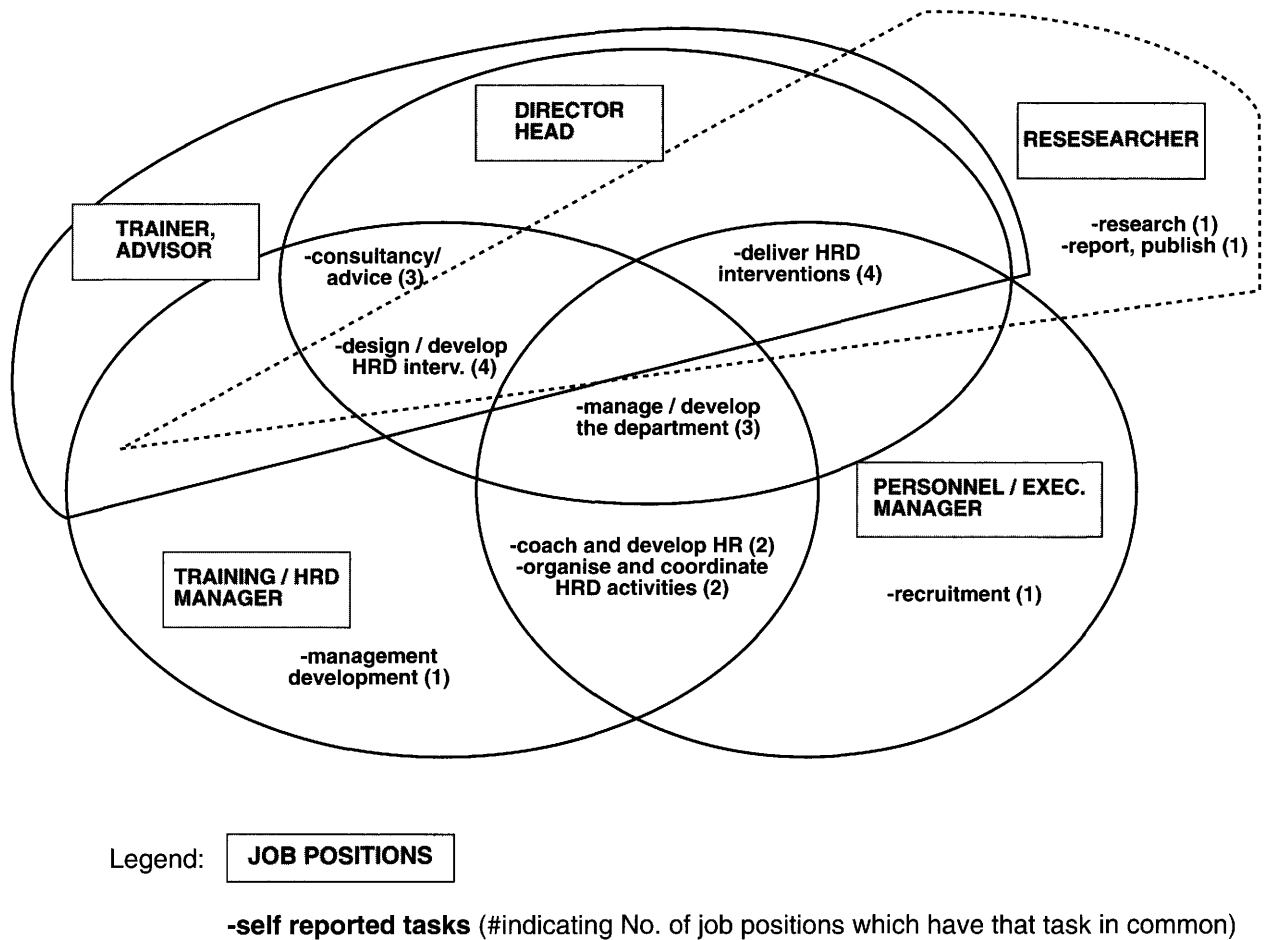
Source: Odenthal/Nijhof 1996, 69, Tab. 4.23 (Figure design by the author).

More detailed analysis of the most important roles and the duties and output of the different headings reveals a large degree of overlapping between the job titles (see the two diagrams based on Odenthal and Nijhos' surveys 1996; and de Rijk and Nijhof 1997).

Closer consideration of the empirical distribution of roles amongst German HRD practitioners produces the following picture (see Figure 6): there are four overlapping types of job titles, each of which has to carry out similar duties: Trainers (41%), HRD Managers,

Counsellor-Coordinators (20%), Advisors, Director-Heads (26%), Personnel or Executive Managers (4%). All these headings have the *instruction/facilitation* and *programme design* roles in common, carried out by more than two thirds of practitioners. These can be seen as a core function. Trainers also act as *organisation change agents*, whilst HRD Managers and Counsellor-Coordinators in addition to their core functions also perform *needs analysis*. Advisors and Director-Heads perform *all the roles mentioned* (the small group of Personnel or Executive Managers

Figure 7: Self-reported tasks job positions of European HRD personnel



Source: de Rijk/Nijhof 1997, 8, Tab. 3 (Figure design by the author).

also performs the role of HRD Manager, which would appear to be redundant).

The most important duties performed by European practitioners in the course of their work were also surveyed (see Figure 7). Here, once again, there is a lot of overlapping between duties. Six out of ten categories of duties are regularly mentioned in more than two headings, including two duties in four headings (design and develop HRD interventions; deliver HRD interventions), and two duties in three headings (consultancy/advise and manage/develop the department). Only four of the ten categories of duties were more regu-

larly ticked specifically for certain headings (recruitment, management development, research, report/publish).

In conclusion, two task areas or roles provide the focus of activity for European HRD practitioners: Training/Facilitation and organisational change agent. On average, for the four European countries, a quarter of respondents indicated these roles as being the most important; in Germany the most important role focused more heavily on Instructor/Facilitator (41%) than on change agent (13%). Despite the high proportion of direct teaching activity or learning support, the activities of HRD

personnel are quite closely tied in with the organisational development processes. For example, there are no major differences between internal and external HRD practitioners as regards their professional activities.

### 3.1.2 Categories of professionals in VET

If we now take a look at the division of labour between different professional profiles in the area of formalised vocational training (VET) as compared with these occupational roles and headings in the HRD field, there are some empirical studies into the different categories of teachers and trainers in particular. The comparative Cedefop study on *Teachers and Trainers in Vocational Training* (Cedefop 1995a, p. 15, 1995b, p. 12; Cedefop 1997) initially distinguishes between three basic types of 'VET professionals':

1. Technical and vocational teachers;
2. Full-time trainers; and
3. Part-time trainers and temporary trainers.

The five basic stages of the training process are put forward as additional important functions in the field of vocational training, which can also provide a basis for developing particular professional profiles. 'In those countries where training is more developed and has a longer tradition, it is possible to establish a second means of classification based on the function fulfilled by the teacher or by the trainer (...) there are five basic stages in the training process, around which new occupational profiles are emerging: mainly needs analysis and design, organisation of the training, the design and drawing up of the didactic material, the training itself, and evaluation. Around these functions, new areas of expertise are becoming apparent. They are related to education and training management and the organisation and planning of teaching.' (Cedefop 1995b, pp. 12-13)<sup>28</sup>.

<sup>28</sup> This functional analysis, based on the training cycle, also underlies the British approach to skill development from the time of the Industrial Training Boards until the developments in the Training and Development Lead Body (Cedefop 1995a, pp. 157-158, p. 171).

A somewhat modified classification of six different functions in the vocational training field, which is more closely adapted to professional categories in vocational training systems is provided in Cedefop 1997:

- 'tutoring (tutor, coach, guide, master);
- teaching (teacher, trainer, instructor);
- counselling (counsellor, consultant);
- development (developer, designer);
- management (training manager, principal, director);
- policy-making' (Cedefop 1997, p. 15).

A comparison of the two types of classification, that in the HRD field on the one hand, and that which has just been presented for VET on the other, reveals one fundamental difference: in the HRD field we are dealing with complex profiles, which are often directly related to management and guidance functions, whilst in the VET field there is a segmentary division which is typical of Taylorism and Fordism. Teaching and support functions tend to be quite distinct from the other functions such as analysis, planning, development, design, evaluation, etc. The more organisational tasks are usually carried out outside the actual training organisations within the administrative superstructure, often even outside the education sector in the area of the political and corporative organisations of interest groups. This pattern corresponds to the model of bureaucratic organisation.

Studies on teachers and trainers in vocational training in the countries of the European Union produce a basic pattern in which the areas of vocational training schools as well as apprenticeship and other forms of vocational training, which are more deeply rooted in the employment system (e.g. labour market training), overlap with the HRD field. In the school sector, there is a great deal of regulation, supervision and information, but much less in the other areas. Thus, for example, it was not possible to find comparative figures for the different categories of trainers and tutors. Some important findings from the comparative Cedefop 'cartographic' studies were:

- Division according to the basic groups of teachers, full-time trainers and part-time/temporary trainers was largely reflected for the different countries (there is little information about tutors, a category which seems to merge with that of trainers).
- The teacher category is closely related to the structure of the respective vocational training systems. In many countries this is highly regulated, differentiated or fragmented, which is reflected in the structure of teachers and their training system (particularly obvious in France, for example). If the vocational training sector is less regulated, there is a greater range as well as less pronounced structures in the educator area (e.g. in England, where at the same time the clearest points of linkage of VET and HRD are to be found)
- Usually educators tend to be referred very specifically to a subject, which can be either general or occupational, or technical. There are often various levels of educators, sometimes linked with types of schools at different levels. Moreover, in the area of vocational training subjects there are more theoretical (higher value) and more practical (lower value) categories of educators with different training pathways. Training of staff for the general subjects usually takes place at higher education level, whilst this is less often the case for staff for vocational training subjects. Educators for practical subjects often have vocational training on the middle level (skilled worker).
- In most countries educators for professional subjects, most of whom have had to go through relevant training at higher education level, are required to have several years' practical experience in industry (England is an exception, for example, where there is no regulated professional training for these staff, as is Italy). In many countries there are ongoing discussions as to whether the emphasis of teacher training for professional subjects should be placed more on the pedagogical or on the practical-occupational side. This type of discussion is taking place in Germany, for example, and also in Switzerland for the staff in (part-time) vocational training schools (cf. Bader and Hensge 1996; Ruetzel 1996; Straumann 1996).
- Whilst there is a good level of information in the teacher field, the information base for trainers is very poor in all countries. A distinction is often drawn between trainers within companies on the one hand, and trainers in extra-school institutions for vocational training, which usually fall within the scope of responsibility of labour market policy. Occupational training programmes for disadvantaged young people are carried out in this area in project form, but the institutions are planned for both young people and adults. Specific rules on qualifications usually apply to these trainers, but it is rare to come across any specific training requirements (in Italy, for example, there are exhaustive job descriptions in the framework of collective contractual regulations).
- A further category of trainers who are covered by rules are the in-house company trainers in apprenticeship systems. In this field once again, a large proportion of trainers do this as a sideline without being trained, and trainers are expected to lean more heavily towards the practical side, with pedagogical requirements playing a back-seat role. In Germany, for example, a large percentage of employees – one in six according to estimates – is involved in training, but most of them minimally so and as a sideline (around half of all trainers only for a few hours, and less than 10% devote more than half their working hours to training; cf. Neubert 1996).
- The structures for training and further training of trainers tend to be vague and complex, and are often rooted in the market economy sector. Although efforts are made in the training establishments linked to labour market policy to take as much account as possible of economic requirements, there are all the same considerable differences between the training establishments and the in-house training processes. (Per-Erik Ellstroem 1999 describes these



differences between a 'factory culture' and a 'learning culture' and the tensions related thereto using a comparison between training on the labour market and the Swedish 'employer-sponsored training').

- One important characteristic of teachers and trainers in the vocational training sphere is that they belong to two professions: on the one hand their own area of expertise, and on the other their role as educators. Usually the lion's share of their training has been with reference to their field of expertise, with training for teaching activities amounting to very little<sup>29</sup>.

### **3.1.3 Patterns of division of labour among VET professionals**

The role of these various categories of teachers and trainers in the overall division of labour for 'VET professionals' has been studied even less than the relations between the categories themselves. A general overview however gives an initial impression of the complexity which reigns in this field.

#### *3.1.3.1 The Austrian picture as an example*

Some of the questions and problems in this field can be sketched out using a stylised picture of the different types of 'VET professionals' in the Austrian system (Lassnigg and Stoeger 1999; Lassnigg 1999a). By comparing different areas from the whole scope of vocational training, it is possible to draw a distinction between 'old' and 'new' professionals. The 'VET professionals' in the formal vocational training system can be broken down into four categories of 'old professionals':

- Teachers, trainers, tutors;
- Administrators, principals, managers;
- Politicians, lobbyists;
- Researchers.

<sup>29</sup> This corresponds to a certain extent to the paradigm of teachers in higher education as conceived in Humboldt's principle of 'Education through Science': 'anyone who has a scientific grasp of his subject can also teach it' (orig. German; Thonhauser 1995, p.115; cf. also Stinchcombe 1990).

There are three areas on the other side of the balance which lie outside traditional vocational training:

- HRD in the company sector and on the market for consulting;
- adult education (incl. further training, labour market and in-service training);
- a new area of intermediate organisations (centres for innovation) which have no direct training function as such but play an important role in providing incentives, triggering innovation and playing a coordinating role.

These categories of 'VET professionals' live and work in different 'worlds', are not particularly coordinated and sometimes even work against each other. There are, for example, lines of conflict between the different players in the apprenticeship system, between employers' representatives and employees' representatives, and between the public and the company part, with vocational training teachers, company trainers, administrators and decision-makers all being involved. In-house trainers, who make up the largest group of 'VET professionals' and are obviously at the very centre of the vocational training system, generally tend not to be defined as 'VET professionals', because their training activity usually takes place on an informal and part-time basis, beneath their 'normal' work – most of them would not consider themselves to be 'VET professionals' either (Lassnigg 1999a; Lassnigg and Steiner 1997; Lassnigg and Schneeberger 1997). A further line of conflict exists between schools providing initial training and adult education organisations. In this area, a bureaucratic system confronts a system organised according to the market. Apart from the actual genuine differences, this also gives rise to a lot of prejudice which is often blown out of proportion in public discussions. There are lively discussions, for example, about regulating adult education more strictly, countered by arguments about bureaucratisation and cost increases (cf. Ofner and Wimmer 1998, p. 164-167).

Given the extent of regulation and bureaucratisation and the lines of conflict and problems of coordination which have been men-

tioned at political level, *top-down* processes of steering and coordination come strongly into their own, and it is not easy to find examples of *bottom-up* mechanisms. Looking at the formal mechanisms of the decision-making processes in particular, there are no *bottom-up* processes to be seen, as they tend to exist on an informal basis in the preparation of decisions, in working parties for drawing up materials, through rolling different functions in different categories of players into one (personal union), etc. These types of 'personal union' are of particular importance and can be shown on the basis of two examples:

Example 1: In the apprenticeship system, most of the companies are either small or very small. Normally in these companies the owner, the company manager, the person responsible for training and probably also the trainer him or herself is one and the same person. In the past, these people tended to have gone through apprenticeship training themselves. This meant that at the same time as acquiring their own professional skills they also implicitly picked up the training practices of the time. Another example in this field is that the members of professional organisations, who at the lower and fragmented level are also responsible for steering apprenticeship training, also come from this group.

Example 2: In the vocational training school system, once they have qualified in their professional subject, teachers of professional subjects are expected to spend several years gaining practical experience before they can enter the teaching profession and then complete training in parallel to their work. As a result, a considerable proportion of these educators are professionally active in their own specific field as independent company owners or as employees, at the same time as working at the school<sup>30</sup>.

From the point of view of 'VET professional' profiles, these links clearly show on the one

hand what interconnections really can exist between vocational training and employment in the company sector, even if this may not become apparent from a formal consideration of professional categories. On the other hand, these interlinkages also raise questions about the professional identity and professionalisation of these 'VET professionals'. It is a question of using and developing this resource of 'practical experience' on the one hand, and of the professionalisation of training functions on the other.

The example of 'personal union' in the apprenticeship field makes it clear that basically we are dealing directly with ways of passing on tradition, both in terms of training and also in terms of company practice as a whole. How can there be innovation within this model? The essential link here will no doubt come in the form of innovation of company practice, driven by external factors. Not only would 'pedagogical professionalisation' in the traditional sense of the term be of no use here whatsoever, but it would actually be completely out of place. At the same time, it is absolutely clear that trainer-entrepreneurs have a key role to play in the further development of this sector.

If the situation in apprenticeship training in small companies is linked to the concepts of innovation dynamics and the learning organisation, but also with the importance of the knowledge base, the production of knowledge and the difficulties related to the productive organisation of informal and implicit learning processes, it becomes clear that the resource composed of rolling practice and learning into one still faces major challenges. Progress will depend on the extent to which it is possible to create learning organisations and to link informal and implicit learning processes with formal and explicit ones, as is being attempted through model trials in Germany, for example (cf. Dehnbostel and Uhe 1999; Dybowski et al. 1999; Dehnbostel et al. 1998). The essential question here is whether it is professionalisation along the lines of 'formal pedagogisation' through a strengthening of the extra-company and formalised public elements of training (extension of compulsory part-time schooling, provisions governing the

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<sup>30</sup> In exceptional cases, top managers also perform teaching activities; in filling top positions in schools, it is also feasible that this type of experience could be drawn on. (cf. Lassnigg and Stoeger 1999).

content of training and resources, etc.) which is sought, or whether apprenticeship training can be successfully linked with HRD processes, or this type of process actually established in the first place. And for the part-time vocational training school, how can the mechanisms of informal learning be applied?

The example of parallel employment in the vocational schools raises the question as to the extent to which practical experience can be used for the purposes of school learning and teaching processes, and also for school organisation. Several factors are of relevance: firstly, the quality of practical experience, i.e. how much usable impetus does it actually provide for school practice; secondly, the school's absorption capacity for such impetus, bearing in mind the formal types of organisation, i.e. to what extent do provisions governing curriculum implementation or the structure of hierarchical relations of authority actually leave scope for this impetus; thirdly, the absorption capacity in terms of social relations in the school, i.e. the extent to which relations between teaching staff allow informal exchange of knowledge in different dimensions.

The professionalisation of 'VET professionals' in the traditional sense of the term would mean that pedagogical qualifications, in particular for the Training/Facilitator role would be beefed up. This can be seen directly through the discussions on the educational level of training (university, institute of higher education, intermediate level) and about strategies of 'front-end' training of educators (teaching qualifications before specialist qualification) versus 'add on' training of edu-

cators (teaching qualifications in addition to basic specialist training). In straightforward terms, the thrust of basic training strategy aims at bringing educators in the vocational training field into line with teachers in general education, and developing a general professional profile, which is oriented towards teaching activity<sup>31</sup>. The effectiveness of these different strategic lines, which is often discussed in very abstract terms in the field of education policy, could be investigated using probing comparative studies between different models which have long been in application, including in their broader contexts<sup>32</sup>.

The various different strategies trigger a series of questions which predominantly concern the organisational dimension of the education sector: firstly, how is the relationship between general education and vocational training institutionalised in the education system, and how does this influence links with the company sector of employment? Secondly, to what extent does the professionalisation slant given to the standardisation of teacher categories on the pedagogical dimension strengthen the existing segmentary (bureaucratic and politicised) organisational structure of the education sector, with its separation of teaching-learning processes from decision-making processes? Thirdly, what does the development of 'leapfrog' academised teacher training mean for the development of the knowledge base in the respective specialist area? Fourthly, what conditions

<sup>31</sup> The concept of 'front-end' training also contains further distinctions depending on whether the vocational and the pedagogical components are arranged in parallel or consecutively. The description of the profile '*Senior Teaching Post at a Vocational School*' (German: Höheres Lehramt an beruflichen Schulen; cf. Bader 1995) is an example of the focus on professionalisation for a general teacher profile. The general professional profile for the teaching profession was established in the following terms by the German Educational Council (Bildungsrat) structural plan in 1970: teaching, educating, advising, assessing, innovating (Deutscher Bildungsrat 1972, p. 127).

<sup>32</sup> An example could be a comparison of the different training models in the Austrian context for the economic-administrative field ('Economics – Teacher Training Course': university, 'front-end', consecutively, practical requirement) and for the technical-commercial area ('Vocational Teacher Training College': relevant basic subject studies, practical experience in the occupational subject field, recruitment for teaching profession, short non-university day-release teacher training); initial tentative comparisons in the framework of the EUROPROF project (Lassnigg and Stoeger 1999) pointed out important differences regarding the development of a knowledge base for innovative practices; a further possibility would be to compare the German, Austrian and Swiss training for teacher training provided in (part-time) vocational schools, where there are some major differences.

**Figure 8: Stylised pattern of roles and professional categories in Austrian VET**

	"OLD" PROFESSIONALS VET System <sup>a</sup>			"NEW" PROFESSIONALS Other Frameworks <sup>b</sup>			
	Teachers Trainers Tutors	Administrators Principals Managers <sup>c</sup>	Politicians Lobbyists	Researchers	Adult Educ.	HRD	Inter- Med.
<b>Common roles</b>							
Instructor/ Facilitator	XXXXX	X			XXX	XXX	
Programme Designer	XX	XXXXX	XX	X	XX	XXX	X
Org. Change Agent		XXXXX	XX	(X)		XXX	XXX
Needs Analyst		XXXXX	XXXXX	XX	X	XXX	XXX
<b>Specialised roles</b>							
Materials Developer	(X)	XX			X	X	
Marketer		(X)	XXXXX		X	X	XXX
Indiv. Career Devel. Advisor	X					X	
Evaluator (Inspector)		XXXXX	XXX	XX	X	X	XXX
HRD Manager		XX				X	
Researcher				XXXXX		X	
Administrator	X	XXXXX			X	X	

- a) The counselling function is mainly performed outside the VET system within the labour market organisations; within VET the teachers perform these activities.
- b) Personnel in HRD, further education (F-E), intermediary institutions (INT).
- c) The functions of development are performed mainly in this category.

arise for the development of learning organisations in the education sector in connection with different training strategies, and what points of linkage are there with the HRD field?

Finally, the study of the profile of 'VET professionals' can summarise the most important characteristics and aspects of the division of labour in this field using a stylised comparison of HRD roles and categories of 'old' and 'new' professionals in the Austrian example (cf. Figure 8):

1. Firstly, categorising 'VET professionals' broadens the traditional focus which con-

centrated on educators (teachers, trainers, tutors) to include the wider organisational professional categories. In so doing, it becomes clear that the professional demands in the area of training organisation also cover a broader scope of functions and categories than it would appear when viewed from the point of view of professionalising the teaching profession.

2. Secondly, the cross-classification of VET professionals and HRD roles shows that in spite of their completely different field of application (economic organisations) and completely different aim (implementation

of company strategies) the latter can still reveal important aspects of professionalisation in the education sector. What emerges in particular in the formal education system is the segmentary distribution of the various roles in different contexts (administration, politics), and it becomes clear that there is overlapping with the development of learning organisations: firstly, training organisations can themselves be conceived as learning organisations, and secondly training also plays an important role for the development of learning organisations in the business sector.

3. The distinction between the contexts of the formal education sector and HRD fields, adult education and the intermediary organisations sheds light on the different configurations of 'old' and 'new' professional profiles: roles are matched to the various vocational categories amongst the 'old' professionals, with teachers teaching, administrators administering and developing, politicians taking decisions, researchers carrying out research, etc.; the 'new' professionals have more complex role profiles, only in adult education is there a similar segmentary division of labour between those teachers – most of them on an in-parallel basis – who also do programme development, and a very restricted group of people in management. There are also some similarities between the different categories of 'old' professionals and the new context, between educators and adult education, between Administrators/Managers and the HRD field (with the difference that the latter are more active in the direct teaching-learning processes), and between politics and the intermediary organisations.

This stylised pattern, which needs to be looked at in greater depth by further research warrants a few additional comments. Administrators-managers have a complex role profile and concentrate a very important strategic function in their field. This corresponds to the bureaucratic model, but it should be stressed that this category of 'de facto' professionals is not usually taken as such. With

the exception of more recent attempts at professional preparation of school heads, there is next to no training for these categories. Legal training continues to play an important role in administration, and to some extent this is a case of promotion positions for teachers, which are still often filled according to political criteria. The organisational context of the 'new' professionals is less bureaucratic and demands more complex profiles, which are necessitated by the fact of working in a more flexible environment. Linking learning functions with organisational activity in development and planning raises the question as to how useful similar combinations might be amongst the 'old' professionals.

### *3.1.3.2 Observations and perspectives from other countries*

The experience and results of research into the division of labour between the different categories of VET professionals were processed in the EUROPROF project and reveal some similar basic patterns and tensions (cf. in summary in particular Attwell 1997a; Heidegger 1997; cf. also Brown 1997; Heikinen 1997a). The two 'worlds' of vocational training in the school and education sector (VET) and the HRD field in the employment sector emerge in rather clear fashion, and there is a converging trend in the distribution and awareness of the different roles. Graham Attwell (1997a, p. 261) describes a simultaneous process of convergence and divergence for both sides – VET and HRD – which has the following characteristics, to the effect that 'for both, their main role is becoming the management of learning':

- extending the role of 'VET professionals', mainly through increased activity in the field of further education (developing new programmes for new groups of learners);
- greater involvement in processes of organisation learning (linking learning with labour processes);
- increased concern for training and further training of the unemployed (counselling, development and organisation of new programmes);

- new roles in the management of learning processes as a result of decentralisation processes in vocational training;
- increased emphasis on context-related learning and learning in the workplace leads to a shift of activities from traditional teaching activity in the classroom to activities involving the shaping of learning processes in practice (mentoring, coaching, simulation, support, etc.).

A few examples of specific developments could serve to illustrate this general trend. Studies in France have revealed that role extension is occurring not only in schools, but also in the area of further training (de Bligniere 1997). In the early seventies activity focused on teaching in the training organisations, in the late seventies it was extended to include the functional analysis of jobs, training needs analysis, and the implementation and evaluation of training in companies. Alongside this extension towards activities of training management, a countertrend involving the specialisation of individual new roles is now taking place. Reforms in vocational training in Spain since the early nineties have meant in particular that new players have been more involved in the administrative and political fields (social partners, regional administrations, labour administration, etc.), and have done away with the monopoly of the vocational training school system which was seen as increasingly inefficient (Cellorio 1997). Similar trends towards greater involvement of external 'VET professionals' from amongst the social partners and the regions can be seen in many countries including Denmark, the Netherlands, Finland, the United Kingdom, etc., accompanied by relatively pronounced professionalisation (Nielsen 1996; Santema 1997; Heikkinen 1997a, b; Shackleton et al. 1995).

One important question concerns the position and duties of teachers in the vocational training schools, as well as trainers in companies. Teachers are often seen as a central category, which should act as the 'spearhead of change and progress in teaching and learning processes' (Attwell 1997a, p. 258; Papadopoulos 1994). It is generally felt that an extension and adaptation of their role and function

would be desirable, but there are considerable contradictions attached. On this point, the studies in the EUROPREF project refer to different experiences in various countries. Vocational training policy in Finland tried to extend the teachers' activity profile, but this did not prove entirely successful. Anja Heikkinen (1996 p. 11) quotes the dissatisfaction of one educator: '*...it seems that teaching has become peripheral*'. At the opposite end of the scale, a study in the Netherlands shows that teachers are very much involved in non-teaching duties and see this in positive terms. '*A large degree of willingness to make secondary education more professional is evident from teachers' replies to questionnaire items on non-teaching activities. Most would like to work more closely with their colleagues and local industry and take the needs of individuals and groups of students more into account. There is also broad support for in-service training as well as participating in new development projects.*' (Stoel and Streumer 1996, p. 16). At the same time, however, it also says that '*...most teachers teach traditionally*' (ibid., p. 16).

These differences possibly reflect the different positions and role definitions which teachers have in the respective vocational training systems. For example, the developments in Finland are seen within a marked situation of tension between the traditional strong and central role of teachers and the technocratic top-down reform politics of the eighties and early nineties (Heikkinen 1997b, pp. 216-218). The growing significance of informal and work-based learning means increasing importance and increasing demands for in-house trainers. At the same time they are usually in a weak position, usually work part-time as trainers, and have little or no professionalisation in their training function – although there is more marked professionalisation in their 'own' profession. This even applies to Germany, where this role is most highly professionalised. This relation of tension seems to be very pronounced across the board within this group, and is sometimes seen as the path towards the 'pedagogisation' of labour processes: '*.. instead of creating a separate group of VET professionals, pedagogical knowledge*

should increasingly be a component of everybody's 'professionalism', especially those working in jobs involving planning, management and development' (Heikkinen 1997a, p. 125; Cedefop 1996).

A summary of the general shortcomings in the VET professionals' training system levels the following criticism (Heidegger 1997, pp. 18-19):

- ❑ there is no integration of VET and HRD;
- ❑ there is no connection between vocational training and reducing unemployment;
- ❑ there is insufficient interaction between the different categories of 'VET professionals';
- ❑ the possibilities and contributions for shaping the professional position are not valued;
- ❑ pedagogical skills are usually kept separate from occupational subject areas;
- ❑ occupational competence (know how) and knowledge (know what, know why) are usually kept separate;
- ❑ prospects in planning and management are often fundamentally different to the points of view of vocational training practitioners;
- ❑ theory and practical application are kept separate with both sides being incorporated in different positions/persons;
- ❑ the development of cooperative learning environments is not taken into account.

Thus the basic structures and problems of division of labour amongst 'VET professionals' are mirrored and reflected in their training. Correspondingly, in studies into the possibilities for professionalisation of the vocational training field 'quite strong suspicions and tensions between some groups' (Heikkinen 1997a, p. 130) came to the fore, which also emerged in the Austrian example.

### **3.2 Steering and pathways towards professionalisation**

The forms of division of labour in the different categories of 'VET professionals' which

have been outlined have clear repercussions on the shaping of steering and coordination mechanisms, as well as on the level of professionalisation. Because of the segmentary distribution of roles against the background of tension between bureaucracy and market, decision-making and steering structures are often complex and confused, and there is unequal distribution of possibilities for exerting influence, which are also not transparent. Because of the different professional structures and hierarchised qualifications, the decision-making and steering structures also tend to be confused and broken up into a multitude of sectors.

Even the development of the individual's 'own' professional or subject-related knowledge base is tied in with this structure, which can be codified in a different way and to a different extent, can involve different degrees of practical orientation, and can also have different links with the established knowledge base, such as university disciplines.

This duality of complexity and fragmentation in the decision-making and steering structures can also cause cracks to appear in the coordination system between different levels, e.g. between occupational fields and systems, or between the regional and national level. Overall, the distribution of roles between the 'VET professionals' will reflect the basic structural elements in the vocational training system, so that changes in job distribution also affect the structures. A 'professionalisation' policy is therefore anything but peripheral in terms of training policy as a whole, although this is usually not (explicitly) taken into account<sup>33</sup>.

<sup>33</sup> In their discussion of New Labour's educational policy strategy, Young and Guile (1997, p. 210) show, for example, that 'the report makes no explicit reference to VET professionals', although the proposals would be difficult to achieve in the absence of professionalisation in this field; a further example are the recent attempts at reform made by the Austrian Government, which further watered down the professional status of in-house trainers in apprenticeship training (Lassnigg 1999b, p.31).

Past reforms in vocational training have often attributed a passive role to the central categories of educators, as do many contemporary attempts at reform. In the technocratic tradition of the sixties and seventies, an attempt was made to change their work through the development and organisation of new teaching plans, curricula, or other rules governing work organisation<sup>34</sup>; and also the dominant modern-day proposals which are quite strongly influenced by the public choice paradigm aim at indirectly changing the behaviour of educators by strengthening external influences, for example through quasi-market structures.

### **3.2.1 Consequences of recent reforms on teacher professionalism**

The study by Geoff Whitty et al. of ongoing market-oriented reforms (1998, pp. 12-14), which has drawn on a lot of relevant literature, produces the following stylised picture in terms of the consequences of reform for the various 'stakeholders' in the system:

- school heads are becoming a central figure, their role becoming more that of 'corporate director', 'business executive', or 'entrepreneur', in contrast to the discourse about 'new managerialism' with flat hierarchies it is noted that '...the gap between the manager and the managed grows' (p. 12);
- for teachers, there is the 'greatest divide between school management texts and empirically informed research': instead of autonomy and professionalism, work is becoming more intense, collective agreements are being undermined, and organisational power is being challenged;
- for pupils and classwork, it is noted that the reforms have not raised standards, and that traditional aspects of teaching have been strengthened ('increasing fragmentation and unitisation of the curriculum',

'marginalisation of non-assessed fields', 'more rigid compartmentalisation of students', 'a new 'hidden curriculum' of marketisation' (p. 13);

- for the political steering and administration of schools, a 'highly delimited' involvement of external 'stakeholders' was noted, with unequally strong representation of people with 'professional business-related expertise' when compared with 'lay members without that expertise', and trends towards 'commodification of parents'(p. 13).

It may well be that the results are overdone, but they nevertheless square with de Moura Castro and Cabral de Andrade's assessments as quoted (1997), as well as with the forecasts which can be deduced from the institutionalistic interpretations mentioned. Sinclair et al. (1996) present similar results for the USA and Great Britain; for vocational training policy in Greece, the high priority attached to reducing costs with no regard for quality is flagged (Patiniotis and Stavroulakis 1997).

### **3.2.2 Proposals for professionalisation in VET**

Various different questions and lines emerge from different contemporary proposals for 'professionalisation', which are connected to the structures of division of labour amongst 'VET professionals'.

A first strategy stems from the study of 'VET professionals' in Finland against the background of the traditionally strong position of teachers in vocational training. This strategy picks up on Anja Heikkinen's question: 'A European VET profession – or many?' (Heikkinen 1997b, p. 213) or 'maintaining the differences' or 'amalgamation into one, integrative VET profession'? (Heikkinen 1997a, p. 126) This question picks up on the existing division of labour between the various categories of 'VET professionals', the distribution of status between them, and their different prospects and duties, as well as the conflicts between them, and asks whether there are enough points in common to warrant an all-embracing professionalisation process. An

<sup>34</sup> The most extreme version of this strategy is '...to make the learning process 'teacher proof'...' (Haddad et al. 1990, p.57) through central control of curricula and the communication media.



essential aspect therein is the historically central position of teachers as protagonists of vocational training, and the contrasting of the vocational conception with the educational conception of vocational training. These two conceptions are related to the tensions between vocational professionalism and professionalism as an educator: '...an occupation of vocational educator had emerged, mediating between work life and education' (ibid., p. 215). The professionalism of educators is seen as a guarantee of the *educational* conception of vocational training, '...it created a common background for the conception of vocational education – a paradigm of vocational education – among teachers, administrators, players in industry, students and parents.' (ibid., p. 215). Educators are simultaneously seen as a link between the different 'worlds', and they possess considerable powers of definition for vocational training in their respective field. The most recent reforms focus on this point, and criticise the '...so terribly many inward-looking institutions....they do not even want to know what is happening somewhere else...', as one of the administrators put it (ibid., p. 216). On the other hand, the in-house HRD field is felt to be undeveloped, the trainer function to be 'marginal and ignored' (Heikkinen 1997a, p. 123), staff development of little status, low priority, and not very up-to-date from the point of view of method (Heikkinen 1997a, p. 124-126). A personnel developer is quoted in summary form: 'business is always business: the economist always beats the training manager in the enterprise, in hierarchy and decision-making...training is no king in working life yet – it is quite the reverse' (ibid., p. 124). Maintaining the different categories of 'VET professionals' and improving their cooperation on the basis of mutual understanding of their respective roles is suggested as a strategy for professionalisation, since '...the underlying rationale is that the core of VET professionalism is occupational expertise, practical knowledge and a living connection to industry and occupational life' (Heikkinen 1997a, p. 129). 'New planning and coordinating mechanisms should be developed which would not destroy the educational core in vocational education.' (Heikkinen 1997b, p. 218). An important element in professional development is 'profes-

sional autonomy for self-definition' (Heikkinen 1997a, p. 132). In the field of company activities there is a call for the widest possible diffusion of pedagogical knowledge, and further training in administration, planning, research, politics and the representation of interests is seen as an important task.

Michael Young and David Guile (1997) have developed a professionalisation strategy for the United Kingdom, predominantly against the background of informally organised vocational training. This strategy is aimed at developing the profile of a 'professional of the future', building on the traditional elements of professionalism, and tacking on additional elements. This produces a profile of the 'VET professional' as a 'connective specialist' (ibid., p. 210). The traditional elements are:

- technical competence;
- underpinning knowledge;
- practical experience;
- ethic of responsibility.

The new, additional elements of professionalism which stem from the new challenges, are:

- research and innovation capacity;
- customer/client awareness;
- flexibility (polycontextual, boundary-crossing skills);
- telematic-based learning.

This profile certainly represents a further development of 'VET professionalism' in the United Kingdom, in which expansion of the NVQ concept which has been criticised for being too narrow, coming to the fore. 'The current pattern in the UK closely mirrors that of the provision of VET itself...(i.e. it is uneven and fragmented); furthermore there are signs that it could become trapped in the competence dogma of NVQs.' (Young and Guile 1997, p. 206)<sup>35</sup>. Organisational roles are however not part and parcel of this profile. On the ques-

<sup>35</sup> In the United Kingdom, attempts at professionalisation link up with the HRD field, because on-the-job learning processes traditionally play a major role in vocational training (cf. also Cedefop 1995a).

tion concerning the mechanisms for implementing this profile, reference is made to the building of an infrastructure for vocational training as a political task, within which tasks are allotted to the providers of educational activity, the companies and social partners, as well as the political institutions (Young and Guile 1997, p. 210-211).

A further strategy was proposed within the framework of the EUROPROF project in the shape of a general framework for the development of a European 'community of practice'. Whilst initially the project was aimed at integrating the numerous different roles within a broad professional profile (Attwell 1997b, p. 6), the study of structures in the different European countries highlighted the high degree of fragmentation of different categories of 'VET professionals', but also a trend towards convergence. Since direct formal integration and cooperation do not appear to be a realistic option, a general framework of 'cornerstones' for the training of 'VET professionals' is being suggested as a step towards professionalisation, which will provide a basis for reform in the individual countries and systems, and also a basis for the development of a European Network of players in research and practice. The following aspects have been put forward as cornerstones for this framework for the development and further development of training for 'VET professionals' (Attwell 1997a, p. 263-264):

- ❑ training programmes at university level, including career guidance and mechanisms for continuing professional development in practice;
- ❑ training in participation in shaping production processes (anthropocentric production);
- ❑ training in social innovation and entrepreneurial skills;
- ❑ linking pedagogical training with vocational training, taking work process knowledge into account;
- ❑ training in functions of vocational training planning;

- ❑ multidisciplinary, particularly linking VET and HRD;
- ❑ possibilities and points of departure for mobility in Europe;
- ❑ training in implementation of research activities;
- ❑ cooperation with organisations in the world of work, and the social partners;
- ❑ efforts towards learner-centred training programmes, and cooperation between different organisations, both national and international;
- ❑ efforts towards situated learning and rich, context-oriented learning environments.

### ***3.2.3 Steering, coordination and professional profiles***

What conclusions can be drawn when this analysis of 'VET professionals' is compared with the concepts developed beforehand on the coordination system, the division of labour and professionalisation in this field?

- a) The development of training organisations in the direction of learning organisations is certainly not feasible with the traditional structure of segmentary division of labour. Neither does this structure appear to be particularly well-suited to the strengthening of links between the informal learning processes in companies and the formal ones in the formal training organisations. If the analysis of the roles and positions for HRD personnel is taken as an example, then there is a great variety of starting points for professionalisation processes in the overall field of 'VET professionals' – it seems highly unlikely that a generally 'correct' path or a 'correct' general profile of VET professionals exists.
- b) Turning to ideas for constructing occupational realities through the institutionalisation of vocational training, control of the appropriate knowledge base is a strategic element which must also be taken into account in the development of professional

profiles. For 'VET professionals', the particular problem arises as to linking the pedagogical or HRD knowledge base to the contextual knowledge base in the occupational field within which the activity takes place. The type of linkage of these elements as well as their weighting is very different from one approach and strategy to another.

- c) The linkage of professional profiles and structural characteristics of the training systems refers to the fact that whilst being an important element, the professionalisation of vocational training is certainly no ideal path towards change. More comprehensive and reform-targeted steps will be needed if greater change is to be brought about. The 'mapping' of coordination roles as dealt with in section 1.2.1.2. can serve as a starting point for the development of political approaches. These tasks can be combined to form more complex political approaches, as will be discussed in the next section.

#### 4. Policies 'beyond' the state-market dichotomy

As a fourth step, several select approaches to the further development of vocational training policy, which are already practised in some countries or are being suggested by important organisations are discussed in terms of their implications for the steering and coordination of education and employment.

It is assumed that strategies in education policy aimed at finding a satisfactory solution to the problem of coordination between education and employment require a general strategic orientation, whilst their individual elements must also be implemented in a coherent fashion.

##### 4.1 Outline of policies for coordination

David Ashton and Francis Green (1996; cf. also Young and Guile 1997) stress certain political requirements for an innovation strategy. Agreement on a social consensus which must include a clear link with a strategy for rising qualification on the part of companies

in particular is an essential element. Further preconditions are a improved standard of basic education and a well-developed system of incentives and regulation for further training in the workplace, and interplay between formal and informal learning processes in the training organisations which actually works. They see serious constriction of political debate as a typical obstacle 'on a conventional left-right political axis with fixed parameters. These parameters limit the debate to a clash between two opposing sets of assumptions.' (Ashton and Green 1996, p. 179) A shift towards 'high value added production' would necessitate the following measures or strategies:

- 'ensuring that the educational system is producing high levels of achievement in the field of basic intermediary level skills, such as language, maths, science and technology, on which work based learning can build';
- 'integrating practical on-the-job learning with the learning of theory';
- 'fully involving employers in the delivery of the skills necessary for high value-added production but not leaving them in a position to monopolise the definition of the nation's skill needs';
- 'systems should be in place to encourage and reward employees' commitment to life time learning';
- 'And, to repeat, such initiatives cannot merely come from government, without the political support from other sections of the community' (Ashton and Green 1996, p. 185).

It can be shown on the level of concretisation of the more specific policy aspects that there are already a lot of concrete approaches working beyond the state-market dichotomy. These can be applied in the sense of policy learning, with backing provided by the building up of a suitable international comparative knowledge base. One step towards this is to start by drawing up an inventory of such approaches. Eleven strategies or strategy components are

briefly outlined and related to the role of the 'VET professionals' in the steering and coordination of education and employment:

***Comprehensive reform strategies: education policy in Finland and Spain***

The system is being fundamentally shaken up by numerous changes to the different points of departure. The financing and steering structures, the organisation of training pathways and levels, curricula and final examinations, links with practice, etc. are all affected, which is giving rise to a new shape of education and training system, and is also reorganising and linking the players and different categories of VET professionals along different lines – much of this however is coming about implicitly and in an unplanned manner, with actions emanating from players 'outside' the education sector.

***Complex coordination systems, which encompass education and employment: regulating apprenticeship training, 'old' and 'new' forms***

The apprenticeship system has been rediscovered. Many countries are trying to breath new life into it, but often its complexity is underestimated. There are indications that the institutionalisation of the concept of vocational training is an essential element in its feasibility, linked with cooperative coordination mechanisms in the triangle composed of the social partners (coordination through associations) and the state (legal regulations and hierarchy). The players in apprenticeship training are professionalised to a very minor degree as 'VET professionals', if at all, and exchange between the 'old' and the 'new' systems could represent an important element of professionalisation in terms of policy learning.

***'Implantations' – new holistic steering systems in the traditional environment: the Austrian vocational higher education institutes***

A steering system which deviates from the organisation of the education sector in a newly organised training sector can provide valuable impetus for the system as a whole, with

a new division of labour between the players being developed within this system, and new functions emerging, which are 'blanketed' by the bureaucratic mechanisms in the traditional system. This also creates space for new profiles of 'VET professionals', which can act beyond the new system itself.

***Sectoral organisations for steering and vocational training: examples from the Netherlands and Finland***

In some countries, the steering of vocational training which in many systems is operated by fragmented combinations of state bureaucracy and market mechanisms existing in parallel is in the hands of sectoral organisations which bring together the social partners, professional organisations, and also state representatives. This can result in improved linkage between matters of content and steering concerns, as well as interactive and discursive involvement in the development of sector-specific knowledge bases. In principle, this form of organisation makes room for the development and cooperation of different categories of 'VET professionals' although actually achieving this will largely depend on what form this cooperation takes.

***Modularisation of studies: educational reform in Spain and Denmark***

Breaking broader training pathways or occupational qualification profiles down into short, manageable modules increases the options for combining and leads to a new distribution of steering functions. The weight of the players of the demand side of the education and training 'market' is increased in the steering mechanisms, which improves the accessibility of training possibilities but on the other hand can also make the implementation of broader training aims and overall steering more complicated. Guidance and counselling functions in particular are boosted by such reforms.

***'Competence based qualifications': the NSVQ in England***

The concept of 'competence based qualifications' links the creation of a system of qualifications which provides signals to the labour

market with more output-orientation in the education sector. Through shaping qualifications, which to a certain extent compete with the vocational structuring of the signalling system, a new system of expertise is created. Certain groups of 'VET professionals' – 'new' players but also certain forms of cooperation between 'old' players – must take over qualification shaping, implementation and maintenance. More space is created for more 'constructivist' solutions as compared with the 'naturalistic' vocational signalling system.

***'Transition policy' – policies for school-to-work transition: education and labour market policy***

With the over-proportionate increase in youth unemployment in many countries since the eighties, direct political interventions have been developed at the point of transition between basic training and the labour market, which have often prompted the parallel existence of systems of labour market policy and labour market training alongside the formal education system. Such systems have also been developed, organised and implemented by new categories of players. Only recently have efforts been made to link these originally rather complementary and compensatory labour market policy measures with training policy. This often led to new efforts at cooperation between different categories of players (e.g. education administration and labour administration).

***Feedback from anticipation of change and innovation in the employment system: preventive ESF-initiatives and projects***

Over recent years, more and more mechanisms have been developed as a necessary addition to the traditional research-oriented approaches to the recording and projection of changes in qualification requirements, which should provide for systematic feedback in the form of interactive consultation systems between the different players in the employment system, education system, as well as administration and organisation. These mechanisms may be linked to the sectoral organisations, although they may also be constructed

on other levels. This means that the predominantly quantitatively oriented research models become embedded in the communities of practice, and at the same time systems for generating and exchanging new, more qualitative knowledge are created. The different categories of 'VET professionals' are given the opportunity of becoming involved in the production of knowledge.

***Efforts to develop the knowledge base in the education sphere: examples of support in the Netherlands***

Alternative steering and coordination models necessitate the development and the accessibility of a common knowledge base. Because of its multidisciplinary structure and its applied character, vocational training is pretty much uncoupled from the traditional knowledge-producing structures in the universities, and knowledge is often of a predominantly informal nature and is incorporated in the different categories of 'VET professionals'. Constructing a knowledge base necessitates a move towards the formalisation of knowledge, which could possibly be encouraged by application-oriented support structures as is happening or has already happened in the Netherlands for example, in the shape of specialised institutes for different functions (research, curriculum-development, testing and test development, applied development programmes). Through this type of establishment, which can also take the shape of a network and be less specialised, certain groups of 'VET professionals' are created, which can play an important role in weaving connections with the universities and other institutes of higher education.

***Alternative financing strategies: training funds and education vouchers***

Steering and coordination mechanisms are considerably influenced by the financing strategies, which in turn can allocate very different responsibilities and influence to the various players and 'VET professionals'. The traditional form of state budgeting, which clearly lays down exactly how the money is to be spent tends to run on an incremental basis from one year to the next, is clearly con-

nected to the bureaucratic steering mechanisms and the traditional segmentary forms of division of labour amongst 'VET professionals' – the market mechanism on the other hand encourages the dominance of business strategies. The most important alternative mechanisms are forms of cost sharing (e.g. sectoral training funds), which require cooperative interaction and decisions, and other types of vouchers, which constitute quasi-markets and often require specific types of regulation.

### ***Strategies for the development of lifelong learning: coherence and 'linkages'***

In many countries, the spread of the idea of lifelong learning and its promotion by the European Union as well as other international organisations has prompted the setting up of broad-based expert groups for developing national strategies for lifelong learning. Part of the work of these groups usually consists of assessing national education policy and suggesting reasonably concrete steps towards reform. This prompted national discussion amongst 'VET professionals' amongst others and prompted and encouraged steps towards the laying down of appropriate knowledge bases. The European employment strategy represents an important element of incentive in this context.

## **4.2 Experience from selected policies**

Some of these political approaches will be discussed at greater length, in order to highlight the special implications of professionalisation, the effects on roles and functions, and the division of labour between 'VET professionals'. The examples and approaches should be understood in stylised form, more as a taster to encourage more in-depth probing than as a conclusive assessment.

### ***4.2.1 A comprehensive strategy for overall reform***

The Finnish strategy of overall reform consists of a comprehensive set of changes affecting all aspects of the education and coordination system (aims, planning, steering and finance structures, the educational supply

structure, curricula, recording of qualifications, linking of training and companies in the form of in-house practical training and apprenticeships, linking vocational training and higher education, linking initial training and adult education).

This strategy, which emanates from and is led by the political and administrative bodies supported by the social partners, introduces a lot of change at many of the system's elements, providing even external players as well as the educational organisations and educators with considerably more space to define and develop their activities. The basic pattern of the reform strategy follows the concept of 'management by objectives', with the objectives being provided by a common set of strategic aims from the political arena.

But educators have the impression that these changes are led from outside the system, and may even clash with their professional identity: by stressing external influences, and particularly the needs of companies, on the aims and knowledge base of vocational training, the conventional and more comprehensive educational aims were undermined, and actual teaching activity upset by the addition of many other tasks and responsibilities. There are also signs of the existence of a certain potential for conflict between the established systems of pedagogical production of knowledge in the universities and teaching-based education on the one hand, and the groups and forces opting for reform on the other.

With regard to the coordination system, many new elements come into being in this strategy of overall reform, whose interplay is conceived within a loose strategic master plan. The implementation strategy, however, is left rather open, and leaves a lot of scope for the development of the individual elements of reform, so that the real interplay between these elements only begins with implementation, and is thus hard to predict.

Unintended effects can well be expected to crop up with this reform strategy, and with so many reform initiatives underway at the same time some are bound to be more suc-

cessful than others. In any case, this approach is a field in which more in-depth analysis of how things are moving and of their effects can also provide other countries many important insights.

#### **4.2.2 Complex coordination systems: apprenticeship**

As a system of vocational training and with regard to what, superficially at least, looks like a successful coordination function of education and employment for young people, apprenticeship, particularly in the German so-called 'dual system' has caused such a stir that for a time it was an export hit. The complexity of the apprenticeship system derives from the fact that this system is placed at the interface between the different social systems where the various cultures and institutional models merge, i.e. clash with and complement one another.

Looked at more closely from the point of view of the coordination system, this system is a complex combination of market, contract and regulation, which embraces a multiplicity of 'VET professionals' and is also tied to the system of industrial relations and the occupational system. Apprenticeship training in the traditional sense of the term should be interpreted as an institution within the meaning of institutionalism, so the way in which it works and also its political influencability is connected to many social requirements irrespective of whether it is a case of changing already institutionalised systems or newly establishing this system. Simple organisational or utilitarian-economic interpretations would fall short of the mark.

At the same time, this institution is marked by far-reaching inherent contradictions which complicate its performance: because of the informal nature of the training processes and the unequal power relations or dependencies, the workability of this system largely hinges on the trust of the numerous players involved, which is basically also the measure for the viability of technical-organisational solutions.

The basic peculiarity of the apprenticeship system lies in the fact that in this model not

only are the two systems – training and employment – bridged, but training and selection is organised within the company environment, in other words in principle outside the formal education system (at the same time it is a relatively integrated part of the formal education system). Essential steering decisions are taken market-style by the companies (allocation of training places, selection of applicants, training infrastructure, concretisation of the content and quality of training courses, etc.), although they are rooted in a rather narrow system of regulations, which is controlled by a combination of associations and state bodies. Traditionally, an accompanying school component which can be part of the regulations governing the school training system is built into the system, and there is also a occupational structure which constitutes the basic units of the traditional occupational system, and the formal competences related thereto.

One essential element which is often neglected in this field is that social structures in the form of occupational organisations also correspond to the formalised categories of the occupational system, whose role in the overall regulation system is easily overlooked as decisions on regulation are usually taken at the higher, central level. Because of this structure, there is a combination of standardisation and fragmentation which exists at all levels. Standardisation produces the 'training occupations' which represent a combination of qualification and skill profiles, and which act as intelligible signals to the labour market. But because these categories are separated from exercising the occupation in the work process, however, the difference between 'exercising occupations' and 'training occupations' provides a source of flexibility and guaranteed expectations which is often not taken into consideration<sup>36</sup>.

<sup>36</sup> In discussions on the inflexibility of apprenticeship training, the 'training occupations' dimension is often mixed up with the 'employment occupations', whereby these are identified with the Fordist US system of regulated occupations, which refer, however, to the dimension of the employment occupations (cf. Lassnigg and Pechar 1990).

The system of 'training occupations' corresponds essentially to the new 'competence-based' systems, a fact which is however concealed by the 'naturalistic' interpretation of the occupations. This aspect is of major importance to the mechanisms for constructing the occupational profiles, because this does not happen according to 'constructivist' consideration of what is practicable and reasonable, but also following factual consideration of what is, is happening, or will be.

The many aspects and players involved in these construction processes make any further development of the structure both difficult and long-winded. The vocational structure of apprenticeship training governs both the company structure on the employer side (through linking with access to the independent exercise of an occupation) and the occupational structure of the employee side, and also embraces the different segments of companies (small, medium, large; technical, commercial, industrial, etc.). The use of manpower, the qualifications structures and also the innovation dynamics vary tremendously between these different sectors, and any further development will depend on the political negotiating processes in the appropriate social structures, which can be characterised by very different constellations within the fragmented framework.

What is common to these systems however with regard to further development is the fact that in-house training reflects the existing company strategy, and does not provide any additional input for the innovation dynamics in the companies. A second common characteristic is their high informal load, with codification processes tending to be not particularly institutionalised (through loose framework conditions, model or sample documents, codified company practices, training of trainers, the school part of training).

In the conception of the dynamics of forms of knowledge the qualification focus of traditional apprenticeship training lies fairly and squarely on the categories of know-how and the handing on of tacit knowledge. This is an important strength compared with the formalised school system, which cannot purvey these

components unless at great cost – but it is possibly a weakness when compared with the demands of innovation dynamics, which also stress the other forms of knowledge (cf. Section 2.2.). A fundamental question for the development of the apprenticeship system is the development and shaping of the link with the new HRD mechanisms.

### ***4.2.3 Implantations – a comprehensive steering body in a bureaucratic system***

The Austrian system of occupational higher education institutes can be used as an example of 'implantations'. This system is an example of how a new element can be incorporated into an education system whose basic characteristics work along completely different lines to its environment.

The Austrian education system is highly regulated, politicised and nationalised, both in terms of its content and of its organisation, there is a marked segmentary division of labour with decisions being taken by the political and administrative bodies, and sometimes even by the central, corporate organisations. Despite several attempts at deregulation since the nineties, nothing has fundamentally changed.

The law on vocational higher education of a few years back brought a new organisational structure into this environment which is built up according to the accreditation principle and will follow professional criteria by express intent<sup>37</sup>. The legal basis merely laid down the basic aims and criteria, an accreditation board made things somewhat more specific, and the actual development work as well as programme implementation takes place within

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<sup>37</sup> Despite sharing the same name as the German Fachhochschule, it was more the model of the former British polytechnics which was applied, obviously with some important differences, with a clearer distinction being made from the universities, for example. The problem of the relationship between the Fachhochschule and universities, in particular the tendency for the two to become increasingly similar, which is discussed as the concept of academic drift, played a major role in the development phase.



the educational organisations themselves. Within the general premises of the basic structure of study courses and the status of qualifications there is comparatively speaking plenty of leeway for the conception of qualification profiles, the shaping of curricula from the point of view of content, and the methodological principles. A survey investigating the need for and acceptance of the targeted qualifications is a prerequisite for the approval of study courses, and a regular assessment of courses is planned for, so that they do not automatically simply run and run. Financing is dealt with by the public authorities according to a set of target criteria and reference figures related to study places, whilst the accreditation body is responsible for qualitative assessment. In principle, a study course can also be privately financed, but the charging of study fees is not permitted.

As regards the way in which the steering and coordination mechanisms work, and also in terms of the professional demands on the players involved, the occupational higher education system differs widely from its environment with both functions and professional requirements being much more highly concentrated both from an organisational (on the one hand in the accreditation body, and on the other in the study course teams and sponsor organisations) and from a staff point of view. During the implementation of this system it became clear that the required profile of VET professionals would first have to be developed, in the first stage through learning-by-doing, and only later were systematic steps taken towards staff development.

This steering system moves beyond the segmentary division of labour between VET professionals which is outlined in Section 3.1.3.1. since it requires more complex profiles. Indirectly, this revealed the need for such qualifications on the one hand, whilst on the other it also provided a lot of incentive for the other areas of education (e.g. with certain functions in the steering system such as evaluation or needs analysis being made more explicit). A special aspect which is as yet unsolved in this system is the question of developing application-oriented research. With regard to the use of policy borrowing and the possibility of the

'implantation' of alien elements, this innovation in educational policy could prove highly stimulating.

#### ***4.2.4 Policies for school-to-work transition: education and labour market policy***

The question of the transition from education to employment became the focus of political attention with the rise in youth unemployment in the eighties. Interestingly enough, however, for quite some time the question was only dealt with very generally and indirectly, and it was a long time before direct political strategies were systematically discussed and developed for this sector. Interaction is desirable in this area of policy, linking different types of players in the different systems and at different levels. For a long time the weakness lay in the fact that the processes of transition were only understood in terms of individual market transactions, with the more compound organisational connections and guiding forces being neglected.

Incorrect choice of training, inadequate qualifications, high minimum wages, and structural changes on the youth employment market in conjunction with low rates of growth and shrinking employment were the focus of discussions in the eighties. Establishing priorities for labour-market policy for young people was the most important response, but often with little or no success. An ongoing OECD project looked into the question of transition policy.

Alongside the traditional themes of minimum wages and labour market policy for young people, aspects of education policy which can help to smooth the transition (structure of educational incentives, content of curricula, contacts with the world of work, information and counselling) were thereby also brought into the public eye.

From the point of view of 'VET professionals', these analyses brought the aspect of cooperation on the more complex levels of labour-market policy in particular to the fore, where major flaws are to be found. European employment policy also underscores this aspect.

#### ***4.2.5 Feedback from anticipation of change and innovation***

The field for developing mechanisms for anticipating innovation and change in the employment system and in questions of skill requirements possibly demonstrates most clearly the changes which are occurring in the shaping of coordination systems.

The original approach, beginning in the seventies when the importance of economic structural change to training policy was becoming increasingly clear and computer models for system analysis were developed, was the prognosis model of education and manpower planning. It was recognised back then that education policy cannot be guided by stationary skill requirements, but must take account of the changes to be expected in the economic and vocational structure, particularly given the importance of human resources for economic growth. The response was clearly rooted in bureaucratic logic and the segmentary organisation of the education system: science and research should develop and supply the tools, teaching administrations should set up planning departments, which would be responsible for implementing the results of prognosis models through corresponding educational policy steps. This conception also squared beautifully with the then predominant paradigm of technocratic politics.

In practice, however, this approach failed for many reasons, and the change in political paradigms which came with the neo-liberal U-turn brought with it the predominant trend towards the efficacy of market-economy mechanisms, which were also expected to bring about coordination and steering in the training field. Self-steering also became an important buzz word for sociological and socio-scientific considerations. In education policy discussions in the late seventies, the interface between the predominant bureaucratically organised training system and the market-economy based mechanisms in employment and the labour market were complicated by the terms of coupling, uncoupling and flexibilisation. The first forms of distinction between types of qualification or more gen-

eral educational aims were a basis for this, and they continue to play an important role, even today: the distinction between general and specific qualifications in the human capital theory, or the distinction between general, foundation, and specific qualifications in the education policy analysis in the OECD framework.

The basic idea underlying these distinctions was that the elements in the education processes with long-term effect should be separated from those with a short-term effect, in order to establish them in different organisational arrangements: the qualifications with long-term effect should be acquired in the more inflexible bureaucratic education systems (planning without adaptation), whereas those with short-term effect which therefore need to be renewed very quickly should be acquired on the job itself or in the further training system (adaptation without planning).

These stringent and tempting considerations failed because of the complex nature of qualifications and skills, since although the basic underlying distinctions could be made on a conceptual basis, in practice it was impossible to define qualifications or to square this approach with the nature of the learning process because of the decontextualisation of the long-term qualifications component. The analyses of the implications for qualifications of the new production concepts in particular made it clear that ideas about 'specific qualifications' were highly influenced by the image of company-specific qualifications within a Fordist and technologically determined model of internal company labour markets, which was however increasingly undermined by later research.

So new solutions had to be found in order to square the anticipation of change in the necessary skills in the employment system with the logic of development of suitable qualification profiles in the training system. These solutions now appear to produce a two-track approach which builds on the multiple possibilities for interaction between the various players and types of players in the coordination system:

- on the one hand the aim of employability can be interpreted as a multi-dimensional qualification concept, which brings together both general and specific components, and should in particular also form the basis for further learning processes. The realisation of this concept is based on the interaction between different players with highly varied possibilities of primary and informal experiences in the practical context of the employment system being targeted alongside the more formalised learning procedures;
- on the other hand, the dichotomy of formalised prognosis models as a basis for planning and market economy-based assignment processes is bridged through the development of interactive anticipation systems which, rather than shunning model calculations, tend to embody them in social processes of evaluation and dissemination between the players who contribute their primary experience.

This approach corresponds to ideas about the new forms of production of knowledge within the innovation system, with a knowledge base being built up in complex social processes through the pooling of multiple experiences and methods for gaining knowledge, and by involving the various players concerned, so that applied and basic knowledge, as well as the production, dissemination and use of knowledge are all related. Although this conception appears very simple and plausible, it is in no way trivial since it makes major demands on implementation.

The players from education, the economy, research, politics, etc. must be brought together and they must be prepared to carry the communications can, to formulate and work out their ideas, to understand other, different ideas, particularly those from science and research, to do the necessary weighing up and carrying out of interest-related matters in a cooperative manner and to draw conclusions in the awareness that this is an ongoing process not only of investigation but also of reality building, which can be somewhat tiresome at least during the early stages (because of the lack of information, interest-related idi-

osyncrasies and hypostatisation, etc.), and consists at the beginning of more of a revelation of not knowing than in the production of knowledge itself. But if this strategy is consistently applied, it can give rise to policy learning and consensus-forming policies which are seen as a central requirement on the path towards a learning society.

## 5. Conclusions

The most important conclusions from this analysis of steering and vocational training from the point of view of the coordination of education and employment against the background of innovation dynamics towards the learning society concern theoretical-conceptual as well as practical-political viewpoints. The conception of practical-political steering approaches and in particular the role of VET professionals in these approaches depends on the theoretical-conceptual premises established for constructing the coordination system between education and employment.

Two theoretical-conceptual decisions are crucial to the outcome of considerations:

1. firstly, how the relationship between the qualifications/skills level and 'real' practical demands is conceived, and more specifically whether this link is interpreted along 'naturalistic' lines (qualification-skills as the result or a condensed form of research into 'real' requirements, using right or wrong from the central evaluation criteria), or in a 'constructivist' manner (qualifications-skills as 'institutions' on a symbolic level, with the job of structuring the inordinately complex reality of requirements in a logical manner, with evaluation criteria which in turn are applied to the steering and coordination mechanisms in a 'constructivist' way);
2. the second fundamental decision concerns the way in which the possible scope of coordination and steering mechanisms is conceived, in particular whether it is limited to the extended dichotomy of the traditional mechanisms of bureaucracy and market, with all its possible intermediary forms, or whether it has had additional

dimensions of independent coordination and steering mechanisms tacked onto it in the light of recent organisation theory and research, particularly through networks and the neo-corporatist interest organisations or associations.

Fundamental models for the coordination and steering system are then also shaped, their exact form depending on which way these fundamental decisions went. The case of coordination between education and employment is a special one in that, at least as the relationship stands at present, coordination must occur across the boundary between the (predominantly) bureaucratic system (education) and a market-style coordinated system (employment, labour market), with the idea of one being extended into the other being highly unlikely although not to be ruled out completely.

The compromise in the market-bureaucracy dichotomy exists in the concept of public choice strategies, in particular through the inclusion of quasi-markets which bind the players in market decisions to their customers, thereby increasing output-oriented behaviour. Apart from the fact that this conception probably excessively simplifies many aspects of coordination between education and employment<sup>38</sup>, it contains absolutely fundamental assumptions about the type of behaviour of the players concerned, and therefore also about VET professionals: the behaviour in bureaucratic organisations, and therefore also in educational organisations is so strongly defined by this model of behaviour based on self-interest inside bureaucracy, particularly the interest in persistence, that emerging learning processes and strategies tend to be nipped in the bud. The push for change must therefore come from the choices and preferences of the customers, which do not only provide the stimulus but also deter-

mine the direction of change. 'VET professionals' in schools are therefore conditioned towards adaptational behaviour and market strategies, and the segmentary division of labour between development, planning, control and implementation stands in principle despite the changes in vision and shifts of emphasis.

The concept of professionalisation of HRD staff in the company sector, which draws on the development of the learning organisation, can more or less be seen as the opposite of the public choice strategy. The spectrum of professional tasks, roles and positions of HRD professionals can also be taken as a basis for the professionalisation of VET professionals.

This analysis draws on the constructivist model of relations between qualifications-skills and requirements, and on an extended conceptualisation of steering and coordination mechanisms. A general framework of the coordination system between education and employment is developed, in which the two traditional mechanisms of bureaucracy and market have their place, because amongst the many possible interactions between the different types of players concerned there is also space for the mechanisms of corporative organisations and social networks.

A closer observation of the way in which the education system is built up of the three basic elements – compulsory general education, higher education and vocational education – as well as an institutionalist analysis of the occupational system underscores in many ways the shortcomings of the mind-set shaped by the bureaucracy-market dichotomy: because they emerged from the employment system and because the interconnections continue to exist, vocational training systems can hardly be seen as purely bureaucratic systems; on the contrary there are lines of separation between them and other areas of the education system, as well as with the employment system. There are however many links across these fault lines which the traditional mechanisms cannot adequately cover. These links are seen as fundamentally contingent, and the form which they take determines the configuration of the coordination system.

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<sup>38</sup> Who are the 'customers' – young people, their parents, employers? What are the incentives which determine behaviour, and the distortions? What degree of market failure is there in quasi-markets? Problems of coordination of education and labour markets on the time axis – market myopia, etc.

Institutionalisation of the occupational system is an important element in the structuring of these relations, with apprenticeship training representing a special case of the integratory institutionalisation of the relationship between training and occupation.

The concept of the innovation system from the most recent innovation research in the field of the evolutionary economy and the post-Fordist paradigm of the social economy can be seen as a further dimension, which conditions and structures the coordination system between education and employment. This concept specifies the implications of the non-determinist technical-organisational change in employment and qualification against the background of an analysis of company and economic competition strategies in the globalisation process.

This brings new aspects to the fore which are important for coordination and steering: knowledge, production of knowledge, and the dynamics of forms of knowledge, organisational change, learning and the learning organisation. At the same time, it also makes clear that the innovation strategy for the development of the learning society does not arise spontaneously and is no natural trend, but rather just *one possible* strategy amongst others, which presumably brings with it many advantages for highly developed industrialised societies, but which nevertheless depends on the development of suitable framework conditions. If these considerations are consistently applied to vocational training, then certain conclusions emerge which are also of relevance for the coordination system:

1. firstly, for vocational training as a part of the innovation system it is the knowledge-producing side of learning which should be stressed as opposed to the reproductive side (both in terms of the processes involved, and also as far as building the basis of knowledge for the respective areas is concerned);
2. secondly, the development of learning organisations in employment and education would also prompt the development of crossover forms of organisation which

make it possible to connect informal and formal learning processes (an example of these is the institution of apprenticeships);

3. thirdly, the coordination of education and employment should be understood not as education being adapted to the needs of employment, nor simply as the allocation and matching of various elements, but also as the shaping and building of vocational and qualification-related structures, which are capable of promoting the innovation process. What emerges from the innovation strategy as far as the development of VET professionals is concerned is that the traditional segmentary division of labour between different functions, particularly organisational and implementing ones, is being transformed into more complex profiles, that the predominant conception of teaching is being transformed into the concept of learning, and that the organisational functions (development, planning, decision-making, evaluation, etc.) are becoming professionalised (and often at the same time de-bureaucratized and de-politicized).

From a practical-political point of view, the general framework of the coordination system for education and employment shows first and foremost that a whole host of starting points and interactions which can help solve the coordination problem in different ways must be taken into account. Coordination and steering are not seen in this model as a holistic block mechanism, but rather as the interplay (partly intentional, partly not) between a whole series of interactions (strategies, policies), the degree of success of which may vary (i.e. there can be different degrees of mismatching, contradiction and clashes between these interactions).

Many concepts, measures and strategies from the present-day spectrum of educational policy approaches and proposals in the European and OECD field which could help solve the problem of coordination are being sketched out and discussed, and a selection of these approaches are dealt with in more detail.

The general conclusions are as follows: the shaping of coordination mechanisms should build on the analysis of available structures, identify the most important flaws and bottlenecks and strive to remove them; the available structures should be interpreted as a complex system of relations between different types of players, many of whom can be defined as 'VET professionals'; to a certain extent the workings of the coordination system therefore also reflect the way in which labour is divided between these categories of 'VET professionals'; the development of coordination and steering strategies should build on the skills and cooperation of 'VET professionals', taking particular account of the role of teachers and trainers as core professionals; the identification and further development of new forms of division of labour between these

professional forces and the construction of adequate structures for professional development are in this sense important elements of innovative coordination policy.

Breaking down the coordination system and steering strategies into numerous different elements and analysing their systematic interplay also facilitates processes of policy learning and policy borrowing in the European and international field. The effects of specific strategies can be observed in different environments, and the exchange of experience and the further development of the common knowledge base is encouraged in forms of cooperative research and through the creation of international networks in practice and research.

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# Financing vocational education and training

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## **Abstract**

*This paper provides an overview and analysis of current arrangements for the financing of vocational education and training (VET) in the Member States of the European Union. It is based on the evidence provided in a selection of the national 'financing portraits' commissioned by Cedefop in 1998, supplemented by readings of other recent research reports on the topic. At the time of writing, the comparator countries are Austria, Denmark, France, Finland, the Netherlands, Sweden and the UK. The structure of this paper follows the common format agreed for the financing portraits. Authors were asked to provide quantitative data on expenditure for different types of training and a qualitative description of the flow of funding through VET structures, identifying the sources of funding and the mechanisms for allocating funds between levels and to provider institutions. Although a single set of definitions could not be applied uniformly across countries, authors were asked broadly to distinguish between initial vocational training (IVT), continuing vocational training (CVT) and training for the unemployed (UVT). The current paper seeks to synthesise the evidence from the country reports in relation to these areas, mapping the current patterns across countries, and noting how they are changing over time. Where possible, typologies of different funding systems have been developed to highlight common and distinctive characteristics of different national subsystems, and to provide a framework for analysis. The analysis focuses on how the different funding systems function and the effects they have on efficiency, quality and the distribution of opportunities. The country financing portraits have not always provided a commentary on the effects of the different funding systems, but this paper draws on such evidence as there is from the portraits and other research reports to discuss these effects.*

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## 1. Introduction

This paper offers an overview and analysis of current arrangements for the financing of vocational education and training (VET) in the Member States of the European Union. It is based on the evidence provided in a selection of the national 'financing portraits' commissioned by Cedefop in 1998, supplemented by readings of other recent research reports on the topic. At the time of writing, the comparator countries are Austria, Denmark, France, Finland, the Netherlands, Sweden and the UK. A full synthesis report based on the full set of financing portraits will be undertaken when all of these have been completed.

The structure of the paper follows the common format agreed for the financing portrait. Authors were asked to provide quantitative data on expenditure for different types of training and a qualitative description of the flow of funding through VET structures, identifying the sources of funding and the mechanisms for allocating funds between levels and to provider institutions. Although a single set of definitions could not be applied uniformly across countries, authors were asked broadly to distinguish between initial vocational training (IVT), continuing vocational training (CVT) and training for the unemployed (UVT). Particular attention was to be paid to the relative shares of funding for each area of VET originating from public and private sources, and the changes over time in these shares; trends in overall levels of funding for each area of VET; and new mechanisms for the distribution of funds.

The current paper seeks to synthesise the evidence from the country reports on IVT, CVT and UVT, mapping the current patterns across countries, and noting how they are changing over time. Where possible, typologies of different funding systems have been developed to highlight common and distinctive characteristics of different national subsystems, and to provide a framework for analysis. The analysis focuses on how the different funding systems function and the effects they have on efficiency, quality and the

distribution of opportunities. The country financing portraits have not always provided a commentary on the effects of the different funding systems, but this paper draws on such evidence as there is from the portraits and other research reports to discuss these effects.

### 1.1 Methodological issues

The analysis of funding systems across countries presents a number of methodological problems. This applies primarily to the use of quantitative, and rather less to the use of qualitative data, but does somewhat constrain any analysis which seeks to go beyond the description of isolated systems. There are limits to how far we can classify subsystems according to a single set of standard definitions; limits to the analysis of over-time changes, and, above all, limits to how far we can make meaningful comparisons between countries. The main sources of difficulty lie in four areas. First, the usage of terms and categories common in VET discourse varies substantially between countries. Second, there are major gaps in the data on VET in all countries. Third, such national data as are available are collected in different ways and on the basis of variant definitions. Lastly, there is a paucity of evaluation evidence in most countries in relation to the implementation of new VET policies.

The classification problem starts with how VET itself is defined in different countries and continues through to the definitions of the boundaries between IVT, CVT and UVT. Occupational training can be distinguished from education in that, unlike the latter, it confines itself to preparation for particular work roles and tasks. Vocational education, however, cannot readily be distinguished from general education since any form of general education may contribute to general vocational preparation. Most countries include an element of general education in vocational educational programmes and in some countries, like the UK and Sweden, vocational education is delivered in institutions which also deliver general education. In all countries, therefore, there is a blurring of boundaries between the two, and in some countries, this is further exacerbated by lack of dedicated voca-

tional institutions. The country reports have dealt with this problem as best they can, but clearly it has been difficult in some cases to decide on what to include and what not to include, particularly when it comes to identifying the VET element of single funding streams to non-dedicated institutions.

Each country draws different boundary lines between IVT, CVT and UVT. The lower and upper age limits for IVT vary across countries. Some countries include short-cycle vocational higher education as part of IVT, some as part of CVT and some do not include it in VET at all. Some countries include special programmes for unemployed youth as part of IVT, some treat it as UVT. Retraining for workers in danger of redundancy through restructuring is defined as CVT in some countries and as UVT in others. These definitional variations obviously affect the way quantitative data are collected and classified.

There are major gaps in the data on VET funding in all countries. The main problem lies in the paucity of data on private investments, whether by individuals or enterprises. No country seems to have accurate data on how much individuals or households spend on fees, travel and materials for IVT let alone for CVT where private investment is more prominent and diversified. If opportunity costs are included as part of private costs, then the data are even more inadequate. Enterprise spending on IVT and CVT is just as poorly recorded. There is no agreed way for companies to account for their spending on training (Drake and Germe, 1994), and there is an understandable tendency for departments responsible for it to under-record the costs. What data are available are mainly based on national surveys, like the labour force surveys, and these tend to use different definitions<sup>1</sup>. The country reports which provide data on enterprise spending use various definitions. Some only report the amounts employers con-

tribute to levies for training (France); some make estimates which include costs to employers of equipment, materials and training supervision (the majority); some include, in addition, estimated costs of lost production from supervisors and trainees.

Public spending is less difficult to estimate since it is all, one assumes, somewhere in the public accounts but it is not entirely straightforward even here. There are problems over whether to include the costs of tax rebates, grants, loan interest and capital investment; over which spending is specific to VET; and even over the sum totals of central government expenditure when many ministries and agencies are involved, as is often the case with CVT. The country reports again each deal with this in different ways. The difficulties increase when one remembers that not all the money budgeted for VET in a given financial year is actually spent in that year; that some of it is 'clawed back' in the next year when it is not spent as approved; and that in some cases much of the central government expenditure lies hidden within non-earmarked transfers made to lower tiers.

Given the lack of clarity in these areas, it is clearly not possible to determine with complete accuracy for any country, either the total national expenditure on VET, or the distribution of that between IVT, CVT and UVT. Only very rough estimates can be made for each country of the shares of individual, enterprise and government investment in VET. One can report with rather more confidence what the national trends have been in spending from different sources on different parts of VET, so long as the classifications have remained the same over time, but often this is not the case. Comparisons between countries on any of these measures are very treacherous. One can say with some confidence when public expenditure in particular areas of VET has gone up or down by a significant margin in most countries and likewise for enterprise expenditure in some countries, but it would be risky to give even trend directions in relation to individual expenditure. In terms of the relative shares of public, individual and enterprise investments in any area of VET, one can make an informed guess about the coun-

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<sup>1</sup> The EU survey of continuing training in a sample of firms in 12 EU countries, reported in *Continuing training in enterprises: facts and figures*, European Commission (1999), is a brave exception but even this cautions readers about the methodological weaknesses in its sample frame.



tries occupying the extreme positions on a given continuum of distribution patterns, but no more than that.

Two further points should be made about the methodological limits of this paper. Firstly, the main source of evidence is the seven country portraits completed at the time of writing i.e. those for Austria, Denmark, France, Finland, the Netherlands, Sweden and the UK. This is both a small sample of current EU Member States, and a biased one. Northern European countries are clearly over-represented, and southern European States are absent. Given the typical regional patterning of VET system types, the analysis in the paper cannot be taken as a true representation of the balance of types in the EU as a whole, although the categories employed may be applicable to all EU systems. Some compensation for this skewing is achieved by drawing on other research sources, but the limitation remains. Secondly, there is relatively little evaluation evidence on the effects of funding reforms in many countries. This paper makes use of such evidence as was available to the authors, much of which comes from Germany, France, the Netherlands and the UK.

## 1.2 Policy issues

VET has been high on policy agendas in most EU countries during the past decade. This is because of its perceived importance to national economic competitiveness and social inclusion, the latter particularly in the context of rising youth unemployment, and because there has been growing public demand for it. Rapid changes in technology and work organisation, combined with the effects of ageing populations and workforces, have given particular prominence to the notion of lifelong learning. Skills rapidly date, and continuous retraining and updating are therefore increasingly important to enterprises wishing to remain competitive and to individuals wishing to retain employment. Demographic change and changing patterns of work and leisure also mean that more and more people are seeking to continue learning at different points in their adult lives, thus making obsolete the traditional front-loaded structure of formal education systems.

Participation in VET has, as a consequence of these social and economic changes, grown considerably in almost all countries. This is a trend that has been encouraged and welcomed by most governments; however, it also entails rising costs. These have put great pressure on public finances, when they are already squeezed both from the impact of global economic change and from the ageing of populations which reduces tax revenues at the same time as increasing demands on welfare and unemployment spending. The result of all this has been an increasing concern with how VET can be afforded.

European governments generally want to see the creation of genuine lifelong learning systems, but most are taking the view that they cannot afford to pay all the additional costs (OECD, 1996; OECD, 1999). Governments generally accept that the State will remain the major funder of IVT (except in the case of apprenticeship systems)<sup>2</sup> and UVT, but in most cases are looking for ways to limit the costs of expansion through reductions in unit costs. In the case of CVT, governments are looking for efficiency gains and also, in many cases, greater sharing of the costs among beneficiaries. CVT has a relatively unlimited potential for expansion and commensurate cost escalation for which governments are unlikely to act as guarantor. Furthermore, CVT is not yet regarded as a public right to the extent that IVT has become so regarded. Individuals and enterprises benefit from CVT and many governments think it right that they should bear the majority of the costs, providing that this is not detrimental to quality, equality of access and social inclusion. Policy debates about VET funding have, therefore, increasingly revolved around three issues:

- a) how to lever greater private investment;
- b) how to increase efficiency and effectiveness of provision and

<sup>2</sup> According to Eurostat data (European Commission, 1997b), enterprises funded 75% of the dual system in Austria, the majority of the dual system in Germany and between 51% and 75% of apprenticeships in Ireland. Enterprises funded 75% of traditional apprenticeships in the UK, and 75% of apprenticeships in the Netherlands.

- c) how to ensure an equitable distribution of opportunities.

Funding systems are seen as instrumental in all of these and have therefore been in the forefront of much policy debate.

Private investment in VET may be encouraged by improving the efficiency and quality of supply; by making outcomes more transparent; by increasing the quality of information on costs, benefits and returns to investment; and by a variety of other incentives and more coercive measures (OECD, 1999). Policies to achieve all of these have been tried in various countries. Improving qualifications systems, so that they give better information on the skills of qualification holders, is one way of increasing transparency and encouraging investment both for individuals and enterprises. Schemes like Investors in People (IiP) in the UK, which kitemark firms attaining a benchmark standard in human resource development (HRD), help to disseminate information of the benefits of investment. Financial incentives for individuals and enterprises to invest in training can take the form of tax rebates, individual loans with and without interest, and a variety of subsidies. More coercive measures include a license to practice laws which encourage individuals to train and qualify, laws compelling firms to train young employees or to give paid training leave to adult employees, and mandatory training levies on firms. All of the latter can be enforced through social partner agreements rather than statutes and all may be regarded as incentives to investment. In the case of levies, the increased incentive lies both in the compulsion and, in principle at least, in interventions to deal with the 'externalities' which cause market failure. When measures are taken to prevent some employers free-riding on the training investment made by others, a more equitable sharing of costs can be achieved, and this may reduce employer resistance to investment.

Spreading the costs of VET investment between the State, enterprises and individuals has obvious attractions but it can often run up against strong resistance, particularly

when it is seen to undermine access for some groups. Another way to keep the public costs down is to raise the efficiency and effectiveness of publicly-funded VET. Governments have increasingly sought to use funding mechanisms to achieve these ends. Decentralisation of the administration and funding of VET has been used to improve efficiency; it is thought to make those planning and delivering provision more responsive to local demand and more conscious of costs. Decentralisation can involve delegating power and responsibility to the regional and local authorities or offices of central ministries or even to the provider institutions themselves. In each case it may be combined with measures which encourage diversity and competition amongst suppliers and this is also sometimes seen as a driver of efficiency. To create further incentives to efficiency and effectiveness, new funding systems have been developed which allocate funds to institutions more precisely in relation to actual inputs and outputs. These measures may sometimes have unintended or unwanted effects in terms of efficiency, quality and equity. They are certainly likely to increase transaction costs and require more monitoring and evaluation. In many cases, consequently, decentralisation of administrative control has been accompanied by a strengthening of central standard-setting and evaluation capacity. Many governments now prefer to delegate detailed administration to lower levels and concentrate central powers on the development of the frameworks, levers and 'steers': funding mechanisms are increasingly becoming the preferred instrument for 'steerage'.

The remainder of this paper examines the patterns and shifts in funding systems in the three areas of VET: initial vocational training (IVT); continuing vocational training (CVT) and training for the unemployed (UVT).

## **2. Initial vocational training (IVT)**

### **2.1 Defining IVT**

Compared to other areas of vocational training such as CVT, IVT is relatively focused

because of its concern with the vocational development of the younger learner. There are, nevertheless, important differences in the ways that IVT is defined across different European countries according to their individual education and training traditions.

First, there are differences in normal age boundaries of those offered IVT. In the Netherlands, IVT is offered to students from 12 to 21, whereas in Austria the range is 14 to 18 and in the UK and Sweden 16 to 19. Differences in age boundaries relates both to institutional boundaries (for instance in the UK, the definition of IVT in the financing portrait has been closely related to further education colleges and TEC programmes) and to the respective traditions of whether there are opportunities for early vocational specialisation.

Second, IVT can be defined more broadly or more narrowly according to its relationship with general education. The OECD study, *Education and training beyond basic schooling* (1986) distinguished between countries where IVT is predominantly work-based and countries where it is predominantly school-based. Across the different European countries in this study, there appear to be three dominant models of IVT:

1. IVT as an integral part of a comprehensive upper secondary system (e.g. Sweden);
2. IVT as school and college-based technical and vocational education and training including periods in the workplace (e.g. France);
3. IVT as work-based training (e.g. apprenticeships) but also with opportunities for theoretical training (e.g. Austria).

School- and college-based IVT can be in the form of prevocational education and training, broad vocational and technical education or job-specific occupational training (OECD, 1990). Work-based training may be in the form of traditional apprenticeships organised by the social partners (as in Austria and in a residual form in France), or in a form where public bodies take the organisational lead (i.e. Training and Enterprise Council (TEC) for

Modern Apprenticeship in the UK, and the EUD schools in Denmark). There is also a host of special programmes for less qualified and marginalised youth which are generally organised by central or regional authorities and which involve forms of alternance training and subsidised job-creation (like the New Deal programme in the UK).

## 2.2 Methodological issues

The variety of types of IVT and the weak boundaries between IVT and other forms of provision give rise to a number of methodological problems in collecting and analysing data on financing IVT. For example, broad definitions will tend to inflate the estimates of the amount spent on IVT and may shift the balance between different categories of training.

The most serious problem concerns the shading of IVT into the general education system both in terms of age or educational definition (e.g. the Netherlands, UK and Sweden). In these cases, the financial portraits are unable to make clearly defined estimates of the costs of IVT. On the other hand, in those systems which have clearer boundaries based on distinctions between IVT in vocational schools, school-based IVT and apprenticeships (e.g. Austria, Denmark, France and Finland), data classifications appear to be less problematic. However, even in these systems there is a more specific problem of calculating the real cost of apprenticeships because of the relationship between the cost of training and the value of the labour contribution of the apprentice. There is the technical issue as to whether to count the cost of apprentices' wages within IVT or not.

In addition, there are other methodological issues which pertain to particular countries. In the case of Austria, possibly the most centralised of the sample, the financing portrait author was unable to collect data because of its lack of availability, possibly related to the number of central ministries involved in the financing of IVT. In case of the UK, the author was compelled to focus on two of the three strands of IVT, further education and TEC-funded training and to omit IVT in schools

due to the fragmented funding system and the weak boundaries between general and vocational education.

The effect of these differences results in the need to impose a range of constraints on the comparisons – to impose institutional boundaries (e.g. to eliminate some aspects of IVT in compulsory schooling); to create broader and less textured categories of comparisons (e.g. some portraits are able to discriminate between school-based and work-based IVT funding and others are not); and finally, to confine comparisons of funding levels to historical trends within a country rather than direct comparisons of levels across different countries.

### **2.3 Policy trends and issues**

IVT has remained a high priority in European Member States throughout the past decade. It is seen as essential for equipping young people for entry into the labour market, for providing the basis for their future learning and capacity to adapt to changing skills demands, and for generating the skills and capabilities for national economic growth and prosperity. In a period of shrinking youth labour markets it is also seen as increasingly important for avoiding social exclusion and the social and economic costs that this leads to. Policy-makers have consequently been keen to increase levels of participation in IVT so that post-compulsory education and training becomes almost the universal norm and so that overall levels of qualification and skill continue to rise. Particular emphasis has been placed on the lower academic achievers who leave compulsory schooling with few qualifications and who are most in danger of exclusion from employment and further education and training and who may suffer various social disadvantages as a result. A renewed interest in apprentice and alternance-type training in many countries (such as Denmark, France, the Netherlands, Sweden and the UK) reflects a widespread belief that work-based training can reduce youth unemployment (OECD, 1996), motivate the less academic young people to achieve and, at the same time, relate learning most effectively to the changing demands of the workplace. Post-compulsory education and training (PCET) has be-

come the socially-accepted norm for the vast majority of young people in most EU States – so much so that it is now regarded as a de facto extension of compulsory schooling and virtually as a public right. Moreover, in some countries attending part-time vocational schools is compulsory until the age of 18 or so, if youngsters do not attend another type of school.

Across the European countries under consideration, the funding committed to IVT by governments has generally risen due to the perceived economic and social benefits and there is little evidence of resources being transferred away from this area to other high priority areas (such as CVT) (Coopers and Lybrand, 1996). Demographic changes which have involved smaller youth cohort sizes have helped to contain increases in costs despite rapid rising in participation in some countries (like the UK). Also efficiency improvements have reduced units costs of provision per student in a number of countries (Finland, UK and others) and this has also helped to contain rising costs. However, few countries have actually managed to reduce their overall spending in this area during the past decades (Green, Wolf and Leney, 1999).

As a consequence of rising real costs, amongst other factors, governments have sought new ways to improve efficiency and effectiveness in IVT provision, many of which involve changes in modes of regulation and finance. The most significant of these across a range of countries has been the trend towards decentralisation of control and funding. This has been seen by policy-makers to have a number of advantages including: broadening the base of investment in IVT, making provision more responsive to local demand, making local funders and providers more aware of costs, and allowing decisions to be made by those with the most detailed knowledge of the local circumstances (OECD, 1995). However, decentralisation has taken a number of quite different forms in different European countries with varying effects on efficiency, access and quality.

A common pattern has been to devolve authority to the regional and local levels. This

can either mean giving more administrative and funding responsibilities to regional and local offices or agencies of the central government ministries (deconcentration) or to the regional and local elected authorities or both. In most cases these lower levels will become responsible at least in part for planning provision, constructing and maintaining buildings and allocating recurrent funds and may also employ and pay teaching staff. In the case of the elected authorities they may also raise their own revenues for IVT from taxes, although the majority of their funding still tends to come from transfers from central government. France has devolved much of the responsibility for IVT to regional offices and authorities, whilst Finland and Sweden have been notable for decentralising control to the level of the municipality.

A second pattern, which may complement the first, is to devolve more power and responsibility horizontally and vertically to the various tiers of social partner organisations. This generally implies giving the social partners bodies greater responsibility for standard-setting for vocational qualifications and for regulating and monitoring work-based IVT provision. In many cases it will also involve statutory instruments or collective sectoral agreements which provide for certain entitlements for training and, in some cases, for levies on enterprises to contribute towards the costs of apprentice training. Austria and Germany have typically and traditionally given major roles to the social partners in VET, and, in recent years, other countries such as France and the Netherlands have also increased their roles.

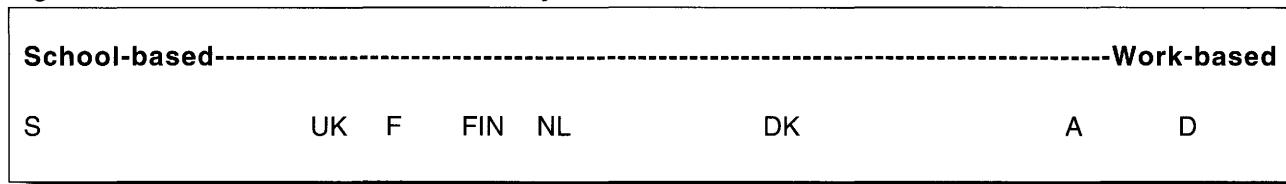
The third trend has been towards delegating greater responsibility and financial discretion to the institutions themselves. In most European countries this has happened only to a limited degree and cannot proceed very far whilst teachers are still employed and paid by the State. However, in the cases of the Netherlands and the UK, institutional delegation has been taken rather further and has been accompanied by other measures designed to introduce market mechanisms to IVT. A diversification of provider institutions has increased consumer choice and encour-

aged competition between institutions which is intended to drive up efficiency. Institutions have been delegated authority to hire, fire and pay teachers and receive the majority of funds for IVT, therefore gaining far greater discretion over how funds are spent. While the increase in public sector providers thus constitutes a quasi-market in IVT (Le Grand and Bartlett, 1993), private sector provision may also be encouraged, particularly in the area of occupational training.

Changes in modes of regulation have also been associated with various innovations in funding mechanisms. Decentralisation and increasing institutional autonomy in the public sector has often involved the introduction of more detailed methods of unit costing, and the purchaser – provider division, designed to increase transparency and accountability in spending. Financial delegation to institutions has involved the design of new funding mechanisms which seek to reward efficiency and quality amongst providers. Increasing privatisation of IVT supply has led to some discussion and experimentation in the use of funding vouchers: cash tokens provided to eligible consumers which can be used to purchase IVT at both public and private institutions.

The comparator countries in this study exhibit a variety of trends in relation to the above. Some, like the UK, have experimented with marketisation and are now moving towards more planning, institutional collaboration and a degree of social partnership (DfEE, 1999). Some, like Austria, have yet to confront fully the issues of structural change and continue with the traditional modes of regulation and finance, albeit with minor increases in institutional delegation. The majority appear to be incrementally decentralising administration and funding to regional, local, institutional and social partner levels, but without marked enthusiasm for creating fully market-based systems and with concomitant increases in central government framework-setting and policy-steering. The overarching trend for IVT, which combines continued government commitment with increasingly constrained budgets, is the search for the elusive multiple goals of efficiency, quality and equity. The keys to these are seen

**Figure 1: School-based and work-based systems**



to lie with different balances of national steers or frameworks and local decision-making. The different locations and strategies of the various countries is illustrated in Figure 3 (Section 2.7).

**2.4 Types of provision and institutional and funding structures**

IVT can be classified as being primarily school-based (e.g. Finland, France, Netherlands, Sweden and UK) or primarily work-based (Germany and, to a lesser degree, Austria)<sup>3</sup>. However, it may be more useful to locate the different countries at various points on a school-based – work-based continuum according to the degree of integration of IVT into upper secondary education, the role of vocational schools, the role and extent of work placements and the size of the apprenticeship system.

IVT provision across the various countries can be seen to fall into four broad types:

- a) prevocational or basic vocational preparation within the school system;

<sup>3</sup> Denmark must be counted as an intermediate case. According to the European Commission (1997b) 54% of ISCED level 3 students in 1993-94 were in VET programmes of which 83.5% were in *Ehrvervsuddannelser* (EUD) alternance programmes – i.e. 45% of students were on alternance programmes, representing one of the highest levels of this kind of VET participation in Europe, after Austria and Germany (see Green, Wolf and Leney, 1999). However, EUD programmes are not on the traditional dual system model. Students may register on programmes without first having an apprentice contract with an employer and are therefore not strictly speaking apprentices. Training time spent in the workplace varies between 25% and 90%. This programme is essentially a hybrid between school-based and work-based forms, thus placing Denmark on the boundaries of our classification.

- b) vocational upper secondary education which can be divided into vocational courses within comprehensive upper secondary schools and colleges (Sweden and UK) and IVT in vocational secondary institutions (Denmark, Finland, France and the Netherlands);
- c) work-based apprenticeships (either government-led or social partnership based) with the most extensive apprenticeships taking place in social partnership systems (Austria, Germany and Netherlands); and
- d) various special programmes aimed at the disadvantaged, excluded or unemployed (e.g. TRACE in France, New Deal in UK, 17th line in the Swedish upper secondary system).

Despite a renewed interest in apprenticeship in some European countries, the dominant form of IVT continues to be school-based, although with varying degrees of interrelationship with workplaces. Some countries, such as Denmark, have school-led sandwich courses, or alternance systems, in which the provision is divided almost equally between school and a work placement. The result is that in those systems with predominantly school-based provision, IVT is overwhelmingly publicly funded. Where there is a more extensive apprenticeship system or the use of extensive workplacements or social partnership arrangements (e.g. Austria, Denmark, France and the Netherlands), there may be more private funding through employer contributions in the form of levies or training costs.

The institutional and funding structures of IVT vary according to the type of system, political traditions and recent attempts to reform institutional structures. They too appear to fall broadly into three different types defined by their position along the two continua

represented as centralisation/decentralisation and public/private. The location of each country on both the centralised/decentralised and private/public continua may be the result of the effect of a number of different factors. For example, there may be centralised frameworks of standards and decentralised operations. On the other hand, institutions may be formally financially autonomous but their behaviour is fundamentally influenced by central funding steers. In all the models, central government continues to play a fundamental shaping role.

***Type 1: Centralised with some devolution and social partnership (France and Austria)***

In these countries central government plays a dominant role due mainly to the funding of varying proportions of school teachers' salaries which constitute the greatest proportion of IVT<sup>4</sup>. Nevertheless, there is some decentralisation to regional level, with regional offices and authorities having an enhanced role in raising taxes or levies and in distributing funds. The social partners play important roles in regulating, funding and providing training within the apprenticeship system. This tends to be based on both statutory instruments and social partner agreements made at sectoral level.

***Type 2: Decentralised social partnership systems (Denmark, Finland and Sweden)<sup>5</sup>***

In these countries there has been a concerted attempt to decentralise administration of IVT by devolving financial decision-making to lower levels. In Finland, considerable autonomy has been given to municipalities which have jurisdiction over both spending and tax-raising priorities. In Sweden funds are channelled through municipalities which provide freedom to institutions to spend ac-

ording to their priorities. Likewise, in Denmark, IUT institutions have considerable autonomy in spending, although most of these receive their funding directly from the Ministry of Education. The main aim of this 'public' form of decentralisation is to encourage 'economic rationality' and appreciation of costs; to reduce the size of the central education budget and to bring provision closer to the learner to stimulate the supply of provision.

***Type 3: Marketised systems (UK and to a lesser extent Netherlands)***

Marketised systems can be seen to form a third type. They tend to delegate operational financial and administrative control to the provider institutions, while at the same time centralising control over strategic matters like standards-setting, qualification systems, and overall funding allocations. Government distributes funds through central funding agencies (like the Further Education Funding Council in UK and the Financing Services Unit – CFI – in the Netherlands) to competing institutions using national funding mechanisms or formulae. This model, although giving more detailed day-to-day responsibility to the institutions, can be increasingly centralist because of the steering power that the funding mechanism gives to the central authorities and because of the need to monitor providers closely, by both audit and inspection, to ensure quality and to avoid fraud. However, market mechanisms can be introduced in a more limited way, by giving institutions the powers to sell services to clients and to recruit students without restrictions, but without full financial delegation. The 'public decentralised' systems in Denmark, Finland and Sweden have introduced a limited role for the market at institutional

<sup>4</sup> It should be noted that Government payment of salaries does not apply in the case of work-based instructors whose costs are considerable in countries like Austria where the apprenticeship is a prevalent form of IVT.

<sup>5</sup> Germany, although not one of the comparator countries here, could be included in this category – in the dual system training standards are centralised (with social partners), the provision of apprenticeship places are marketised (firms) and the provision of part-time vocational schools (compulsory for all not in other education programmes until the age of 18) is decentralised at regional level.

level to provide additional sources of revenue and to bring the supply of IVT closer to demand<sup>6</sup>.

## 2.5 Sources of funding

Sources of funding for IVT typically include: central government taxes; regional and municipal taxes; levies collected from employers; EU grants; and tuition fees paid by individuals. In some countries additional income is also generated by institutions providing full-cost services of various sorts to local clients.

Central government raises the majority of funds spent on IVT (except in-plant apprenticeship training) in all EU countries and the proportion is likely to be highest in countries which have a majority of school-based provision. Revenues sourced at the central state level may flow directly to provider institutions or individuals through funding allocations to institutions, subsidies to employers providing training, or loans and grants to those in IVT. Alternatively, they may be allocated indirectly through tax rebates to training firms and individuals in training. Revenues sourced at the central State level may also be transferred to lower regional and municipal levels of the State, either to regional and local offices or agencies of the ministries concerned, or to regional and local elected authorities. In the case of transfers to lower levels of elected authority, these transfers generally take the form of needs-related grants with adjustments which attempt to equalise service provision between areas with different tax bases. In recent years a number of countries, including Finland, France and Sweden, have transferred increasing proportions of central funding to regional and local levels to decentralise the funding allocation process and make it more responsive to regional and local needs (Coopers and Lybrand, 1996).

Although central government revenues contribute the major part of funds for IVT, there has been a trend towards diversifying the

sources of revenue, and non-government sources can be quite significant in some countries. Tuition fees and other individual contributions are still of minor overall importance in most countries and there appears to be little prospect of individual fees playing a greater role in funding IVT. The additional incomes generated by provider institutions for full-cost services (as in Finland, France, the Netherlands and the UK) similarly represent only a small fraction of overall IVT funding, although they may be significant to the institutions themselves. However, contributions from the EU, from local taxes and from employers can be quite significant. The role of EU funding varies across different countries with funds playing a larger role in countries with extensive programmes for unemployed youth (as in Finland and the UK). Enterprise funding also varies significantly, with larger contribution in those countries with extensive work-based provision organised on a social partnership basis.

Enterprises contribute to work-based training costs through wages paid to trainees and trainers, through the costs of lost production from those involved in training, and through direct spending on equipment and materials. In a number of countries employer costs in training are collectivised so as to achieve a more equitable sharing of costs and greater incentives for investment. Arrangements may be based on statutory requirements or on collective sectoral agreements between the social partners. Typically they involve some form of levy on employers which is 'pooled' and used to fund employers who train. In France there is a *taxe d'apprentissage* which is levied on all enterprises at 0.5% of payroll. The portion of this for apprentice training (0.2%) can be paid direct to provider institutions or to collection agencies (usually the chambers) who pass it to the regions to distribute. Denmark also has an independent employer fund (the AER) which raises mandatory contributions from employers and pays part of the trainee's wages during the period of 'theoretical' training.

The country portraits make estimates for proportion of total IVT originating from different sources. However, due to the difficulties

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<sup>6</sup> Germany and Austria are marketised systems as far as funding of in-plant apprenticeship training is concerned; standards are centralised with involvement of social partners.



in estimating individual and enterprise contributions, and the different methods of calculation used in each case, it is impossible to make accurate comparisons between countries. The only safe generalisations that can be made are that the majority of funds in all countries originate from central government (although they may be distributed at lower levels) and that enterprise contributions are only significant in the cases of countries with substantial work-based training systems. The portraits for Denmark, France, the UK and Austria (in its upper estimate) all report enterprise spending on IVT as representing in excess of 20% of the total. There is no evidence that the share of enterprise funding is increasing in any of the countries.

## **2.6 Mechanisms for distributing resources**

There is a variety of mechanisms for distributing recurrent funds for IVT in the comparator countries. The funding mechanisms for school-based provision, government youth training schemes and apprenticeships differ substantially from apprenticeship training and can be considered separately.

### ***2.6.1 Funding of IVT delivered in educational institutions and on government youth training schemes***

Across the seven comparator countries, it is possible to distinguish four principal models for funding provider institutions for school-based IVT and youth training:

- a) input-based models;
- b) mixed input-output models;
- c) contract models;
- d) voucher funding (Figure 2).

The first two of these are the main means for funding IVT which is principally school-based and the other two are used in some countries for funding special youth training programmes. The latter may, however, sometimes be delivered in the same institutions as the former, as in the UK case, and will

therefore form an additional funding stream for those institutions.

The input model is the probably the most prevalent way to fund institutions and consists principally of national formulae which relate institutional funding to numbers of students and the real costs of their programmes. In most cases, where teachers are employed by the State, institutional budgets will not contain a salary component since teacher salaries are paid direct by the funding authority. Funding for teacher salaries is made proportional to students numbers by the allocation of teachers to institutions on the basis of given teacher-student ratios. Alternatively, where institutions are given discretion over staffing levels, funding for teacher salaries can form part of the general funding formula, but will be deducted from institutional budgets before these are delegated to institutions. Funds for other recurrent costs, such as equipment, building maintenance and so on form part of the institutional funding formula and are related to real costs through weightings attached to different programme areas. In the past these aspects of funding were often 'earmarked' by funders, so that institutions could only use them for specified and approved purposes.

The tendency in recent years has been for 'lump sum' funding, as in the Danish 'taximeter' system and the Dutch methods for funding schools and ROCs, where institutions have discretionary powers to spend across different budget headings. However, since in most cases institutions do not directly pay their staff, the size of the budget actually delegated to the institution, and over which it exercises discretion, remains relatively small proportionally to the total costs of the provision it makes.

The mixed input/output model of funding has been considered by a number of countries, including the Netherlands which intends to introduce a version of it for the ROCs in the year 2000. However, the only State in the sample which is using it extensively in the non-university sector of post-compulsory education is the UK. Further education colleges are funded according to a complex formula based

**Figure 2: Principal models for funding provider institutions for school-based IVT and youth training**

Type	Features	Issues
Input-based	<p>National formulae based on the number of students related to the cost of courses – a form of lump-sum funding</p> <p>Teacher salaries (which normally account for about 80% of funding) not at the discretion of the institution</p> <p>Proportion of funding, therefore, actually devolved is relatively small</p> <p>Currently the most prevalent model of funding IVT in EU comparators</p>	<p>The development of more ‘sensitive’ input based models, in contrast to historical funding, aims to make providers more aware of costs and to exercising economic thinking at local level</p> <p>Tendency may be towards maximising recruitment rather than attention to quality, particularly where there are monopoly providers</p>
Mixed input/ out-put models	<p>The whole budget of the institution is formally devolved</p> <p>Funding of institutions based on a range of input and output factors (e.g. in the case of the UK FE colleges – number of students based; course tariff, different services provided such as guidance, student retention and course outcome</p> <p>This model under consideration in a number of countries but not yet implemented</p>	<p>Mixed models allocate more funding to quality related criteria such as providing initial guidance and the retention and output of the course</p> <p>Experience of the model in the UK suggests that it was initially interpreted as an input model which led to growth of recruitment and only several years did the quality issues emerge</p>
Contract models	<p>Also an input/output model but with a more substantial output-related element than mixed model</p> <p>Involves the negotiation of performance contracts rather than a funding mechanism</p> <p>Used in the UK on youth training programmes though also experienced in the USA in late 1980s/early 1990s</p>	<p>Principally aimed at driving down training costs at the same time of linking these with student performance</p> <p>Experience in the UK and USA suggests that more output related models suffer greater distortions (e.g. creaming students and fraudulent activity by the provider)</p>
Voucher models	<p>Students offered a voucher with which to ‘purchase’ education and training</p> <p>The concept of student being a purchaser/consumer meant to show their interest in education and training</p> <p>The real value of the voucher nominal because institutions paid on the basis of the cost of different programmes</p> <p>Piloted in youth training programmes in the early 1990s</p>	<p>Research into training credits pilots in the UK has suggested that the voucher did not ‘empower’ students in making choices about their education and training or increased demand for training</p> <p>A version of the voucher has been resurrected by the new Labour Government in the form of ‘individual learning accounts’ for adults rather than for 16-19 year olds</p>

on 'units of activity.' The most important of these are: enrolling students (on-entry), education/training students (on-course), and qualifying students (on-completion). The second 'on-course' element, which accounts for about 80% of funding, is based on a national tariff for each programme/qualification area which weights funding according to the real costs of provision. The output-related elements of the funding, which is less than 10%, is triggered when students attain the target qualifications or outcomes for their programme. As in most instances of the input model of funding, funding to institutions is on a 'lump sum' basis which allows institutions discretion over how they spend their budgets. However in this case, since colleges are delegated powers to hire and fire their staff and pay their salaries directly, institutional budgetary discretion is exercised over the majority of funding for the sector.

The contract model of funding may be based on inputs or outputs or on a combination of both. However, it should be distinguished from the above in that it involves the negotiation of performance contracts between the funding agency and the provider, rather than being based on a national model or formula. Youth training programmes in France and the UK have tended to be funded on this basis, in the latter case with Training and Enterprise Councils (TECs) generally attaching the majority of funds for providers to the achievement of specified outcomes.

Voucher funding has been more discussed than actually employed to date, at least within the EU. However, it has been used to some degree in the UK by TEC for the funding of youth training programmes. With the voucher method the general principle, as in the models above, is that funding follows the student/trainee but with the difference that in this case the latter is actually given a physical token purchasing power. In the UK case, some TEC have issued 'training credits' or 'youth credits' to each eligible student/trainee with a face value of GBP1000 or more which could be used to 'buy' appropriate training from a chosen provider institution (including private ones). In fact, the value of the voucher was purely nominal since the actual payments to

institutions made by the TEC were calculated on the basis of the costs of different programmes, plus some output-related element.

In each of the above models, there is a variety of means for calculating capital funding. Part of funds for capital costs may be included in the weighting for programme areas in the input and mixed models. Alternatively, capital costs may be funded through separate formulae or on a project basis, as in Finnish upper secondary institutions.

The various funding mechanisms in use in the EU at present each have their own particular strengths and weaknesses, but in every case they are intended as ways of improving institutional efficiency and responsiveness to demand for IVT. Increased take-up of IVT in Member States has, notwithstanding shrinking youth cohorts, often faced governments with increasing pressures on educational budgets, and new funding mechanisms have been designed to reduce unit costs whilst at the same time maintaining or raising quality. All forms of formula-funding, like the above, aim for a more transparent and precise relationship between spending and actual inputs or outputs compared with the previous arrangements where institutions tended to be funded on an 'historic basis' whereby budgets are determined according to spending in previous years and estimates of the costs of activities planned for the future. Formula funding is thought to encourage institutions to be more efficient and cost-conscious. Financial delegation to institutions through 'lump sum' payments, which allows greater institutional discretion over budget spending, is also thought to encourage cost-consciousness and greater efficiency by making institutions more responsive and more responsible. Beyond this the different mechanisms may have different effects.

The 'input' model funds largely on a per student basis, but with weightings to reflect the differential costs of different programmes. In addition to tying funds closely to actual inputs/costs, and therefore encouraging efficiency, this system has the effect of incentivising institutions to enrol more students, assuming that institutions generally follow a

resource-maximising strategy. Where there is a diversity of provider institutions in the market with freedom to recruit, competition may also encourage better quality of provision. Institutions may wish to improve their provision to enhance their reputations and attract more students and funding. The limits to the effectiveness of this system of funding, however, derives from the fact that providers are often in a quasi-monopoly position. In this situation, whilst they may wish to maximise their recruitment, they may have little incentive to provide good quality where their potential customers have little choice over where to enrol. In some countries, governments have sought to encourage institutional competition through diversifying the provider institutions and through requiring more public disclosure of performance-related information. However, at upper secondary school level, there are limits to the degree to which institutions can be diversified, since equipment costs for vocational education often require economies of scale. Given levels of vocational specialisation, monotechnic institutions, like the vocational *lycées* in France, are likely to be near monopoly suppliers. Even polytechnic institutions (like the Dutch ROCs, the Swedish *Gymnasieskola* and most UK colleges) will be in a near monopoly position except in densely populated areas. Institutional competition and incentives to quality may consequently be limited.

Mixed input/output models of funding attempt to overcome this problem by providing more direct incentives to quality. A portion of institutional funding is attached to student achievement of prescribed outcomes and institutions are therefore encouraged not only to enrol more students but also to ensure that they learn. Where the funding mechanism operates in a context of provider diversity, institutions are additionally incentivised through institutional competition, as in the case of per capita funding. How far the mixed model of funding actually achieves the intended result is still open to question as there is as yet insufficient evidence to judge. Much may depend on getting the correct balance between the input and output elements of funding and on having adequate measures of output.

The FEFC model (see definition in Section 2.6.1) in the UK has been credited with achieving an appropriate balance between input and output elements and has certainly been associated with considerable efficiency gains in the sector. During the period since the introduction of the funding system, enrolments have increased markedly whilst unit costs have decreased, although the latter has less to do with the funding formula as such and more to do with national reductions in the level of funding for each unit of activity<sup>7</sup>. Some problems have arisen as a result of colleges adopting overly instrumental means of income maximisation (including in a few cases fraudulent practices) and cost reduction (including a sharp reduction in the average level of class contact or tuition time for students), but it is hard to say whether the latter suggests any negative effects on quality. The output-related element of funding appears to have made institutions more conscious of the need to retain students until they complete their courses, but it is not possible to say whether their actual levels of achievement have been positively affected by the funding mechanism. What can be said with some confidence is that the FEFC model has avoided some of the potentially distortionary effects of output-related funding (ORF) by keeping the output-related element to a relatively marginal level.

The evidence from other experiments in ORF where a substantial portion of funding is attached to outcomes, as for instance with Job Training Partnership Act (JTPA) programmes in the USA, is that ORF can produce quite serious unintended effects on provider behaviour (Felstead, 1998; Green and Mace, 1994; Kath, 1998). Where the majority of funding is attached to outcomes, providers can be encouraged to 'cream' (i.e. recruit only those most likely to attain the outcomes); to focus their efforts overly narrowly on achieving the target outcomes; and even to misrepresent the

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<sup>7</sup> The financing portrait shows an estimated reduction in expenditure per full-time equivalent student of 15 percentage points between 1993/4 and 1997/8; however, this calculation does not take into account rising debt amongst colleges.

outcomes altogether. Institutions may be tempted to enrol students in courses below their potential in order to maximise their chances of reaching the targets, or, where they are responsible for assessing and certifying students, to lower their standards to ensure that students achieve certification. There are also considerable additional transaction costs involved in ORF systems, particularly in relation to the monitoring, recording and reporting of achievement.

There have been extensive evaluations of the JTPA programmes which have been running in the USA since 1983, and the evidence on the effects of ORF has been generally negative, although repeated refinements to the performance criteria did achieve better results over time (Green and Mace, 1994). Evaluation evidence for our comparator countries here is largely limited to the experience of TECs in the UK. In the case of TEC funding for Youth Training and Youth Credits schemes, the verdict of evaluations is rather mixed. Coopers and Lybrand (1996) found that ORF provided a positive incentive for efficiency both for the TEC and the provider institutions they fund. However, the survey by Felstead (1994) concluded that the system of measuring outcomes prevented financial incentives to support cost-intensive and high quality training measures and instead only promoted the cheapest, easiest and fastest training courses. Kath (1998) concluded from this that 'the conditions ... laid down by the government for the allocation of funds with the aim of obtaining better and more efficient returns on training, practically achieved the opposite' (p. 49). The UK financing portrait notes that current VET funding systems in England and Wales have, overall, served to reduce unit costs in IVT, but cannot say how far this is due to the ORF elements. They remain agnostic about whether the ORF funding of current work-based training programmes (including Modern Apprenticeships, National Traineeships and Youth Training) has improved cost efficiency, but they note that studies undertaken by the DfEE have entertained the possibility that the particularly low unit costs on work-based training schemes may be due to their higher levels of ORF, compared with school and further edu-

cation IVT. One has to set against this, however, the rather low qualification rates of trainees on some of these programmes (particularly Youth Training).

Generally speaking, it would seem that ORF is most likely to avoid distortions and have beneficial results on efficiency and quality where it is applied in the appropriate degree, where the output criteria are carefully specified to reflect the multiplicity of learning objectives, and where the criteria can be expressed in the form of genuinely measurable indicators. As debates in the Netherlands and the UK suggest, these measures are preferably measures of individual learning gain and institutional 'value-added'. Unfortunately, no country appears yet to have succeeded in the technically difficult task of constructing such measures.

Voucher funding, in as much as it used a combination of input and output measures, is subject to both the strengths and weaknesses of the mixed model of funding. However, it differs in that it also employs a symbolic token of credit which is intended to be 'empower' the consumer, making him or her both more cost-conscious and more discriminating. Research by Hodgkinson and Sparkes (1994) on the UK experiment, however, found no evidence that voucher-holders felt more empowered in making choices about training opportunities. Other research (Coopers and Lybrand, 1996) found no substantive evidence of any material impact on the training market. The UK financing portrait notes that the Training Credits initiative has not had notable success and that the use of similar vouchers for funding further education has been specifically rejected.

Each of the above funding mechanisms attempts to enhance efficiency and quality. They each, in albeit in different degrees, represent a general trend towards the greater use of funding mechanisms as a means of regulating provider institutions. In the past, provider institutions have been regulated primarily by 'bureaucratic means' (Drake and Germe, 1994) including specification of statutory responsibilities, standard-setting, inspection, financial audit and, above all, direct admin-

istrative control by public authorities. New funding mechanisms have not entirely replaced these regulatory instruments, but they have sought to reduce direct administrative control by increasing institutional autonomy and regulation through funding regimes. How far this is feasible, and how much weight can be borne by financial mechanisms, remains open to debate. One apparent irony is that institutional delegation and regulation by funding, while reducing bureaucracy at the level of the direct administration, have, at the same time, increased bureaucracy at the level of monitoring and audit. Institutions are more autonomous and responsible and experience less 'bureaucracy' in day-to-day decision making. In some ways this may lead to greater efficiency. On the other hand, they are more encumbered with recording, reporting and quality control measures, which represents a different burden. Efficiencies accruing from reduced bureaucratic administration may be offset by increased transaction costs for accounting, personnel, payroll, marketing, recording, and reporting functions.

### **2.6.2 Funding of apprenticeships**

Apprentice training can be distinguished from IVT in school and colleges and on State-funded training schemes in that employers substantially co-fund it. Typically, the State pays all or most of the costs of the school-based component and the employer pays most of the costs of the enterprise-based component. Funding for the school-based component will be allocated to institutions by central or regional government or its agencies, generally on the basis of the kinds of formula described as 'input-based' and 'mixed' models above. If the school-based or 'theoretical' element is delivered in the same institutions as are delivering other non-alternating IVT programmes, as in the case of the UK colleges of further education, then the funding will form part of the overall funding for the institution and may be allocated on the same basis. Where there are discrete institutions for delivering the 'theoretical' training, like the CFAs in France, or the *Berufsschulen* in Germany, they may have their own specific types of funding formula. In some cases, as in the case of traditional apprenticeships in the UK,

the employers also have to cofund the 'theoretical' training by paying a fee to the colleges concerned. In terms of the level of allocation of State funds for apprentice training, there has been a tendency in recent years for the regions to play a greater role as, for instance, in France.

The costs of the enterprise-based element of apprentice training are largely borne by employers. They bear the costs of supervision, training equipment and materials, damage, and pay the apprentice wages (although in some countries, like Denmark, they may not pay the whole amount of the wage for the period spent in theoretical training). The apprentice wage costs may be entirely recovered through the productivity of apprentices or may represent a net cost to employers depending on the circumstances. In the case of the German dual system, for instance, estimates vary as to how far apprenticeship represents a net cost to the employers, and this is likely to vary according to the size of the firm, with small firms possibly experiencing zero net costs. In any case, the costs of training have generally been acceptable to firms since they are offset by savings accruing through trainee productivity, enhanced flexibility in labour deployment and the reduction of costs for future employee selection, induction and training (Wagner, forthcoming 2000).

Employers may also recover part of the costs of apprentice training through government subsidies, as in the case of Modern Apprenticeships in the UK, or through special tax rebates. In some countries there are also social partner schemes to pool the costs of apprentice training. In Denmark all firms, both private and public, pay a mandatory levy to an independent collective employer fund (AER) which is also co-funded by the State (although State funding for this is being phased out). This fund is used to reimburse employers for the majority of apprentice wage costs while they are doing theoretical training. It also subsidised employers for the costs of apprentice placements abroad, travel expenses during theoretical training, and work placements themselves for certain disadvantaged students. France has an apprenticeship tax of 0.5% of payroll which is levied on all

private enterprises in commercial, industrial and craft sectors. Part of this (the 'quota') is used to finance national adjustment between the regions and to subsidise the apprentice training centres (CFAs); the other part (the 'ex-quota') may be used for other related purposes such as grants and subsidies for apprentices and the funding of schemes for apprentice masters. Some of this levy, in other words, may find its way back to the employers.

The various models of funding apprentice training can be differentiated according to how much is contributed (for both school and work-based elements) respectively by the State and the employers. In some cases, such as in Finland, the Netherlands and Sweden, it would appear that the majority of funding comes from the State. In others, such as Austria, France and Denmark, it would appear that the employers are making a more substantial contribution, although precise data are too limited to say this for certain. In France, according to the financing portrait, the State has increased its share of total funding for the apprenticeship from 58% in 1987 to 61.2% in 1996. The enterprise share has decreased slightly from 37% to 35.2%.

## 2.7 Future trends

Despite the rising political profile of CVT within the lifelong learning perspective, there is no sign of a diminishing commitment to IVT. This is because it is still seen as a means of promoting economic competitiveness and of providing a firm basis for future engagement with learning. It is also increasingly seen as having a social cohesion function and new IVT programmes are being focused on the socially excluded (e.g. in France and the UK).

However, there is little indication of further strong expansion of IVT, particularly in those countries with high levels of participation 16 to 19 year olds. The UK may be the only real exception in our comparator countries because of its relatively poor education participation rates beyond 16. There is more evidence that the main trend in the coming years will be the search for greater efficiency (containing or reducing costs) and effectiveness (improved outcomes and stronger demand for training).

This may mean further experimentation in decentralisation.

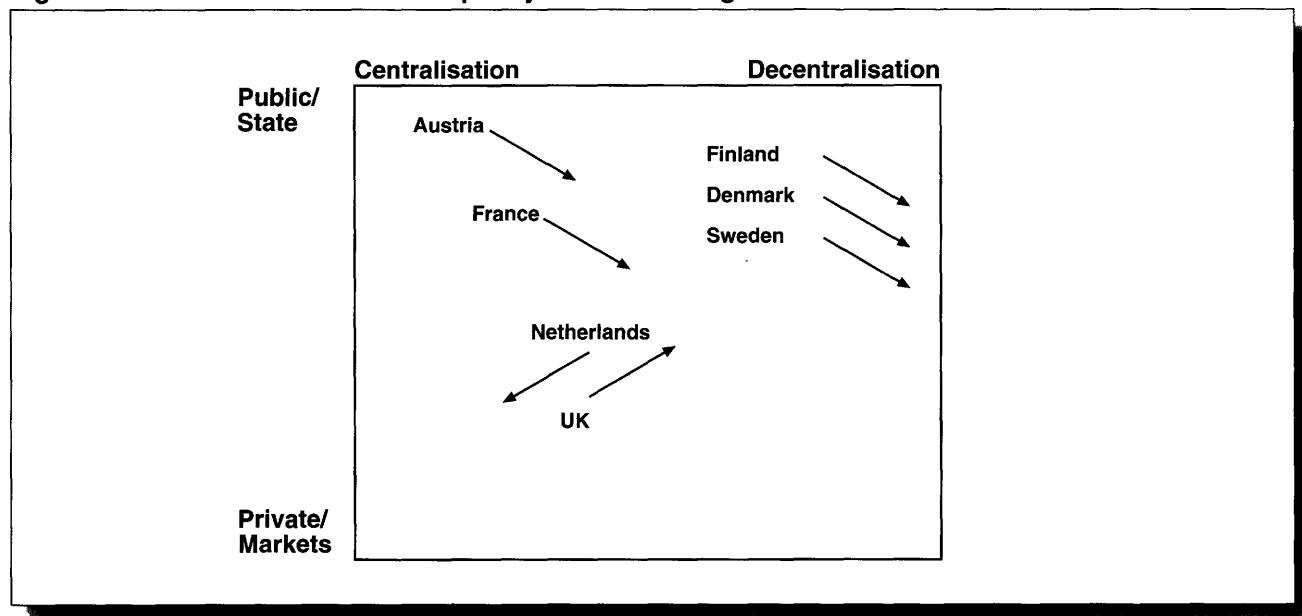
It is likely that the reforms themselves will stimulate new challenges and debates. These are likely to revolve around:

- a) the issue of equality due to the impact of decentralised decision-making, institutional autonomy and more market mechanisms;
- b) how to promote quality as well as promoting efficiency;
- c) how to promote 'simplification' and system transparency;
- d) how to move more towards output-related mechanisms and at the same time avoiding distortions (e.g. debate about how to measure value-added);
- e) creating the optimum mixes of central planning, local decision-making and market mechanisms.

Future trends will also depend upon the current location of different countries in relation to these trends and their previous history and experience. Figure 3 attempts to locate each of the countries in relation to two continua – centralised/decentralised and public/market. This rather speculative diagram suggests four different trajectories based on the current country location on the two axes and the effects of their funding policies. The trajectories model could be further illustrated by the thickness or length of the line indicating the strength of the trajectory:

- from relative centralisation to public decentralisation (Austria and France);
- continued decentralisation with increased room for institutional autonomy (Denmark; Finland, and Sweden);
- some movement towards regionalisation with renewed interest in public planning (UK);
- movement towards greater centralisation and marketisation as a result of priorities being given to ORF funding steers (Netherlands).

Figure 3: Location and direction of policy for the funding of IVT



### 3. Continuing vocational training

#### 3.1 Defining CVT

Continuing vocational training (CVT) covers a diverse set of training activities and programmes offered by public and private training providers as well as by enterprises themselves. The public/private mix varies substantially in different European countries depending on their individual education and training traditions and cultures and, in particular, on the strength of their social partnership arrangements and attitude towards State regulation in this area. Country reports have defined CVT in a variety of ways, depending on the lower age boundary that is used and the degree to which general adult continuing education is included. For the purposes of this paper, a fairly broad definition of CVT will be used, where it is defined as training for employees (except those participating in IVT programmes). It will include both on- and off-the-job training, as well as longer-term adult vocational training, except that which is undertaken exclusively within a higher education institution. As such it involves education and training at a range of levels which could be broadly divided into four types: deferred initial training, updating, upgrading and retraining (Drake and Germe, 1995).

#### 3.2 Methodological issues

Since there is such a variation in what actually constitutes CVT in and between different countries in the EU, it is unsurprising that there is also a problem in collecting and analysing data about the financing of this type of provision. Some countries, for example, do not make a strong distinction between general and vocational education, so it is quite difficult to divide what is being provided into the kind of discrete categories which the financing portrait framework demanded. Further problems arise through a lack of clarity over whether enterprise-based training includes what is provided in the public as well as the private sector. Decisions have to be made as to whether to include both direct and indirect costs and often the data on which the country authors base their individual country reports either do not make a distinction between these two or omit to include indirect costs in their figures. Opportunity costs, for example, are built into some calculations and not into others. Invariably there is incomplete information on enterprise or household expenditure on CVT, even though these statistics are of particular importance in discussions on the financing of this type of training. Moreover, some of the authors of the country reports have included grants and subsidies to individuals as part of their calculations on public expenditure and some have not. What



emerges from this is a rather messy picture and one which allows only very broad comparisons between different countries on expenditure on CVT. This section of the paper therefore focuses on these broad trends in financing CVT in seven EU member countries and attempts to categorise and provide illustrative examples of different types of mechanisms for collecting and allocating resources for CVT across these countries.

### 3.3 Policy trends and issues

Although contextual factors, such as the effects of globalisation, technological advances, demographic trends and changes in the nature of work and society, have had a profound impact on the way that European countries view the social and economic role of education and training as a whole, it could be argued that there has recently been a particular emphasis on the specific role of lifelong learning (OECD, 1996). Within this umbrella term, the place of continuing vocational training (CVT) has gained in significance, because of its direct relationship with the labour market. Discussion about the way this type of education and training, which has traditionally largely been the preserve of enterprises and private individuals, is currently financed and might be most effectively financed in the future, has thus increasingly become a focus of policy discussion at national and international levels (OECD, 1999).

In all of the countries included in this study, the amount of CVT which is being undertaken has increased and trends suggest that this is likely to continue to be the case. In the majority of these countries the direct costs (i.e. funding of provision of programmes or fees for courses) of CVT are predominantly privately funded and national governments bear a much smaller proportion of both its direct and indirect costs (e.g. benefits, tax measures and compensation for loss of earnings). For this reason, it is often difficult to obtain precise figures for the amounts spent on CVT, particularly the type of indirect costs borne by individuals. Nevertheless, there is some evidence that there have been increases in private spending on CVT during the 1990s as well as substantial real increases in public

spending in many countries (Coopers and Lybrand, 1996).

At the same time, however, there is a clear indication in most of the country reports that further expansion is having to take place within the general context of constraints in national budgets overall and in relation to education and training in particular. This is necessitating a consideration of how current government resources might be redistributed, how efficiency savings might be made and how additional private funding might be generated and brought into the system to bolster national government resources. Even Finland, which used State funding during a period of recession in the early 1990s to increase overall VET funding as a way of tackling unemployment, is now firmly committed to attracting more private resources into its system. Much of what follows should therefore be seen within this overarching financing trend.

Other broad policy trends or issues related to the financing of CVT which will form the background to the rest of this chapter include:

- ❑ increasing interdepartmental cooperation over CVT at national government/ministry level;
- ❑ consolidating provision through legislative frameworks rather than direct central government regulation;
- ❑ redefining the role of the social partners in relation to CVT;
- ❑ devolving power for allocating resources from central to regional, local (municipal) or even individual institutional levels;
- ❑ encouraging public/private partnership arrangements in relation to both capital and recurrent funding;
- ❑ introducing the 'purchaser/provider' concept into the provision of CVT and thus a limited element of competition between different public and private providers of CVT;

- ❑ careful targeting of government subsidies to CVT providers, enterprises and individuals; and
- ❑ introducing new types of funding mechanisms for allocating resources.

### **3.4 Types of provision and institutional structures**

The resources which are allocated for CVT in EU countries are used to fund a mix of training activities or programmes which can be categorised into three main types:

- a) those which are provided by public education and training institutions;
- b) those which are provided by private education and training providers (this category includes those activities or programmes which are provided by non-profit-making institutions and run by non-governmental organisations);
- c) enterprise-based education and training.

In most European countries it is possible to follow any of these three types of CVT programmes or activities either full-time or part-time (including by distance learning) and each of the three types of CVT can be designed to serve four major purposes – deferred initial training, updating, upgrading and retraining. Each of these three types of CVT is funded differently and relies on a different balance of public and private finances to meet both its direct and indirect costs.

#### ***3.4.1 Public education and training***

In all EU countries public education and training is largely funded by national or regional/local government, although employers and individuals may contribute to both direct and indirect costs. The former, for example, might bear the costs of lost production of employees on paid training leave and, in some cases, might pay the full costs of the training itself. In certain cases, they may use training levy funds to purchase public education and training (e.g. in France and the Netherlands). Individuals may pay fees or travel or childcare costs and, in some cases, may only receive benefits

rather than full wages for the time that they are in training. The type of CVT provision offered in this category typically includes second chance upper secondary and post-secondary qualifying education for adults.

#### ***3.4.2 Private education and training***

The direct and indirect costs of private CVT are usually met by either an enterprise or an individual, although there may be cases where national or regional government funds might be used to purchase CVT from private education and training providers on behalf of an individual or enterprise. Training levy funds can also be used in some countries (e.g. in France and the Netherlands) to purchase CVT offered by a private education and training provider. The type of training offered by private education and training providers tends to be delivered by means of short courses and to focus on updating, but this is not exclusively the case. Included in this category, although possibly constituting a separate subcategory, are those types of CVT which are offered in non-governmental, not-for-profit training providers which exist in countries such as Austria and Sweden. Sweden's employee organisations, trade unions and professional associations, for example, provide many courses to train people for trade union work. Most courses are residential and last one or two weeks, although some are up to six months.

#### ***3.4.3 Enterprise-based education and training***

In most European Union countries, employers pay the majority of direct and indirect costs of enterprise-based CVT, although there may also be indirect costs to individuals. Occasionally, national or regional government may subsidise enterprise-based CVT as, for example, where employees are in danger of becoming unemployed unless they upgrade their skills. The majority of enterprise-based education is of short duration and focuses on updating, upgrading and retraining (European Commission, 1999).

In the seven countries under consideration in this paper, it appears that the latter type of

**Figure 4: Different European countries' approaches to regulating the provision and funding of CVT**

training predominates in the CVT area – at least in terms of the frequency of episodes. However, some caution must be exercised in measuring training intensity in these terms since many of the training episodes, particularly in the company, may be very short (European Commission, 1999).

### 3.5 Sources of funding

Across European Union countries there are six potential sources of funding for CVT:

- ❑ specialist EU programmes (e.g. under Objective 4);
- ❑ national government taxes;
- ❑ regional/municipal government taxes;
- ❑ private enterprise training funds;
- ❑ contributions from individuals;
- ❑ training levy funds (where there are collective social partnership agreements).

The proportion of CVT which is funded from each of these sources varies from country to country and, as discussed above, depends on the type of collective social partnerships (if any) which exist in each particular country. However, it appears from the rather incomplete data given in the financing portraits, that direct costs of CVT as a whole are currently largely funded by enterprises. This is a trend which governments in all countries included in this paper would like to continue, while also endeavouring to increase the amount individuals themselves contribute to their own CVT (OECD, 1998). As we will see below in Section 3.6, a further common trend is, therefore, for national and regional/municipal governments increasingly to see their role

in this area as using financial levers both to target funding towards specific policy objectives and to create incentives for private investment in CVT.

CVT funding systems tend to vary according to the types of regulatory regime applied to the national sector in question. The CVT regulatory regimes of the seven comparator countries could be seen along a continuum from State-led regulation through social partnership regulation towards demand-led market regulation (figure 4). By State-regulated we mean those countries which emphasise the use of national legislation to regulate the provision and funding of CVT. By social-partnership regulated we mean those countries which rely largely on social partner sectoral agreements and arrangements to regulate the provision and funding of CVT. And by demand-led we mean those countries which stress the importance of individual employees and employers regulating the provision and funding of CVT within a voluntary framework and with minimal national regulation. Although these are ideal types and no country fits entirely into any of these three categories, it is possibly helpful to make some distinctions between the three and to suggest some strengths and weaknesses attached to each approach.

#### 3.5.1 State-led regulation

Finland is the only country in this set of seven which could in any sense be considered to be State-led regulated, although much of the control in this area is now being devolved to regional and local levels<sup>8</sup>. There has been a

<sup>8</sup> The inclusion of southern European countries in the set would probably increase the examples of this type.

strong drive in Finland since the 1980s to increase the amount of CVT and a considerable proportion of this type of training is publicly funded, although it may be delivered by both public and private providers. State funding has been targeted towards CVT which leads to nationally recognised qualifications. Oversight of student selection is also State-regulated although it is now carried out at regional level. Increasing resources for VET (including CVT) has been used in Finland as a strategy for combating high levels of unemployment during periods of recession when employers began to reduce their commitment to CVT. Even here, however, there is a move towards greater social partnership involvement in CVT. There is also a movement towards greater demand-led regulation with the introduction of a degree of competition at the individual CVT provider level and the use of incentives, such as its study aid system, to increase learner demand for CVT.

State-led regulation of CVT systems might be seen as having three potential major benefits – the facility to plan CVT in relation to national training needs or skills shortages; strong centralised control over the quality of provision; and, perhaps most importantly, strategic oversight of the distribution of provision. These types of system are thus more likely to ensure equality of access to training. The issue of equity is an important one in relation to CVT because there are indications in the individual country reports (see also European Commission, 1999) that access to CVT for individual learners is still very dependent on a number of factors including:

- sector (e.g. in Austria sectors such as agriculture and forestry tend to offer fewer opportunities for training than sectors such as education);
- size of organisation (e.g. in France 1.7% of the wage budget was spent on CVT in enterprises with 10 to 19 employees and 4.9% in enterprises with more than 2 000 employees);
- whether the enterprise is publicly or privately owned (e.g. in Sweden 50% of staff in public sector enterprises took part in some form of CVT, but only 35% in private

sector enterprises and 20% of those who were self-employed);

- the region of the country the individual employee happens to live in; and
- the level of qualification, gender and age of the individual learner.

However, there are problems associated with State-regulation approaches to CVT. Such systems tend to be rather inflexible and thus less responsive to individual need or demand. There are also problems of ‘deadweight’ – that is the funding by government of provision which would otherwise be funded by enterprises or individual learners.

### ***3.5.2 Social-partnership regulation***

France provides one example of a social partners regulated system, albeit with substantial central state legitimation. As Figure 4 indicates, Sweden lies slightly to the State-regulated end of this continuum because of the strong role of national legislation in this country and the Netherlands lies more to the demand-led end of the continuum because of its emphasis on the use of incentives, such as tax relief and subsidies for both enterprises and employees, to stimulate demand for CVT. However, the differences between these countries are slight in comparison with their overall common adherence to a social-partnership regulated approach to CVT.

The French system is particularly well-documented and provides a clear example of the characteristics of a State-led system of social partnership regulation. CVT regulation is based on a framework of statutory instruments (dating back to 1971) which lays out the roles, obligations and rights of the various partners in training, and a mesh of voluntary sectoral agreements between the social partners which ties parties to various actions and practices. These impose obligations on employers to contribute to collective training funds and to consult with works councils on training matters and entitlements for employees over training leave. They also involve a multiplicity of sectoral agreements linking recruitment and pay with qualification levels. The framework has been designed

to promote equitable distribution of training costs between firms and to achieve a balance between meeting the skills needs of individuals, enterprises, sectors and regional economies.

Various State initiatives target support in specific areas. A 1984 law for participation in the development of vocational training (EDDF) subsidised groups of small employers successfully submitting plans to enhance training efforts (initially for up to 40% of training costs – now below 30%). A training related tax credit was initiated in 1989 for firms undertaking intensified training programmes over a three-year period. The main lever of investment both from the State and employers, however, is still the training levy. Currently enterprises of 10 or more employees must contribute a levy equivalent to 1.5% of their payroll and smaller enterprises a levy equivalent to 0.15%. The self-employed contribute through a flat-rate payment to special agencies set up by professional practitioners and authorised by government, and the central State also contributes. Of the 1.5% levy for larger enterprises, 0.9% goes towards reimbursing employers for the costs of authorised forms internal or external training (by approved suppliers) specified in their training plans; 0.4% goes towards alternance training for new recruits; and 0.2% towards individual training leave costs. Levies are collected by social partner mutual organisations (OPACIFs). Forty six of these are at sector level and 20 at regional inter-professional level, thus providing a framework for encouraging both sector-specific and general professional skills (Greenhalgh, 1999). Employer investment in training is now, on average, well above the required level and from the limited comparative data we have it would appear that French enterprises organise more training hours than employers in many other European countries<sup>9</sup>. A significant proportion

of this training is likely to be general and non-specific to particular firms. By the mid 1980s, 10% of all annual training hours were based on statutory paid leave (Greenhalgh, 1999).

The major benefit of this type of system is that it seeks to address perennial problems of market failure in training which lead both individuals and enterprises to under invest. France tries to overcome externalities in training through public subsidy for training investment and by forming clubs of providers which distribute the costs of training and collectively decide on training priorities (Greenhalgh, 1999). Equitable sharing of costs prevents free-riding by non-training employers and, in theory, encourages greater investment in training by employers. Other benefits are also claimed for this kind of social partner system. First, there are strong and transparent links between recruitment, promotion, pay and training which stimulates demand for training. Second, mutualisation of the levy and the forming of a common pool for CVT theoretically means that training opportunities can be more equally distributed even in times of recession or downturn in certain sectors. This type of mutualisation is as beneficial for employees as for enterprises – in the French system, for example, employees' individual needs are met through personal training leave and from industries other than their own. Third, this type of system also allows for forward planning in relation to CVT. The social partners are able to set their overall objectives for the allocation of funds, as well as enterprises setting out their own training plans. In France, the government keeps a careful watch on how levy money is spent – if spending does not follow predetermined training plans, then the company may be asked to repay a proportion or all of the money claimed. There is thus a strong link between planning and social partnership arrangements.

There are, in practice, some well-documented drawbacks to social partnership systems and training levies in particular. Concerted action through social partners only works through an encompassing framework of statutory regulations and sectoral agreements but these can also lead to labour market rigidity and, it is argued, higher unemployment. Levies have

<sup>9</sup> According to the European Commission (1999) the sample of French enterprises organised 11.1 hours of training per 1000 worked, compared with 8.1 in Denmark, 9.9 in Germany and 8.7 in the UK. As with all surveys of this sort, however, there are doubts about the true comparability of national data.

strong detractors, particularly amongst business leaders. The compulsory levy was abandoned in the UK in most sectors in the early 1970s after repeated lobbying from employers and complaints that it was bureaucratic, prejudicial to small employers and not conducive to high quality training (Sheldrake and Vickerstaffe, 1987). The French system has also not been without its critics. As the French report points out, the fact that companies have to pay back that proportion of their allocation for CVT which has not been correctly spent tends to result in perceptions of the levy as a 'training tax' not as 'investment in training.' This can mean that enterprise training policy tends to be shaped more by amounts that have to be channelled into training rather than by real training needs. In addition, the French system is often perceived as overly complex and bureaucratic and there are concerns that the training market is being driven more by the financial concerns of the mutual organisations than by the real skills needs of individuals and enterprises.

Levy systems have been the subject of intense policy debate in a number of countries and there is still, perhaps inevitably, much disagreement about whether their benefits outweigh their costs. Research evidence is certainly inconclusive as to the effect of levy systems on training quality and appropriateness. However, there is some research evidence to suggest that levy systems in a number of countries have been associated with increased employer investment in training. Expenditure by French firms on training as a proportion of wages more than doubled in the 17 years after the introduction of the levy (Greenhalgh, 1999), reaching an estimated average of 3.1% of payroll by 1990. Most large firms admittedly invest much more than they are obliged to, and would probably do so without the levy; but small firm investment does appear to have been forced up by the levy.

According to Drake and Germe (1994), the Netherlands and Denmark also present positive cases where collectivisation of training contributions has been associated historically with increased investment in training (in these cases for apprentices). The Netherlands introduced sectoral levies in the early 1980s

and by 1984 had 38 sectoral agreements, 29 of which included agreements on youth and adult training with training funds jointly managed by the social partners financed out of training levies. In 1985 there were 35 000 apprentices; by the end of the decade approximately 80 000. Denmark set up the Employers' Trainee Reimbursement scheme (or AER) in 1977 at the same time as it created a new form of school-led alternance training (EFG) alongside the traditional apprenticeship. The social partner organised AER collects a statutory levy from all private employers which is used to reimburse employers for part of the wages paid to apprentices and to EFG trainees at the enterprise. Between 1975 and 1984 the proportion of 17 year olds embarking on training increased from 23 to 40%. It would be hard to determine how far these associations represent causal effects. Drake and Germe's conclusion in respect of the Danish case was that 'the collectivisation of employer training costs through the AER helped to rebuild youth training opportunities when they were threatened' (Drake and Germe, 1994, p. 122).

### ***3.5.3 Demand-led market regulation***

The UK is alone amongst the comparator countries in lying almost entirely in the demand-led regulation category in terms of its approach to CVT. There is no social partnership tradition in the UK in the sense that it exists in Austria or France, where vocational training, pay, recruitment and licence to practice are all governed by social partnership arrangements. There is also no State legislation which enforces enterprises to undertake CVT. Rather than use compulsion, the voluntarist system rests on exhortation, standard-setting, the provision of good information and a wide range of financial incentives for both enterprises and individuals to undertake CVT (see Section 4.6 below). The Investors in People (IiP) initiative in the UK employs all these by setting standards for good practice in firms, providing government subsidies for firms to acquire IiP status, and providing a mechanism (the IiP kitemark) whereby good practice in firms is publicised and disseminated. Government steerage over the providers of external training is also significant. The move in 1993 to 'in-

corporate' further education colleges, which are the main providers of publicly funded CVT, both increased the power of central government to use funding levers to incentivise providers to offer certain types of CVT provision and encouraged them to compete with private providers in a quasi-market for this type of training.

Since the change of administration in the UK in 1997, however, there has been a mild reversal of this purely demand-led regulation towards an element of more local, regional and national planning and some involvement of all the social partners, rather than simply employers and the state, as was the case with Training and Enterprise Councils (Local Enterprise Councils in Scotland) and further education colleges boards under the previous Conservative administration.

There are four main potential benefits to the demand-led approach to CVT provision and funding. First, this type of system addresses the direct needs of employers and employees as they arise. Second, it does not suffer the problems of 'deadweight' associated with State-led regulation systems. Third, it is undoubtedly more flexible than either of the other two types of systems described above. Fourth, because this type of system both addresses direct needs and is more flexible, it could be seen as potentially more efficient. Deregulation allows the purchaser/provider concept to prevail, which means that providers have to compete in a quasi-market to satisfy customer needs.

However, as with both of the other two systems outlined above, there are disadvantages to demand-led regulation systems. Possibly the most often cited criticism of the ideal-type demand-led system is precisely that it relies on demand from both employers and individuals. Either or both of these parties may not make the demands which serve the national interest best in terms of skill development and international competitiveness. Individuals tend to underinvest in training because they are uncertain about its value, because they cannot be sure that future returns will outweigh the costs, and because they may be unable to access the capital to train in the first place. Employers, likewise, may well

underinvest in training because they do not know what skills might be beneficial to productivity, because they cannot calculate precisely the future value of additional skills and because they may not capture the benefits in any case. The classic problem, much discussed in the UK literature on training, revolves around the problem of 'free-riding.' Employers may decide not to invest in training because they fear other employers will poach employees trained at their expense. It is often safer simply to pay a wage premium to buy in additional skills, and in the absence of sectoral wage agreements which deter this, this may be the most rational course (Hutton, 1995; Streeck, 1989).

Where no social-partnership arrangements are in place to create the links between recruitment, licence to practise, training and wages, demand for CVT cannot be assured. In addition, demand-led systems by their nature have no consistency of training patterns, do not lend themselves easily to planning and are likely to fluctuate with economic swings. This can be problematic for individuals, for enterprises and for national governments. Finally, both quality and equity become significant issues with pure demand-led regulated systems.

It is clear from the seven individual country financing portraits which have been included in this research paper that, although the majority currently lies between the State-led regulated and social-partnership led regulated systems, there is a desire to move towards demand-led regulated systems because of their ability to attract more private investment into CVT. However, the type of hybrid systems which this might create are more likely to lie towards the social partnership end of the continuum illustrated in Figure 4 to avoid some of the very real weaknesses associated with ideal type demand-led regulated systems.

### **3.6 Mechanisms for distributing resources to providers, enterprises and employees**

European countries use a variety of mechanisms for distributing CVT funding, depend-

ing on its primary source and the existence of social partnership agreements. In this section we discuss briefly the main financial mechanisms used to distribute State and social partnership levy resources for CVT to training providers, enterprises and individuals.

### 3.6.1 CVT providers

Across the seven comparator countries, it is possible to distinguish three major mechanisms for distributing State and social partnership levy resources to CVT providers whether they are public, not-for-profit, non-governmental or private organisations. These are:

- a) direct lump sum subsidies based on historical figures (e.g. Sweden in relation to adult municipal education);
- b) allocation by units related to full-time equivalent students on particular courses (e.g. Denmark or Finland); and
- c) allocation by units related to full-time equivalents on particular courses *but with a performance-related element also included* (e.g. UK and, in the future, the Netherlands).

There is currently a general move away from the first type of mechanism towards the second, with very few countries currently considering the third. This movement indicates a desire to have stronger control over the actual costs of training courses or programmes and is largely driven by a desire to increase efficiency and cost-effectiveness. Finland provides a clear example of how this policy objective has been put into operation: in that country the unit amount which training providers have received over the past few years has been reduced by a certain percentage each year by central government to increase volume of training while keeping overall expenditure the same. There are evident benefits in this type of mechanism, although it also raises issues of equity and quality. These concerns are of even greater relevance in relation to the third type of mechanism, as the UK case illustrates. A fuller discussion of these forms of funding was provided in Section 2.

### 3.6.2 Enterprises

Mechanisms for distributing State and social partnership levy resources to enterprises can again be broadly divided into three types, although the last covers a very wide range of examples and could possibly be further subdivided. For the sake of simplicity, however, we will distinguish the following three mechanisms:

1. *allocation of commonly collected levy funds* through a calculation involving numbers of days of training entitlement per employee (e.g. the Netherlands O+O system);
2. *allocation of commonly collected levy funds* in relation to training plans (e.g. France);
3. *targeted State subsidy* via various forms of tax relief, loans and other subsidies based on actual demand and/or spend (e.g. corporate tax relief in Austria; the State providing enterprises with help in identifying skill needs and financial packages as a way of dealing with specific training problems in France; small firm training loans in the UK for firms of up to 50 employees, where the interest on a bank loan to be used for CVT is paid by the Department for Education and Employment and repayment is deferred).

The major distinctions between these three types of mechanisms are more than mechanical. The first emphasises fair distribution of commonly held resources, although it would be possible to see how it could be used to target specific areas of CVT, as well as to ensure equity of distribution between enterprises and employees. The second mechanism stresses the need for forward planning in relation to CVT, while still retaining a demand-led element. The third type of mechanism uses public funding to stimulate private demand for and investment in CVT. Only those countries which have social partnership arrangements make use of the first two types of mechanisms while all of the countries considered in this paper make use of the third type. This is not surprising given the national policy steers in all of these countries to both increase the demand for and supply of CVT, while reducing



the proportion which is funded by national government.

### 3.6.3 Individuals

It is possible to distinguish only two major mechanisms for distributing State and social partnership resources to individuals for undertaking CVT, although the first includes a very wide range of types within it:

- *targeted allocation via various forms of tax relief, loans or awards based on actual demand and/or spend* (e.g. in Austria the costs of CVT are deducted from income tax; in Finland study aid and study loans are distributed through the Centre for Student Financial Aid; in Denmark all labour market training courses provided in AMU centres are free and there is a subsidy of the maximum of unemployment benefit rate for all individuals; in the UK individuals wishing to change careers and needing CVT can apply for a career development loan which covers 80% of course fees and the full cost of books and equipment);
- *allocation of lump sums for individual learning accounts to be used for future CVT* (e.g. UK and, in the planning stage, Sweden).

Both of these financial mechanisms are designed to lever additional private funding into the CVT system. The first is by far the most prevalent in the seven comparator country systems. As its description implies, it has the same function as the third type of funding mechanism outlined above in relation to enterprises. In other words, the emphasis with this first mechanism is on targeting resources towards *current* training demand and specific CVT activities undertaken. The purpose lying behind this mechanism is to incentivise individuals to demand and to participate in CVT to increase the volume and range of CVT taking place overall. The second type of mechanism, on the other hand, although having a similar purpose, stresses the importance of building up a resource for *future* CVT needs, as well as focusing on current demand. This is a very new and experimental development in the UK and it remains to be seen whether

it will succeed in stimulating the demand for CVT in that country.

### 3.7 The role of funding tiers

Since the majority of CVT is enterprise based and privately funded, the role of the different tiers of government is less relevant with this type of training than with either IVT or UVT.

As we have indicated earlier, in all of the seven country financing portraits covered in this paper, there is a general move towards decentralisation in terms of the administration of VET systems and also, in most cases, a desire to devolve responsibility for resource allocation to VET provider level where this is possible. This is both to encourage efficiency and also, in some cases, such as Denmark, Finland, the Netherlands and the UK, an attempt to introduce the concept of a quasi-market in VET provision by stimulating competition between providers. A general discussion of the benefits and dangers of these approaches is covered in Section 2 of this paper, so will not be repeated here.

### 3.8 Future trends

Although, as we have seen in an earlier part of this section, there are still major national differences between the approaches that the seven countries take to the financing of CVT, it does appear that there are some common themes lying behind their current policies in this area. We would suggest that a similar position applies in relation to future developments in the financing of CVT. The following five broad themes emerge as common to most, if not all, of the seven countries examined in this paper:

1. A concern for equity of distribution of CVT opportunities and resources among different enterprises, sectors and individuals, particularly in relation to small and medium enterprises.
2. A desire to continue to expand the volume and range of CVT taking place, at the same time as increasing the proportion of private funding used to resource this expansion.

3. An interest in developing national certification frameworks to accredit the whole range of CVT activities and programmes in order to make this type of training more transparent, attractive and credible.
4. A need to improve on the data collection and analysis of CVT activities and their cost.
5. An emphasis on developing more sophisticated financing mechanisms which attempt to focus on outcomes from as well as inputs to CVT and to stimulate competition between providers of CVT.

## 4. Financing training for the unemployed

### 4.1 Background and definitions

Combating unemployment is a major social and economic agenda item for most EU countries. The unemployment rate surged in the late 1980s and the early 1990s, and has continued to increase, or remained high, thereafter in most. In the 1990s, the problem has affected young people in particular, and the surge in youth unemployment has intensified the sense of crisis. While there has been some improvement in the unemployment rate and the general economic situation, intensified global competition and rapid changes in technology, production systems and work practices have made job security yet more vulnerable. Even for those who are currently employed, the situation has required them constantly to upgrade their skills to keep up with the pace of change and thus retain their jobs. Under these circumstances, the integration of unemployed persons into the labour market has become increasingly difficult, and for the long-term unemployed and/or those who have a low level of qualification or face extra social and physical handicaps, the prospect of securing employment has become narrower. In this context, the problem of unemployment is increasingly being discussed in association with the issue of social exclusion.

Training for the unemployed (UVT) is designed to help the jobless return to work by

raising their general qualifications or skills. However, the definitions of UVT vary considerably from one country to another, and any cross-national comparisons should take this into consideration. In terms of target groups, UVT programmes are for those who are aged 20 and over and registered as being unemployed (Finland and Sweden); or those who are aged 19 and over and entitled to claim unemployment benefit (UK). However, special training programmes for the unemployed such as 'Training for Work' (TfW) and 'New Deal' in the UK include those who are aged 18 (even though others at the age who participate in YT and apprenticeships are funded as part of IVT). UVT in Denmark also includes activation schemes for those who are under the age of 25. In contrast, 'TRACE' in France (a special employment contract scheme for tackling youth unemployment) includes those up to the age of 24 as part of IVT.

Training for the unemployed is normally part of a larger concerted reintegration measure to help the unemployed gain employment. The major reintegration measures, which may or may not constitute part of UVT funding, can be categorised as follows:

- ❑ training programmes (institutional-based programmes including both general and vocational training and education; special training for literacy, low self-esteem, motivation; other training to widen the capacity for social participation);
- ❑ workplace training and experience<sup>10</sup>;
- ❑ job creation, matching and pooling (including special employment contracts);
- ❑ other support schemes (including guidance, assessment, job clubs and support for living and travel allowances);
- ❑ cluster programmes which combine the above integration schemes.

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<sup>10</sup> Work experience or work-based training either in a private company or a public or voluntary organisation. 'Work experience' includes unpaid placements in firms and organisations as part of a school-based vocational programme (*stages* in France).

Severe labour market conditions, notably the high level of unemployment, have led many governments in the EU to review and modify their existing approaches to the issue of unemployment. In policy terms, these changes are characterised by a shift from a passive approach in the past (which relies heavily on unemployment benefits) to a more *active labour market approach* (which places emphasis on training and reintegration). This shift is having a profound impact on the way UVT is delivered and how funding is utilised.

Participating in training to increase the chances of gaining, or returning to, employment has been strongly encouraged in some cases by legislation (i.e. Denmark, Finland). At the same time, considerable effort has been made to provide the unemployed with more comprehensive and coordinated support. This is exemplified by the increased numbers of targeted programmes which offer a wide range of training options as well as personal advice and monitoring, to integrate diversified types of unemployed people. Greater attention has been given to individual needs through tailor-made approaches to training as an option for effective integration.

While training programmes and work-based training experience (the first two on the above list) have been, and continue to be, the main strands of integration schemes, considerable investment is being made to enhance the other approaches to getting people back in the workforce. TRACE in France is now being extended to include the long-term unemployed who are aged 25 and over. The contract does not necessarily include training, which is optional. A part of UVT funding has been redirected to finance a new job pooling (subsidised job) scheme in the Netherlands since 1996. In the UK, employment zones were created in February 1998 to help the long-term unemployed who live in areas of high unemployment with training (i.e. allowances to participants). Furthermore, the recent establishment of regional development agencies in the UK is designed to support the better planning and coordination between regional economic development and skills development of the workforce, which raises a prospect for better integration of the unem-

ployed. The trend seems to reflect an 'active' policy towards tackling unemployment and the growing recognition that while training is often a necessary aspect of integration, it is often not sufficient and needs to be coordinated and supplemented with non-training measures.

This section of the paper reviews the recent changes in UVT funding in seven EU countries and discusses the major trends and debates involved to gauge the nature of change and its variation in different national contexts. The section is organised into three parts. First, it attempts to see whether there is a general trend in approaches to training the unemployed in light of active labour market policies, and discusses how this is influencing the level of funding. Then, it considers different factors influencing the total level of funding, and reviews different sources of UVT financing. The second part focuses on major changes in administrative systems which are responding to the pressure to achieve greater efficiency. The third part discusses in more detail the trends in distribution mechanisms.

#### **4.2 Trends in types of training programmes**

Financing training for the unemployed needs to be understood in the light of changes in approaches to addressing unemployment. It involves prioritising different training programmes or introducing new programmes, both of which have large financial implications.

In most countries, governments have increased the consolidation of different training schemes under special programmes, and thus there is a growing trend towards the special programme approach. The programmes commonly feature a combination of the integration schemes discussed earlier, with personal assistance and mentoring. This may include assessment and other mobilisation measures (Denmark, France and the UK) to provide a comprehensive and coordinated approach to integration of the unemployed.

These government programmes include the following examples:

- The 'New Deal' was launched in the UK in 1994 initially to address young people (18 to 24) who were unemployed for more than six months. The programme has been extended to include those aged 25 and over and unemployed for more than two years. Loneparents and disabled people were also seen as target groups;
- 'Employment Programme', initiated in Denmark in 1994, stipulates that unemployed people receiving social security allowance are to be 'activated' through job training or general education after more than two years of unemployment. Everyone under the age of 25 with low-level skills and receiving an allowance, have to be working or in training after more than six months of unemployment. The programme also attempts to ensure that those who are employed have the right to training to retain their jobs;
- 'Trade-Wise Training for the Unemployed (BBSW)', which fills the gap created by labour market imperfections and 'General Training Measure (KRS)', which involve tailor-made programmes, are the major initiatives of the Dutch government;
- 'TRACE' (employment access routes) in France is a special employment contract targeting young unemployed persons since March 1998 (dealt with as part of IVT funding in France).

A general increase in the number of targeted government programmes is reflected in the increase in funding towards these specific programmes. The New Deal will increase the level of UVT funding in England from GBP 560 million in 1996-97 to GBP 974 million in 1998-99. In the Netherlands, 20% of the total budget which previously funded two types of training institutions, is now allocated to fund the special national programmes mentioned above.

Another emerging trend seems to be the tailor-made individual approach to training. In France, the government launched a new programme in early 1998, which is characterised by tailor-made individual action plans and personal monitoring. The Act on Active Labour Market Policy (1993) in Denmark encompasses

the development of 'individual action plans' before providing people with specific training options. One of the government programmes started in the Netherlands in 1996, the General Training Measure (KRS), provides tailor-made individual training programmes as well. The New Deal is also similar and the introduction of such assistance was suggested in France in April 1998.

The seven comparator countries exhibit a general trend towards expanding the options of training. This seems to be a reflection of the fact that governments are increasingly aware of the diversified character of the unemployed and see providing more options as a way of meeting a broader range of needs for greater inclusion. More targeted training programmes appear to provide a more effective avenue for reducing unemployment. However, these programmes are by nature more expensive to provide, because they are tailored to individual needs and provide a wider range of options. As a result, the added effectiveness must be considered in the light of the increased costs.

### 4.3 General trends in the level of funding for UVT

#### 4.3.1 Total expenditure on UVT

Table 1 provides a comparison of the level of total expenditure on UVT in 1996. The figures were drawn from the country reports (1998/99) as there is limited availability of other comparative data at this stage. The level of funding as a proportion of GDP in 1996 ranges from 0.09% to 0.62%; the highest funding is seen in Denmark – interestingly where the employment situation has improved in recent years. The trend data are limited at this stage to those of France and Finland which both show upward trends (from 0.21% in 1986 to 0.36% in 1996 in France; from 0.31% in 1986 to 0.55% in 1996 in Finland). The low level of funding in the UK reflects a continuous decline in the expenditure for UVT in England (from GBP 1257 million in 1986 to GBP 560 million in 1996)<sup>11</sup>. This reduction is

<sup>11</sup> The equivalent in ECU is 688 million (1996).

**Table 1: The level of funding for UVT as proportion of GDP in 1996 (%)**

Denmark	0.62
Finland	0.55
France	0.36
Netherlands	0.2
Sweden	0.4
UK	0.09

Source: Cedefop (1999).

Notes: The figure for Sweden is for 1997. The level of funding for the UK includes funding for 'Training for Work', colleges offering courses for the unemployed as well as funding for Scotland, Wales and Northern Ireland.

thought to be due to a decline in unemployment and also to more efficient and focused programme delivery (UK, 1998, p. 61). However, the launch of the New Deal with a budget of GBP 637 (ECU 937 million) in 1998 will make more than double the amount of funding available in England.

The table may provide a basis for a general comparison in terms of the level of UVT funding. However, comparisons of this type provide only a partial picture. This is because definitions of UVT vary considerably from one country to another. As mentioned, training is only one of many different measures used to combat unemployment. This means that various reintegration schemes other than training may be included as part of UVT funding. UVT in Denmark, for example, includes a wide range of activation schemes including job pooling and wage subsidies. The New Deal programme in the UK provides an even wider range of support schemes. Funding for UVT in Finland includes funding for overall unemployment benefits to finance the living expenses of unemployed persons. On the other hand, UVT funding in Sweden includes only training elements. As indicated, the different approaches to training younger people makes a cross-national comparison particularly difficult.

#### **4.3.2 Unemployment and total level of funding for UVT**

The level of funding for UVT generally corresponds to the level of unemployment in a

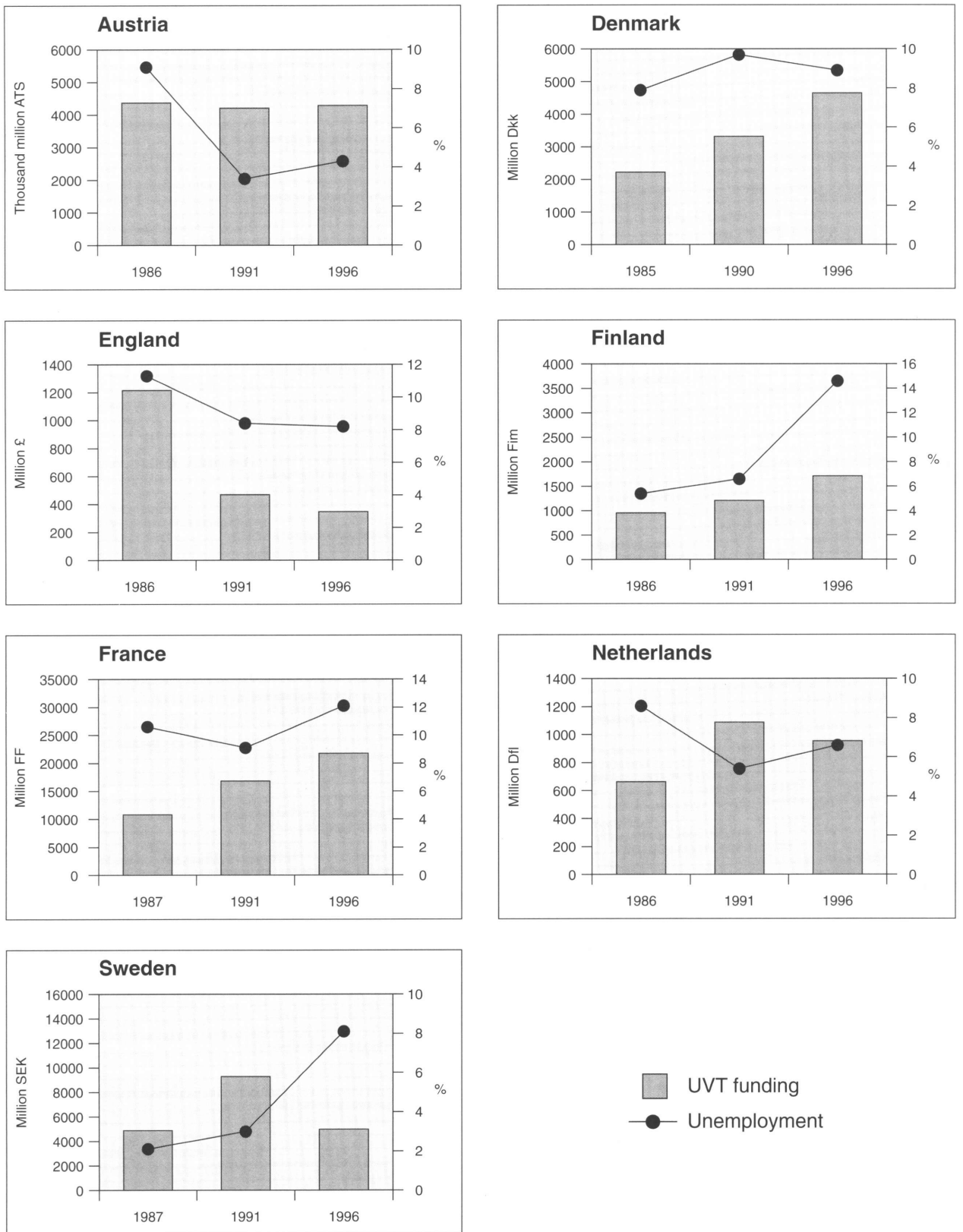
country as more people are eligible for training. However, this provides only a partial explanation for funding levels and a number of other factors, including political ones, may be equally influential. In some cases, UVT expenditure has increased even as unemployment has declined (Denmark, UK) or expenditure has declined while unemployment has increased (Sweden).

The increase in unemployment since the late 1980s is reflected in increased funding in the early 1990s. This was true for most comparator countries with the exception of the UK where unemployment rates have been in decline since 1986. Worsening unemployment after the mid-1990s has also brought further increases in funding (e.g. in France and Finland). The sharp increase in unemployment in Finland corresponds to a 130% increase in the volume of training provision between 1991 and 1996.

The relationship between unemployment rates and the level of funding is not always straightforward, however (Figure 5). In Denmark, the funding level continued to increase even though the employment situation improved in recent years. The same was true of the UK which launched a major initiative (New Deal) in 1998 as unemployment continued to fall. The opposite has been true of Sweden where the level of UVT funding has been reduced substantially, despite a sharp increase in unemployment between 1991 and 1996. A reduction in the level of unemployment in France in the early 1990s and in the Netherlands may be virtually attributed to an increased level of funding. However, as other studies indicated, a general correlation is usually difficult to establish, and thus the relationship between the level of unemployment and UVT funding is not definite and conclusive.

This indicates that various factors other than the level of unemployment can influence the level of funding for UVT. The Danish experience suggests that while increased numbers of people are finding jobs, those who remain unemployed require more intensive and possibly more expensive training efforts. The complexity involved in addressing long-term unemployment and the need for a multifac-

**Figure 5: Unemployment and VET funding**



**Table 2: The proportion of UVT expenditure in total VET funding**

	1986/87	1991	1996/97
Austria	9.1	9.1	9.8
Denmark	17.8	24.3	22.8
Finland	11.7	11.1	16.0
France	9.8	11.4	12.9
Netherlands	7.3	10.2	8.3
Sweden			9.4
UK	38.7	21.1	16.3

Source: Cedefop (1999).

Notes: The figures for Denmark are for 1985, 1990 and 1996 respectively. The figures for UK are based on public recurrent expenditure on VET in England only.

eted approach to reach the diversified profile of the unemployed may imply a higher level of financing for intensive, innovative and new training schemes. Above all, the government's political will to combat unemployment seems to be the largest factor influencing the level of funding. In this regard, including the problem of unemployment as part of social exclusion (as in France and the UK) seems to be a substantial driving force behind the recent upward movement in funding.

#### **4.3.3 Share of UVT in total VET expenditure**

Table 2 shows trends in the proportion of UVT expenditure in total VET expenditure.

Despite the improvement in unemployment, the proportion of UVT in Denmark is the largest and accounts for a fifth of total public VET expenditure. The increased proportions in Finland and France seem to reflect worsening unemployment. In France, however, the political priority placed on tackling social exclusion and funding for the unemployed are major contributing factors in the recent increase in funding. The proportion in the UK has continued to decline since 1986; however, the budget for the New Deal will reverse this trend and bring a substantial increase. Aside from these specific examples, it is difficult to determine the extent to which governments are making a conscious choice to dedicate a greater portion of VET to UVT. This is because

of other factors (such as the unemployment level) which affect the level and therefore the proportion of UVT funding.

#### **4.3.4 Target groups**

While past approaches tended to treat the unemployed as a monolithic entity, the current trend involves differentiating between categories of people whose joblessness is based on different underlying factors. The idea behind this approach seems to be to target the causes with specific enabling measures. As such, greater emphasis is observed in addressing youth and long-term unemployment, as well as the problems of those who face particular difficulties in reintegrating into the labour market. This is demonstrated by the increased number of, and funding for, targeted programmes. A full 78% of the funding of the New Deal will be allocated to combat youth unemployment, thus causing a substantial increase in funding this area of UVT. Likewise, the TRACE programme in France was launched initially to address young unemployed persons. In Finland, several governmental decisions were made in 1995-96 to facilitate employment for young people. Similarly, a special scheme for young people under 25 was introduced in Denmark in 1996.

As mentioned, the issue of unemployment is now associated with the problem of social exclusion. Such exclusion may take a variety of forms and include, disproportionately, those with few qualifications, immigrants, the elderly, women, the disabled, ethnic minorities, prisoners and others. Targeting allows for increased attention to a particular group whose joblessness is compounded by these social disadvantages. Both the New Deal and TRACE programmes have now been extended to include adult and long-term unemployed persons as well as people with extra difficulties. A new government initiative to combat social exclusion launched in France in 1998 will increase the overall budget for UVT, particularly for those who face difficulties (i.e. job seekers who are disabled, illiterate, prisoners, immigrants, women, or elderly people). In Denmark, the government indicate that groups which are currently marginalised in the labour market (i.e. ethnic minorities) or

are not part of labour force (persons on early retirement) should be better integrated.

#### 4.3.5 Sources of funding

While funding for training the unemployed comes from a variety of public and private sources, this area of VET relies predominantly on public sources while the use of private funds has been limited. The major sources of UVT funding include:

- ❑ general taxation at national level;
- ❑ general taxation at regional level;
- ❑ unemployment insurance funds;
- ❑ contributions from private companies and individual households;
- ❑ contributions from social partners and other public authorities;
- ❑ EU subsidies.

There is a general consensus which recognises that UVT is an area of public responsibility, while the training for employees is increasingly seen as the responsibility of private companies. Within the public sector, the central government is the sole provider of UVT funding in most cases, although in some cases (Denmark, France) regional/municipal governments part share the cost, notably where funds are used for those not insured (Denmark). Social partners, including the chambers of commerce, may also contribute to UVT financing (France).

In three of the seven comparator countries (Denmark, France, Finland) some support for UVT was provided by private funding. Private companies mostly provide indirect financing, which constitutes a partial payment (often the differences between the salaries and subsidies provided by public funds) for the service provided by those unemployed persons who are on work-experience schemes (Denmark, France). A small contribution from private households has been initiated in one instance (France). While small, the scope for funding from companies may be slowly widening, as is the case in Finland. In that coun-

try, when a company restructures its production and needs people with new skills (or needs to retrain existing employees) employers provide on average 50% of the cost of joint-training programmes. Private companies in Finland also contribute to EU programmes including the salaries paid to apprentices. The proportion of funding from private contributions remains small, however, providing only 6% of the total funding<sup>12</sup> for UVT in 1996 (Finland, 1998. p. 73). However, given the fact that private sources did not exist prior to 1991, the example may widen the scope of private contribution to the area of UVT in other countries.

In addition to these major and regular sources, governments may use exceptional funding sources to launch new programmes. The UK used proceeds from a windfall tax on the privatisation of its public companies during the 1980s and the 1990s to cover the initial cost of a new UVT programme (New Deal).

The UK example indicates the possibilities of identifying alternative sources of funding for UVT within the public domain. Most alternatives seem to involve ways to reallocate, or 'activate', public funds to finance UVT without raising the overall level of State expenditure. The most notable example is to finance training by using unemployment benefits. A part of trainee pay in France is now partly financed by funds channelled into unemployment insurance. The guiding principle of this change is the 'activation' policy. By providing unemployed persons with trainee pay out of unemployment benefits, it makes it possible to 'activate' a part of the 'passive' expenditure. In a similar manner, the Netherlands' government has reinvested the surplus created from the reduction of the number of regional administration offices into job creation schemes.

#### 4.4 Funding structures

While different methods to achieve greater efficiency in the provision of training are be-

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<sup>12</sup> Of 6%, 2.5% is an indirect contribution and provided in the form of salaries to apprentices in EU-funded programmes.



ing debated, major changes can be classified under three headings:

- a) trends towards decentralisation;
- b) trends towards increased central government interventions under a strong partnership; and
- c) trends towards marketisation.

#### **4.4.1 Trends towards decentralisation and its implications**

In many cases, funds are distributed through multiple stages within a single structure from the central government to its regional bodies and sometimes then to local employment offices (Denmark, Finland, the Netherlands and Sweden). Responsibilities have increasingly been transferred from the central administrative body to local/regional administrative bodies (Netherlands and Denmark). Decentralisation has been undertaken in different ways, however. In Denmark, it has involved a greater delegation of tasks by the National Employment Council to regional labour market councils. A supplement fund, which became available after the passage of the Act on Active Employment Policy in Denmark in 1996, is directly allocated to these regional councils. However, in the Netherlands, the number of local administrative bodies will be reduced, and instead the administration of a part of the budget (purchasing of training) will be transferred from local administrative bodies (which are regional executive bodies of the central government) to municipal governments.

As a result of increased decentralisation, the basis for the distribution of funds and the mechanisms involved in providing training for the unemployed are likely to vary considerably between different regions (or municipalities) within a country. Although decentralisation may increase the efficiency of a programme, the diversification of programmes has raised concerns with regard to whether the move will make monitoring and evaluation of training more problematic (Netherlands).

The distribution mechanism in France offers an alternative model, which is based on 'role

sharing' between the central government, regional governments and social partners as discussed in the previous sections<sup>13</sup>. However, some elements of the new government programme, TRACE, and the extension of the employment contract (to include those aged 25 and over), do not abide by the existing arrangements for role sharing and general concerns have been raised. This may indicate a limited scope for flexibility with the role-sharing approach.

#### **4.4.2 Greater government intervention under a strong partnership**

A general move towards decentralisation is not clearcut, however, and it seems to be taking place in tandem with the increased use of direct interventions by central governments to provide specific programmes to combat unemployment. In the case of the Netherlands, while the responsibilities of regional administrative offices are increasingly being transferred to municipal governments, the responsibilities of regional administrative bodies (which administer funds for training) are being reduced. The focus of their responsibilities in the future will be the delivery of specially targeted government programmes. As a result, training programmes will be administered by a two-tier administrative system, including municipal governments and the central government through its regional administrative bodies.

The introduction of the New Deal programme has created a two-tier administrative system in the UK as well. The New Deal is administered by an executive agency of the ministry (Employment Service), to which local partners bid for funding, while other programmes (including TFW) will be administered by local

<sup>13</sup> As discussed, there is a trend in which central governments are increasingly focusing on those who face extra difficulties for reintegration (i.e. those with social handicaps who are victims of social exclusion). Regional governments in France have, by law, powers over vocational training for young people. UNEDIC focuses mainly on vocational retraining. The trend in terms of the demarcation of responsibility of the central government clearly applies to the case of the UK.

administrative bodies (TEC)<sup>14</sup>. In France, funds are divided between three broad types of training programme, administered by the central government, the regional governments and UNEDIC (social partners) respectively.

These examples suggest that despite a general trend across VET towards decentralisation, the scope seems to be rather limited in the area of UVT. While 'the decentralisation law' guides reforms of CVT in France, the central government still has a firm grip on training for the unemployed. In the UK and France, and to a lesser extent in the Netherlands, administrative mechanisms seem to reflect changes in their approaches to address unemployment, which are characterised by a greater direct government intervention under a system of strong partnership.

The causes behind greater direct government intervention are various. This trend may simply reflect a general consensus that the issue of unemployment needs to be dealt with at national level. It may also be one of the government's tactics to diversify options available for the unemployed persons for reintegration. Greater flexibility seems to be associated with the targeted programme approach. Availability of a large fund, as in the UK 'windfall tax', might have allowed the government to create a route for direct intervention. As government programmes tend to target specific groups with particular difficulties in reintegrating, the move seems to indicate rather a clearer division of roles between central government and regional governments.

#### ***4.4.3 A greater move towards privatisation***

A trend towards privatisation of provision (as opposed to funding), which characterises VET in general in the seven countries, is clearly observed in UVT (e.g. in Denmark, Finland,

Netherlands and Sweden). The privatisation of training for the unemployed means that the current public training institutions will have to compete with private and other training suppliers for market share. This seems to reflect a trend to make UVT more demand-driven, in which training providers offer more responsive and attractive training. Designed to rectify the dominance of public training institutions, privatisation is seen to increase efficiency and quality in the provision of training.

The impact of privatisation has been considerable. The proportion of UVT provided by public institutions dropped significantly in Sweden from 74% in 1989/90 to 29% in 1997. Meanwhile the proportion provided by private institutions increased significantly from 7 to 58%. Finland has experienced a similar outcome as the proportion provided by public institutions declined from 76% in 1991 to 57% in 1996, while that of other institutions increased from 20 to 28% during the same period. So far, the change has been seen as a success in Finland despite initial concern, partly as it contributed to raising the organisational flexibility of these public institutions. The full implication of privatisation to the existing training institutions and mechanisms requires further investigation, however.

### **4.5 Distribution and funding mechanisms**

#### ***4.5.1 Flows of funds (changes in the relations between central governments and local administrative bodies)***

In the traditional approach to funding distribution, the central government (or a national board) makes decisions on the basis of labour market trends and funds are then allocated to its regional bodies to implement national labour policies. A proportion of funding may be allocated on the basis that each regional body can use its discretion in supporting the activities and specific needs of their region. Even in this case the central government still provides a national framework which sets out priorities (e.g. Sweden, the Netherlands before recent reforms).

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<sup>14</sup> It was announced in the 1999 White Paper, *Learning to succeed*, that TECs will be subsumed into new local Learning and Skills Councils.

There is a general trend, however, away from this centralised top-down approach and a move toward greater 'negotiation' between central governments and then regional bodies on the implementation of labour policy at regional level. In this approach, the ministry (or national board) negotiates with the regional bodies on the implementation of labour policy at regional level and provides funding on the basis of agreements which include performance targets and the details of implementation (e.g. in Finland and the UK). This has led to an increased emphasis on 'performance', and promoted a new mechanism, the so-called 'performance-based steering and budgeting approach'. The trend here mirrors the trend in relation to contract funding discussed in Section 2.6.

Under the new approach, the level of funding is determined by an implementation plan (which typically includes numbers of trainees and types/level of training to be provided) submitted by regional bodies to the central governments (or national boards). The main bases for funding include: the cost of the training course; the cost of each training day per participant (i.e. trainee pay and benefits); and the number of trainees. The actual formulae for calculation vary considerably from one country to another. Funding to municipalities in Denmark is allocated based on a single formula in which the ministry reimburses 50% of activation costs per person up to a margin of DKK 9.618. The UK is the only country, among the comparator countries, which directly links performance of training to the level of funding. The funding level for UVT is decided by a combination of start payment (flat rate of GBP 1475) and output-related payment. About 65% of funding is currently output related, although the level varies from one TEC to another.

Despite a growing 'negotiation-based' approach and a greater delegation of responsibilities to regional bodies and social partners, central governments seem to be maintaining their grip on power in the implementation of UVT and national and regional coordination remains intact. Despite a move towards decentralisation, the Ministry of Labour and the National Council still influence regional policy

through government targets in Denmark. In Finland, the ministry outlines general rules concerning the purchase of training for the unemployed. In terms of the extent of discretion and power given to local authorities in distributing funds, the UK had been an exceptional case in which its local agencies (TEC) have been able to exercise considerable discretion in the funding and contracting arrangements with training providers. The system has brought about flexibility in the system; however it has created considerable variation between regions and local communities depending on the particular TEC involved (UK). Incidents of waste and misuse of funds have also dented confidence in this system which is now to be replaced. While there is a growing interest in decentralisation in many EU countries, the introduction of the New Deal seems to be bringing national coordination and close monitoring back in place in the UK.

#### ***4.5.2 Distribution mechanisms for training providers***

Within the single structure approach to distribution, training providers can only seek funding through local administrative bodies. This is changing. With the addition of new government programmes, a multisource structure for funding distribution is now developing. For example, funds in the UK were previously distributed within a single structure (from DfEE to local TEC to purchase training from training institutions). However, the introduction of the New Deal has created another channel from which training institutions may seek funding. From the year 2000, the Netherlands is expected to have two channels for funding distribution so that training suppliers can seek funding either through the regional bodies of the central government, or through municipal governments.

Contract approaches to funding, sometimes including the specification of performance targets, are also being adopted. Dutch government programmes started in 1996 adopt a tender approach through which any training provider can seek funding. These tenders specify such things as performance targets, types of training and target groups. The UK

also uses performance contracts for the funding of TEC which, in turn, use output-related funding contracts for IVT and UVT providers (see Section 2).

The effects of output related funding (ORF) have been much debated, and we discussed this issue in relation to IVT provision above (Section 2.6). In the UK, ORF has provided TEC with a significant financial incentive which, according to some analysts, has had a positive impact on performance through changes in TEC and provider behaviour (Coopers and Lybrand, 1998). However, not all assessments of ORF are positive. The defects of the ORF mechanism – such as its tendency to focus on short-term results or to avoid difficult or expensive trainees – have also been highlighted. Given the complexities and difficulties of reintegrating long-term unemployed people or people with particular difficulties, focusing too much on ‘output’ may be too crude a measure for assessing ‘performance’. As such, linking it to funding level may counteract the mission and purpose of training for the unemployed.

## 5. Conclusion

Vocational education and training has remained high on national policy agendas within the EU during the past decade. This is because of its importance for national economic competitiveness and because it is seen as one way to combat social exclusion and particularly that caused by high youth unemployment and long term unemployment. Rapid changes in technology and work organisation, combined with the ageing of populations and workforces, is encouraging the vision of a seamless lifelong learning provision. This places particular emphasis on the development of CVT which remains very unevenly distributed in many countries (European Commission, 1999). EU countries have generally increased their investments in VET, particularly from public sources. However, further improvements in lifelong learning will undoubtedly place strain on public finances in many countries and therefore raise issues about how public costs can be contained.

Both IVT and UVT remain funded predominantly by the State throughout the EU. There has been some decentralisation in the allocation of funds to lower tiers, but there have been few attempts to encourage greater private investment in these areas and there is no clear evidence that the proportion of investment met by the State is decreasing. Public spending on IVT continues to rise in real terms in many countries, although there are some examples of countries achieving reductions in unit costs. Patterns of public spending on UVT are more varied since they relate to changing levels of unemployment. Some countries have managed to reduce public spending in this area in real terms (usually, as in the UK, when unemployment has been in decline) but in other countries costs have continued to rise even when unemployment has been static or in slight decline.

CVT is an area where there is relatively unlimited potential for expansion and cost escalation and therefore the focus of most concern about public affordability. Total spending on CVT between 1986 and 1996 appears to have risen in real terms in most of the comparator countries in this study, in some cases substantially (Denmark, Finland and the Netherlands). The UK provides no trend data and only Austria seems to have had relatively stable expenditure. Several countries have taken initiatives to spread the costs more widely and to encourage greater investment by individuals and enterprises and this trend is likely to continue. The data are insufficient to say with any certainty whether this has altered the relative shares of costs borne by different parties. The French portrait reports a slight increase in the enterprise share of funding, and the reports from Denmark, Finland and the Netherlands estimate an increase in the public share, but in each case with a strong caveat. Individual funding of CVT is still at comparatively low levels and there is no evidence to suggest that it is rising substantially, despite frequent efforts to encourage it (although the pattern may be different in the type of CVT which takes place in higher education which is not considered here).

Governments have made extensive efforts to contain public costs in all areas of VET by

introducing measures to increase efficiency. These have involved decentralisation of regulation and funding and new funding allocation mechanisms based on more precise measures of inputs and outputs. In some cases these have been accompanied by significant levels of institutional autonomy and measures to stimulate competition between institutions. Whether these measures will actually increase the efficiency of systems is still hard to say. There are certainly cases (as in Finland and the UK) where unit costs have been reduced, although whether this can be attributed to the effects of decentralisation, new funding mechanisms, or policies designed to stimulate competition, it is impossible to determine. Unit costs can also be driven down simply by government fiat – i.e. through lower government funding per unit, however, this is measured. It is also not known in most cases whether these measures have any negative effects on quality, consistency of standards, and the distribution of opportunities, although it would be logical to assume that they might. There is some evidence that extreme forms of output-related funding can have unintended and damaging effects. It seems to be highly likely that some of the efficiency gains from new forms of funding may, at least partially, be offset by increased transaction costs at local level and by the need for more extensive and costly central monitoring.

Future trends are likely to involve more widespread experimentation with new financing systems, although tempered by a growing awareness of the need to avoid unwanted 'distortionary' effects. This may encourage the design of more sophisticated performance measures which seek to take account of the full range of benefits sought from VET and the element of value added by institutions. Further decentralisation is likely in a number of countries, although this may well be counterbalanced by greater central power in strategic areas, where enhanced standard-setting, monitoring and steering may be necessary. The encouragement of more private competition in supply, particularly in the field of CVT, is also likely, but it would appear that the appetite for introducing anything approaching full market systems in IVT and UVT is still limited in most countries. Lastly, there would seem to be a clear move in many countries towards the consolidation of frameworks for the funding and regulation of the rather heterogeneous VET sectors to enhance both efficiency and effectiveness. This may be part of a broader trend towards more concerted policy-making and greater interdepartmental cooperation in the development of multi-agency approaches to social issues. The effectiveness of policy formulation in all these areas would be greatly enhanced by improved national and cross-national data on VET funding and by more systematic research evaluating the effects of reforms.

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# How to improve the standing of vocational compared to general education

A collaborative investigation of strategies and qualifications across Europe

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**Johanna Lasonen, Sabine Manning**

## **Abstract**

*This contribution is mainly based on research results provided by major partnership projects including 'Post-16 Strategies/ SPES-NET' coordinated by the Institute for Educational Research, University of Jyväskylä, and INTEQUAL/ DUOQUAL coordinated by the Research Forum WIFO, Berlin. The SPES-NET and DUOQUAL projects are still running and, therefore, final results are not available yet.*

*In analysing the standing of vocational vis-à-vis general education (the 'standing') in European countries, three levels are considered: course/ curriculum, education system and labour market. On this basis, a model of criteria is applied which relates the 'standing' to the quality of VET. The three criteria are personal competence (including skills), educational mobility (for lifelong learning), and occupational mobility (in the labour market).*

*Four reform strategies have been identified in European upper secondary education systems for promoting parity of esteem between vocational and general education. These are vocational enhancement, mutual enrichment, links and unification. After extending the partnership, the categories of strategies have been reconsidered. The focus has shifted from four to one strategy, enhancement, which has been analysed more broadly than just as a single strategy. Each of the previous strategies and the extended partner countries' reforms have been reviewed in the light of the new four substrategies identified by the SPES-NET partnership. The additional substrategies are:*

- a) promoting links with higher education;*
- b) enhancing links with employers;*
- c) raising the status and qualifications of VET teachers and trainers; and*
- d) improving the VET curriculum.*

*All the reforms respond to, or anticipate, trends in the labour market and in the organisation of work. All respond to a perceived need for qualitative changes in the knowledge and competences which young people bring to the labour market. Changes in the content of work, new technology, patterns of occupational mobility and the pace of change itself are seen to require increased adaptability, capacity to learn new skills in the future, personal and transferable skills.*

*An initiative taken in several countries is to provide the option for trainees or students of vocational programmes to acquire qualifications for university access alongside their vocational qualifications. These dual qualifications potentially live up to the criteria identified for high standing of VET: providing personal competence and facilitating mobility both in the education system and the labour market. They contribute to an upward trend of differentiation within vocational secondary education. The challenge for educational policy, therefore, is to ensure that schemes of dual qualification are part of a transparent and flexible system, being accessible from any point and linking up with other parts of education and training.*

*For general assessment of reform strategies aiming to improve the attractiveness of vocational education, high 'standing' should be interpreted according to the following characteristics: acquisition of key competences/ combining vocational and general education; opportunity for access to academic and vocational higher education; qualification for entry to (highly) skilled employment. This set of characteristics represents an ideal-type model which is suitable for analysis and debate.*

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Furthermore, the contribution draws on the results of studies undertaken by individual partners involved in associated projects, in particular the UK-based project on unifying academic and vocational learning (ULP) and a parallel Leonardo project on improving the status and attractiveness of initial vocational education and training (PAVE).

The study has been prepared in close cooperation with the two partnerships involved in the multiplier-effect projects DUOQUAL and SPES-NET. The joint work of the authors has also benefited from research collaboration at the Institute for Educational Research, University of Jyväskylä, supported by a grant from the Academy of Finland. Pekka Kämäräinen (Cedefop) monitored the original projects Post-16 Strategies and INTEQUAL as part of a broader study.

Details of project references, supported by a bibliography, are attached to this contribution.

### 1. Criteria and measures to define and evaluate the standing of vocational compared to general education

The initial title proposed for this contribution read 'attractiveness and parity of esteem between general education and practical training'. Why was it changed to the title 'how to

improve the standing of vocational compared to general education'? Two aspects of terminology gave rise to this alteration:

The terms '*attractiveness*' and '*esteem*' are related to behaviour or to attitudes held by individuals or groups. These are socio-psychological concepts which in this context, except for partial interventions, go beyond the scope of our investigation. It is more appropriate therefore to refer to the '*standing*' of vocational education, which is an objective term related to educational levels and achievements, even if complex in its social and cultural context. We can analyse essential educational aspects of the '*standing*', for instance the provision and role of vocational education as a *basis* and the response of the main beneficiaries of vocational education (young people; employers) as an *effect*.

The term '*parity*' depicts an ideal as against the sober reality of '*disparity*' between vocational and general education. '*Parity of esteem*' is part of the political agenda of the European Union for vocational education and training (VET), while individual countries may have different terms (e.g. *Gleichwertigkeit* in Germany) or varying interest in this concept (e.g. popular in England, but of little relevance in France). Also, '*parity of esteem*' may lend itself to political rather than analytical approaches. Altogether, '*parity of esteem*' may be identified as a constituting rather than major concern of VET-related reforms.

The focus of analysis will be on how to assess and *improve* the standing of vocational compared to general education (the '*standing*'). At the same time, the individual studies underpinning this contribution will keep their original approach and terminology.

The tension between vocational and general education has been a major issue of educational debate (Moura Castro and Oliveira 1994), with several points of departure:

Under social-political pressures there have been efforts, since the period of educational expansion in the 1960s, to provide a high level of general as well as vocational education,

allowing for a postponement of decision taking for different pathways as far as possible, to ensure the best possible preparation for a highly technological and democratic society (Husén 1989).

In face of the scientific-technological challenge and changes in work organisation, a new understanding of qualification requirements has been gaining ground since the 1980s. Not only is there a growing need for including elements of general education into vocational courses and curricula; even more important are new concepts of key qualifications or transferable skills, action-oriented learning and work-related knowledge, which bring about qualitative changes in vocational education and pose new standards for general education (see also Onstenk et al. 1999).

In addition, the demand for highly skilled labour, enforced by the decreasing demographic trend, puts pressure for reform on education systems. Vocational education has to acquire higher quality and status to combat the traditional wake of academic education. Apart from this, challenges of providing for lifelong learning (Ni Cheallaigh 1999) can only be met by closely relating the efforts in both vocational and general education across all levels of the system.

Finally, education systems, being under pressure to become more efficient and transparent, look for ways of achieving equal status of vocational and general pathways and qualifications (Manning 1992). The standing of vocational compared to general education is still an unresolved problem throughout Europe. In nearly all countries participation in post-compulsory education and training has increased. There has been a process of academic drift, that is, young people have increasingly demanded the higher-status general or academic programmes which confer positional advantage. In most countries the demand for vocational programmes, especially those which do not lead to higher education, has declined in relative and sometimes in absolute terms. Expansion and academic drift have exposed or exacerbated existing weaknesses of post-compulsory education and training.

Society has become more 'individualised'; students expect a wider choice of courses and want to be able to negotiate flexible pathways through education. Economic changes have created a demand both for higher levels of attainment and for new kinds of skills, especially generic and overarching competences, and for their wide distribution across the population. The increased risk of social and economic exclusion has created new problems in respect of low-achieving students who may be marginalised by the expansion of education itself.

These trends are mediated by the specific history and institutions of each country, so that the specific problems to which they give rise may vary across countries; but they reflect global trends, creating problems and challenges for post-compulsory education and training systems. According to an international study supported by the US Department of Education (Stern, Bailey and Merritt 1996) the major response of education systems to the 'learning-intensive economy' has been to create a closer connection between vocational and academic education.

'Traditional forms of education do not provide the best preparation for this emerging economy. Vocational education has tended to become too focused on specific skills and occupations likely to change in the future. Traditional academic education by itself is also inadequate because it does not equip students to apply their abstract knowledge or to learn in the context of practical problem solving. In response to the perceived insufficiency of traditional education and training to prepare young people for more learning-intensive work, recent policies in many industrialised countries are converging on four principles:

- a) new curricula should be created that integrate vocational and academic studies;
- b) occupational and educational performance standards should be explicitly related to each other;
- c) to prepare for learning-intensive work, initial education and training should include

a certain amount of work-based learning for all students;

d) employers and educators, including both vocational and academic educators, must share both responsibility and power in new school-to-work systems.

The first principle is the most fundamental from the perspective of US policy because it affects how the others are implemented. Work-based learning, performance standards, and school-business partnerships often occur in countries that maintain strict separation between occupational training and academic education. These practices, by themselves, will not achieve the integration of vocational and academic education now being recognised as desirable in most countries.' (Stern, Bailey et al. 1996).

A recent OECD study on the transition from initial education to working life (Durand-Drouhin 1999) has confirmed the significance of combining vocational and general education in providing flexible pathways for young people. As the comparative analysis shows, pathways preparing for both work and tertiary education, so-called 'double-qualifying' pathways, add to the attraction of vocational education.

The issue of 'standing' in Europe is addressed in different educational contexts, for instance the following: the gap perceived between general and vocational courses in Finland has led to pilot schemes of integrating curricula within personal study programmes; the demand by young people for access to higher education in Germany puts pressure on the dual system to provide equivalent progression routes; the demand by industry for highly skilled labour in Portugal has pushed reforms which raise the standards of vocational education to allow for an equal status as against general education.

These few examples may illustrate the complexity and diversity implied in the standing of vocational compared to general education and in the ways of how to improve the 'standing'. To carry out a comparative analysis of this issue across European countries, various aspects have to be considered:

a) the level of analysis: issues of the 'standing' may be related to

- i) courses and curriculum, to
- ii) the education system or to
- iii) the labour market;

b) the criteria of the 'standing' which in this study are understood to correspond to major quality requirements of VET:

- i) the development of personal competence (in a broad sense, including vocational skills),
- ii) the chance of educational mobility and progression in lifelong learning, and
- iii) the prospects of employment, occupational mobility and career;

c) the framework or context of the 'standing':

- i) at curriculum level this may refer to the social value of vocational/ practical training as against general/ theoretical education;
- ii) at system level the choice between education pathways (vocational, technical and general education at upper secondary level) and the selection for access to higher education may condition the 'standing';
- iii) at the labour market the competition between all qualifications relevant for job entry (VET for skilled work; technical course; academic/professional studies) may be relevant for the 'standing'.

These components of a comparative approach are summed up in Figure 1.

This comparative approach serves to carry out the present investigation within and across several individual projects, i.e. it provides a framework of secondary analysis based on heterogeneous evidence. The three criteria of personal competence, educational mobility and occupational mobility underpin the assumption, stated at the beginning, that the 'standing' corresponds to the quality of VET. It should be noted, however, that the UK-based studies included in this contribution (see project references in annex) treat this re-

**Figure 1: The standing of vocational compared to general education: approach to comparative analysis**

Level of analysis	Criterion of 'standing'	Framework of 'standing'
1) Course/ curriculum	Development of personal competence, incl. occupational skills	Social value of vocational compared to general training
2) Education system	Chance of educational mobility and progression in lifelong learning	Choice between pathways; selection for university access
3) Labour market	Prospect of employment and occupational mobility	Competition between all qualifications at job entry

relationship with caution. They argue that attempts to promote parity by reforming the contents of vocational education may have little impact unless they can change underlying assumptions about the status imparted by social and educational backgrounds of young people (Raffe, Fairgrieve and Martin 1999).

Particular emphasis will be put on measures taken to improve – or may have the indirect effect of improving – the quality of vocational education and/or its standing compared to general education. These range from major strategies in post-16 education to individual pilot projects of curricular innovation. To assess the impact of these measures on the 'standing', indicators may be selected which are related to the comparative framework. The indicators of 'standing' are broadly defined allowing for specification in the actual analysis. Partly, they may be applied in empirical investigation including quantitative questionnaires and statistical comparison (indicators at levels 2 and 3), and partly they may be used to interpret evidence from case studies (indicators at levels 1 and 3). The individual projects reviewed in this study relate to most of these measures and indicators, although with varying emphasis (Figure 2).

In the following sections of this study, problems of 'standing' and measures taken or ex-

pected to solve them will be analysed in different contexts. They will be addressed as issues of the 'parity of esteem' in the post-16 education strategies (Sections 2 and 3) and further considered in qualifications combining vocational and general education (Section 4). In conclusion (Section 5), evidence across these project-related results will be compiled to identify major approaches to improving the standing of vocational compared to general education.

It should be stressed that this study is designed as a secondary analysis referring to the original research carried out in a set of projects. While this approach benefits from rich input generated by large European partnerships, it also shares the limits of the projects involved. In particular, the range of countries or cases under investigation may depend on the composition of partnerships or availability of special studies rather than on systematic criteria. Indeed, the extra section on the British case is due to a special set of projects providing particular insight – any other country could have been just as significant. Furthermore, the findings available from the projects may not support all aspects of the model outlined above. Most noticeable in this respect is the focus on issues of competence/ curriculum and educational mobility rather than on occupational mobility and the labour market. The latter aspect, in fact, has gained importance in the current phase

**Figure 2:**  
**The standing of vocational compared to general education: measures and indicators**

<i>Measure expected to improve 'standing'</i>	<i>Indicator of 'standing'</i>
<b>Course/ curriculum (1)</b>	
Combining vocational and general education (integrative courses/ curricula)	Integration of general and vocational subjects in the curriculum
Including key competences in the curricula: establishing new quality of VET as alternative to general education	Role of key competences in the curriculum
<b>Education system (2)</b>	
Regulations ensuring lateral mobility including acknowledgement of course results	Vertical and horizontal mobility of VET students
Stipulation of equivalence of upper secondary certificates with regard to HE	Access to HE for VET graduates and success in course of study
Provision of qualifications with a dual orientation towards employment and higher education	Proportion of relevant age group acquiring dual qualification
Promoting connectivity, including linkages, within upper secondary education	Mobility of students between vocational and general strands
<b>Labour market (3)</b>	
Cooperation between education institutions and enterprises/ organisations facilitating transfer from vocational training to the labour market	Practical assignments, apprenticeships
Provision of qualifications with a dual orientation towards employment and higher education	Employment rate of graduates; level of initial job entry of graduates

of the two multiplier-effect projects (SPES-NET and DUOQUAL). The results, however, are not yet available for the present secondary analysis.

## **2. Reforms focusing on post-16 education strategies to promote parity of esteem between vocational and general education**

### **2.1 Purpose of the study**

This section is based on the results of the Post-16 Strategies project (1996-97), which aimed

at identifying European upper secondary education reform strategies for promoting parity of esteem between academic and vocational education, and its multiplier-effect project SPES-NET (1997-2000). The results of the former project demonstrated the policy lessons learned from eight countries through collaborative comparative analyses. The new partners of the multiplier-effect project are reflecting on and evaluating the reforms and educational strategies to improve parity of esteem articulated by the earlier project against their own national initial vocational education and training systems. The following chapter will discuss the origin of the issue of parity of esteem and introduce the reform movements of upper secondary vocational

education in 12 European countries. The four-fold typology of reform strategies revealed by the Post-16 Strategies project will be reassessed against the interim results of the SPES-NET project.

## 2.2 Parity of esteem between vocational training and general education

The origin of the issue of parity of esteem stems from the time when new tools turned Stone Age people into farmers and city-builders, writing and other symbol systems into priests, judges, scientists and artists. The development in human culture of inheritable, increasingly sophisticated and constantly regenerating skills achieved its full importance.

Philosophical analyses of the concept of skill as such started with Plato and Aristotle. Plato considers the problem of the cognitive content of skills: some practical skills entail counting, measuring and weighing (e.g. ship- and house building) while other skills involve working with rough-and-ready methods and a rule of thumb based on experience and drawing on professional skill that is, an intuitive skill gained through arduous practical training (e.g. medicine, agriculture, sailing, warfare). His reflections also lead Plato to distinguish between everyday skills (Gr. *tekhne*) and authentic knowledge (Gr. *episteme*), the preserve of philosophy.

Aristotle defined skill as 'an appropriate rational ability to do something'. Thus *tekhne* is linked with making things (Gr. *poiesis*), not with action where the goal is part of the act itself (Gr. *praxis*). He established a distinction between the productive skills thus defined and theoretical and practical science. However, the word technique, based on the Greek *tekhne*, and its derivatives may also be used more broadly about any action requiring 'skill' or 'mastery' even when we are talking about Aristotelian *praxis* instead of productive work (e.g. sports, dance, the skills of a circus acrobat). In such cases skill is less the productive ability to bring about particular results (e.g. the ability to make iron) than the skilful performance of the given action itself (e.g. figure skating).

Among the poetic skills, antiquity already distinguished between material skills, considered more lowly (manual and bodily skills), and symbolic skills, linked with the use of language. As encapsulated by Terentius Varro (1st century BC), the core of general studies in the medieval educational system was to consist of the system of *artes liberales*, liberal arts: grammar, dialectic, rhetoric (*trivium*) and geometry, arithmetic, astronomy and music (*quadrivium*). As heirs to the medieval faculties of arts, today's faculties of arts and sciences or faculties of liberal arts are still producing Masters of Arts.

The Latin equivalent to the Greek *tekhne* is *ars* (pl. *artes*), which became in English *art* and in Finnish *artisti*, *artisaani* and *artifakti*. Like 'art', the German *Kunst* and the Swedish *konst* mean both skill and art. In written Finnish, 'skill' (*taito*) and 'knowledge' (*tieto*) were originally, in the 16th century, nearly synonymous. Skill could refer to human mind, consciousness, soul, perception or knowledge.

The *philosophy of skills* involves a very broad range of problem areas, including among others *the theory of action*, *the philosophy of technology*, *the philosophy of art*, and *the philosophy of sport and games*. The concept of skill also features in such fields as logic and the philosophy of science (thinking skills), ethics (the skills of good life), politics (the skills of governance or of 'the possible'), the philosophy of education (the teaching of skills) and the philosophy of love (the art of love) (Niiniluoto 1992).

General and vocational education, traditionally the former representing knowledge and the latter representing skill, form two separate tracks in most European educational systems. In most cases, choosing vocational education tracks has led to disparity of esteem concerning amount of earnings, societal status and chances of further education compared to general education. However, European educational systems vary in status regarding vocational education compared to general/academic education. Table 1 shows the percentage of students at secondary education level enrolled in vocational and general education programmes in 1995/96. The



age of secondary education students varies from 14 to 19 years depending on the country.

Austria, Hungary, Germany and the Netherlands have strong vocational education programmes which attract a large proportion of youngsters. However, chances for flexible access to higher education vary between countries. Austria and the Netherlands have created several progression paths from vocational tracks to further studies, with Germany and Hungary following this line. Other countries such as Greece, Spain, England, Portugal and Estonia have less developed and weak vocational education systems which is reflected in enrolment numbers. The employers complain about mismatch between education and job requirements. At the individual level, insufficient training may lead to underemployment, unemployment or displacement.

### 2.3 Institutional backgrounds for delivering secondary vocational education in Europe

Eight countries (Austria, England, Finland, France, Germany, Norway, Scotland and Sweden) were included in the work of completing the Post-16 Strategies project. Sweden dropped out and five new countries (Belgium, Estonia, Greece, Hungary and Spain) joined

**Table 1: Proportion of students in vocational and in general programmes within secondary education in European countries in 1995/96 (%)**

Country	Vocational programmes	General education programmes
Austria	81	19
Hungary	73	27
Germany	72	28
The Netherlands	70	30
Belgium	61	39
Norway	58	42
Denmark	57	43
France	54	46
Sweden	52	48
Finland	52	48
Greece	47	53
Spain	39	61
Great Britain	31	69
Portugal	29	71
Estonia	26	74

Sources: European Commission, 2000; (Estonia/ Hungary:) European Training Foundation 1998.

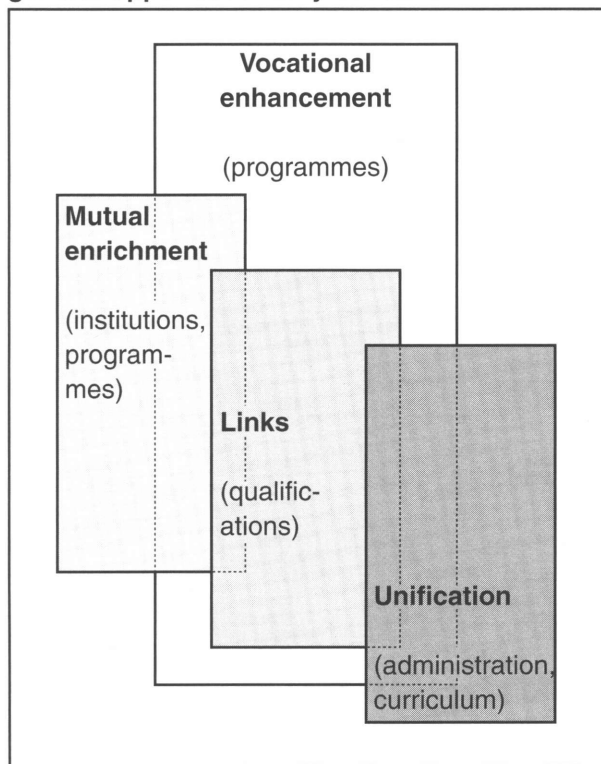
the SPES-NET project. These 12 educational systems have different institutional compositions to deliver secondary-level vocational education. The length of secondary education and students' ages vary among the countries. Table 2 shows secondary students' typical age

**Table 2: Students' typical age and length of studies at secondary-level education in European countries**

Country	Vocational programmes (age/ length of studies)		General education programmes (age/ length of studies)	
Austria	14-18	(4 yrs)	14/15-17/18/19	(1-4 yrs)
Belgium	14-18	(4 yrs)	14-18/19	(4-5 yrs)
Denmark	16-18/19	(2-3 yrs)	16-19	(3 yrs)
Finland	16-19	(3 yrs)	16-18/19	(2-3 yrs)
France	15-18	(3 yrs)	15-17/19	(2-4 yrs)
Germany	16-19	(3 yrs)	15/16-18/19	(1-3 yrs)
Great Britain	14-16/18	(2-4 yrs)	16-17/18	(1-2 yrs)
Greece	15-18	(3 yrs)	15-17/18	(2-3 yrs)
The Netherlands	15/16-17/18	(2-4 yrs)	15/16-17/18/21	(2-6 yrs)
Norway	16-19	(3-4 yrs)	16-19	(3-4 yrs)
Portugal	15-18	(3 yrs)	15-18	(3 yrs)
Spain	16-18	(2 yrs)	16-18	(1-2 yrs)
Sweden	16-19	(3 yrs)	16-19	(3 yrs)

Sources: Eurydice 1997.

**Figure 3: The reform strategies of promoting parity of esteem between vocational and general upper secondary education**



starting and finishing school and the length of studies in both vocational and general education programmes. Evidence shows that in most countries vocational programmes are comparable with general education programmes in terms of length. Youngsters are about 18 years old when entering the workforce or higher education.

#### **2.4 Reform strategies to promote parity of esteem between general and vocational education**

The Post-16 Strategies project identified four reform strategies in eight upper secondary education systems for promoting parity of esteem between vocational and general education. These were vocational enhancement, mutual enrichment, links and unification. The inclusion of more countries in the SPES-NET project has led to further differentiation within and between categories of reform. Below, the major strategies are briefly described, with the countries being grouped according to their primary reform characteristics (while also relating to features of other strategies).

□ *Vocational enhancement.* The strategy of vocational enhancement emphasises the distinctive nature of vocational education on the basis of its characteristic content and links between employers and the providers of vocational education. Systems with either a high or a low status of vocational education are likely to generate different vocational enhancement strategies. In some countries, esteem for vocational education is linked with the high standard of the content and pedagogy offered in vocational education and training; the reforms promote access to higher education through vocational education and training (*Austria, Denmark, Germany*). Other countries attempt to enhance vocational education starting out from traditions of low status (*Greece, Spain*). A further group of countries is characterised by a transition process, with a vocational training system developed under a planned economy being reoriented towards a market economy (*Estonia, Hungary*). However, the Belgium, Greek, Estonian and Hungarian partners of the SPES-NET project do not categorise their upper secondary education system in any of the four strategies identified in the Post-16 Strategies project (Stenström and Lasonen 2000).

□ *Mutual enrichment.* Vocational education institutions, enterprises and academic upper secondary schools cooperate with the aim of giving students a broader range of choices and offering them stimulating learning methods and environments. This strategy brings together the different types of schools by encouraging cooperation while simultaneously preserving their distinctive character. The strategy involves increasing student choice beyond the boundaries separating vocational and general upper secondary schools in the localities. The characteristic of the reform is to facilitate cooperation between vocational and general upper secondary schools (*Finland*). In addition to focusing on collaboration between different educational establishments, the reform has extended collaboration between schools and enterprises. The vocational education programmes have been reformed through enhancing occupa-

tional aspects by adding a six-month to two-year period of authentic work experience (Finland, Norway). Cooperation with working life will influence not only the contents of different subjects but also school culture as a whole. The traditions of enterprises may thus fundamentally change school traditions.

- *Links.* Countries representing the linkage strategy have made vocational and general education more formally equal by linking both to a common qualification structure. Vocational and general education programmes and qualifications have been made formally more equal by linking them both to a common qualification structure. Vocational and general education is assumed to gain the same formal status through the measures of common certification frameworks and recognition. Educational systems which have traditionally fostered elitism by emphasising academic studies for the few, now have attempted to make vocational education more attractive (*England, France*).
- *Unification.* Under the unification strategy, vocational and general education are merged into one another to create a single post-16 education system. It is believed that requiring all students to study certain common general subjects will provide them with equal opportunities to engage in further studies, a factor that determines the attractiveness of different qualifications. There are several types of unification strategy. The comparisons demonstrated different dimensions of unified strategy: uniformity of treatment and outcomes of students, of providing choice among a flexible range of opportunities and unifying educational administration (*Scotland, Sweden*).

When reviewing the strategies, it is important to distinguish between the overall goal of *vocational enhancement* shared by all of the strategies analysed and the specific strategy described as *vocational enhancement*. All four strategies including those promoting links or mutual enrichment or the abolition of academic/vocational divisions contribute to vo-

ational enhancement in the broader sense. The original categories of the four reform strategies may be seen as means of enhancing vocational education programmes (see Figure 3). The additional substrategies are:

- a) promoting links with higher education;
- b) enhancing links with employers;
- c) raising the status and qualifications of VET teachers and trainers, and
- d) improving the VET curriculum (see Table 3).

The impact of these substrategies is related to different national contexts of VET systems.

### **2.4.1 Enhancement of vocational education**

#### *2.4.1.1 Enhancement of high-status vocational education*

##### *Austria*

In Austria, there are four main tracks through upper-secondary education: academic schools, higher vocational colleges, intermediate vocational colleges and the dual system. Students can start in vocational training programmes from the age of 14. They have to decide at this age whether they want academic or vocational education and which future occupations they will choose. In the dual system, vocational education and training for apprentices takes place in training companies (80% of the total training time) and in schools (20%).

Current reforms focus on vocational higherers (*Berufsmatura / Fachmatura*), that enable apprentices to gain a certificate of general upper-secondary education at the same time as they complete their apprenticeship training or after they have finished it, and the establishment of polytechnics (*Fachhochschulen*). The curriculum is being broadened, updated, and extended to new occupational fields. New qualifications arrangements will give all vocational students, including those in the dual system, the opportunity to qualify for higher education. *Fachhochschulen* (vocational higher education institutions) were introduced in the early 1990s. These are gradu-

**Table 3: European upper secondary education reforms as concluded in the results of the Post-16 Strategies and SPES-NET projects**

Sub-strategies	Post-16 Strategies	Vocational enhancement	Mutual enrichment	Links	Unification
Links with higher education (HE)		Reforming and expanding vocational HE	1.Improving access to existing HE 2.Creating new vocational HE system		Creating a single system of post-compulsory education
Links with employers		Strengthening dual-system partnerships	Strengthening partnerships between providers of VET and employers		Strengthening links between employers and VET and general education teachers
Status and qualifications of vocational teachers and trainers		Equalising the status of vocational and general education teachers	Providing some common courses for VET and general education teachers		Common training and degrees for general education and vocational teachers
Improving the VET curriculum		Improving vocational education knowledge	More general education on vocational programmes		More integrated learning

Source: Young 2000.

ally being expanded to provide a progression route for vocational students. The advantages of the dual system are the early integration of students into working life, the prevention of unemployment and exclusion among young people and the low cost of firm-specific initial training.

The reforms of the Austrian vocational education system in the 1990s have been nationwide. The aim has been both to make those completing apprenticeship training more eligible for higher education and to facilitate transition from vocational education to skilled work. Some 70% of Austrian young people acquire a vocational qualification, and some

15% of them complement it by also taking the matriculation examination (IBE 1999). In terms of enrolment rates, vocational education based on apprenticeship training is the most popular option, chosen by some 36% of the age cohort as their route to vocational qualification.

*Denmark*

Upper secondary education in Denmark can be divided into general upper secondary education (three years between ages 16 and 19) and vocational upper secondary education (up to four years between ages 16 and 20). Initial vocational training is provided in three main

forms following the completion of lower secondary education: basic vocational education and training, higher commercial courses and higher technical courses. This type of education attracts two thirds of a typical age group. Theoretical education is given at school, alternating with practical training in a firm.

The principal feature of Danish vocational education and training policy is that vocational education has the character of broad youth education, and youth training programmes should provide opportunities for continued training. The Danish vocational education system includes school-based and apprenticeship-based alternatives. In the beginning of the 1990s, the two parallel models for initial vocational education and training were merged into one basic model providing a unified curricular framework both for trainees with an apprenticeship and for students in vocational schools. In study programmes, a sixth of the total teaching time is devoted to optional subjects, about two thirds to practical training in firms. A major characteristic in Danish vocational education is the central role of social partners (employers and organised labour). The social partners are responsible for modernising training schemes and for delivering the practical work experience component of vocational programmes and exert considerable influence on their school-based components.

Recent government reports have indicated that, although the standard of the education system is of high quality in international comparisons, there are some malfunctions including the participation in VET programmes, the quality of student performance, the rate of students completing youth education and the efficiency of the VET system. In 1998, general agreement with the parliament and social partners was reached for setting up a new legislative framework of the future VET system in Denmark. The focus of *the Reform 2000* is to create a more flexible, efficient and student-centred system of youth education, with educational provision leading to recognised qualifications, including 'double' qualifications, and special attention being paid to the needs of low-achievers to persuade them to stay in education.

### Germany

General and vocational education are still clearly separated in the German education system, with young people choosing relatively early whether they will go on to vocational or university education. The German dual system, which combines apprenticeship training with education at vocational schools has come under double pressure facing an increasing demand by young people for upper general education (*Gymnasium / Abitur*) and a decreasing supply of apprenticeship placements by enterprises. These trends reveal functional weaknesses notwithstanding the high standards and qualification achievements of the dual system (Tessaring 1993). In response to these problems, efforts have been made to improve the attractiveness of vocational education and to achieve its equal status compared to general education. Pilot projects have been initiated to explore new ways of bridging the gap between vocational and general education, with a few German *Länder* introducing partial reforms in this direction.

One example taken up in Post-16 Strategies is the *Schwarze Pumpe* project in Brandenburg which focused on bottom-up, process-oriented reforms within the dual system. The project aimed at modernising the curriculum and pedagogy to take account of changes in society and the workplace and to integrate general and vocational education. The idea of intellectual emancipation in vocational instruction is included in integrative learning. It is vital to ask what is educational in vocational learning. Being qualified to enter higher education, being 'qualified to study', can be definable in terms of concrete competence. Employees must master both the vocational and academic components of their jobs and be able to shape work processes and technology. The *Schwarze Pumpe* project has sought to develop closer collaborative links between vocational schools and enterprises participating in the dual system, and to qualify young people for higher education as well as for employment as an outcome of vocational training. *Oberstufenzentren* (tertiary colleges or upper secondary education centres), that bring together all types of German upper sec-

ondary education, were established throughout Brandenburg in 1991.

The *Schwarze Pumpe* project is of course but one example of numerous initiatives taken in Germany towards VET enhancement. Since the mid-1980s, reformed training occupations have aimed at vocational competence to plan, perform and control one's work. And in recent years, new training occupations were established for new jobs, to respond quickly to emerging needs of the labour market.

#### 2.4.1.2 Enhancement of low-status vocational education

##### Greece

The majority of Greek upper secondary school graduates and their parents pursue a university degree. Vocational/technical education is not thought to satisfy aspirations. VET is considered to serve those who fail in the school system. As a result there are more university graduates than the labour market demands. The rate of unemployment is steadily increasing, and a phenomenon of multi-employment is frequent. A large number of university graduates have other jobs than those they were educated for (Patiniotis and Spiliopoulou 1999).

Traditionally the Greek education system has not offered alternatives to follow vocational pathways. As a result, most professions are learnt on the job. The 1997 education law introduced the comprehensive *lykeion* that will abolish and replace all previous types of *lykeia*. It offers three fields of specialisation: theoretical subjects (humanities, social sciences and languages), positive sciences (mathematics and natural sciences) and technological sciences. Chances of optional subjects for students were increased and a programme for students with special needs was created. The new Act on Secondary-Level Technical and Vocational Education, introduced in 1998, allows to develop the complete system of technical and vocational education (TVE) within the framework of Greek secondary education. Students who have completed nine-year compulsory education can choose either the comprehensive form of general education (the

comprehensive *lykeion*) leading to academic studies, or the reformed and flexible form of TVE (technical and vocational institutes) which qualifies them for entry into working life.

The new institutional context is aimed at developing knowledge, critical ability and various skills to access flexibly to working life, and at providing a horizontal link to the comprehensive *lykeion* to offer continuous opportunities for growth of vocational and general knowledge and understanding. Acquisition of vocational skills through and at work is also emphasised. However, the conditions for implementing workplace-based learning still have to be provided.

##### Spain

The main foci of Spanish reforms over the last decade have been

- a) to ensure that coherent compulsory education is available to all up to the age of 16;
- b) to rationalise and upgrade the system of post-compulsory vocational education and training into one system with a number of progression routes for those studying vocational courses who wish to continue into higher education as well as for those seeking employment;
- c) to diversify the baccalaureate so that some routes within the baccalaureate system can lead to employment as well as to higher education.

The rationalisation of the previously diverse and fragmented VET provision in Spain is being attempted through establishing a single system of vocational qualifications with several pathways. However, the old divisions between formal (or regulated) and non-formal (non-regulated) vocational education remain. The Spanish reforms can be seen, therefore, as a clear example of a *vocational enhancement* strategy or trying to 'improve the vocational track from within'. Parallel with these reforms of the system of vocational education, there are moves to diversify provision of general education so that students completing

baccalaureates can either progress to university or become qualified or semi-qualified workers at 18. The Spanish reforms appear to give emphasis to the employment prospects of academic (baccalaureate) students. Thus, those completing a baccalaureate who do not gain access to (or do not wish to proceed to) university can move to the higher-level formative cycle and go into employment as technicians. It is also possible for students who complete the intermediate formative cycle within the system of vocational education to join the baccalaureate route at 16+. The renewed emphasis on education/business partnerships, the importance of students gaining work experience while still at school and the government's efforts to extend the involvement in education of employers and trade unions could all bring the general and vocational education systems closer together.

#### *2.4.1.3 Enhancement of vocational education in transition*

##### *Estonia and Hungary*

Until the 1980s, in Estonia and Hungary the nature and forms of vocational education and training were determined by both ministries and big State-owned companies. They defined curricula and implemented vocational education programmes. Vocational schools were often part of the training system of these big companies, used to recruit and train their own workforce. Therefore, vocational education and training was characterised by a very high degree of specialisation and precisely defined vocational profiles for occupations within the big companies and the bureaucracy. This meant on the one hand that there was a long list of different vocations in the different countries. On the other hand there was a lack of well-defined job descriptions because the demand for vocational qualifications was politically controlled. Mobility and flexibility of workers were excluded both from vocational education and from economic policy.

After the political changes around 1990, one of the primary goals of educational policy was preventing the vocational education and training systems from collapsing. Apart from short-term crisis management, legal, finan-

cial and organisational conditions had to be created for ensuring the efficient operation of a market economy through provision of qualified labour. After the change of 1989/90, three different strategies for reforming vocational education and training systems could be observed:

- a) reactivating traditional occupations (mostly skilled trades) from the pre-communist era, with the main attention focused on practical skills;
- b) retaining some aspects of communist-era vocational education systems, that is, the possibility of entering post-secondary education with vocational qualifications;
- c) while adopting a school-based model, vocational training has been integrated into it by different methods of practical training, such as simulation or authentic work experience in companies.

Estonia and Hungary were confronted with similar problems. The development of what are known as key qualifications (such as teamwork skills, creativity or responsibility) takes time. As a consequence, at least during the first years after the change, foreign investors brought their own management staff to these countries. There are still many problems concerning the infrastructure of vocational education and training, especially in Estonia.

The systematic change in vocational education and training has led to growing higher education enrolment. The reasons are, in general, better labour market opportunities for well-educated people (i.e. higher wages, lower unemployment rates, especially for young people with a tertiary degree) and also the fact that young people often enter higher education because of being otherwise unemployed. Unemployment is a big problem among young people without higher education, older people with low or obsolete vocational qualifications, handicapped people and ethnic minorities.

The recent difficulties encountered by vocational education and training systems are similar within Estonia and Hungary, and EU

member countries to varying extents. Vocational education and training has to be adapted to labour market needs, especially to new qualification requirements and new occupations. At the same time, practically-oriented curricula have to be introduced in addition to providing a general education. This is accompanied by a development of new learning methods and the improvement of teacher education. The modernisation of educational institutions is a basic requirement of the 'new' infrastructure of vocational education and training. The adaptation to labour market needs will also concern the mechanisms of evaluation and certification used in vocational education to increase flexibility and encourage self-employment.

#### ***2.4.2 Mutual enrichment of vocational and general education***

The aim of the reforms of vocational education undertaken in the 1990s in the Nordic countries, to which Finland and Norway belong, has been to increase equality among citizens by guaranteeing everyone a study place, raising the esteem of vocational education and increasing flexibility and student choice, seen as a way to enhance student motivation. All these countries have integrated vocational education into their educational system. The main purpose has been to modernise secondary education. A further purpose of the reforms has been to give vocational students academic competencies (and to some degree also to give academic students vocational competencies) and thus improve their chances of progressing in their studies and of launching successful working careers. The reforms have also been meant to be a response to the changing demands of working life and society.

##### *Finland*

Over 90% of those leaving nine-year comprehensive school continue their studies at general upper secondary school or at a vocational institution. The network of general and vocational upper secondary schools covers the entire country. In Finland, vocational education is mainly school-based, even if it has been decided to increase the proportion of apprenticeship training to 10% of the age cohort by

the year 2001. Apprenticeship training has increased among adults but not among under-20-year-olds to the extent as expected. Therefore, another measure intended to improve the connections between school-based education and working life is a stipulation that all secondary-level vocational education should include a minimum of half a year's practical training at the workplace.

Upper secondary education in Finland is divided in two pathways: three-year general upper secondary education (catering for 16-19 year-olds, leading to the matriculation examination) and two- to three-year vocational education. By the year 2001, all vocational education will comprise three-year programmes and include a minimum of half a year's practical training at the workplace.

Mutual enrichment refers to combining studies at both the general upper secondary school and the vocational school in a single examination and also to taking the matriculation examination alongside a vocational qualification, even if this is not very common because of the great demands it sets on the student. In 1992, experimental reforms were started in 16 local networks of schools. Each network comprises both types of schools and collaborates in joint scheduling and the cooperative provision of programmes. Students are encouraged to select a proportion of their programmes from other schools in the network, thus bridging the academic/vocational divide.

In Finland the extended student choice introduced into the curricula increases vocational students' opportunities to gain access to higher education and to include more theoretical subjects in their study programmes while allowing academic students to study vocational subjects together with their primarily academic studies, thus adding practical skills to their study programmes. Vocational and academic programmes are acknowledged as equivalent and students are credited for parallel or earlier studies in other upper secondary education institutions.

Finland is also increasing its provision of apprenticeship training based on an apprenticeship contract between a student and an em-



ployer. Apprentices receive their practical training at the workplace and their theoretical education in a vocational school during course periods (on average 25% of the teaching time). The length of apprenticeship training is two to four years. Apprentices are paid a regular trainee's wage. In the new law, apprenticeship training will be linked with vocational schools. After completing their training apprentices will take a vocational examination and a skills test.

Higher vocational education was introduced in 1992, when AMK institutions, a Finnish equivalent to the polytechnic, were established. They are based on the matriculation examination or three years of vocational education and offer programmes lasting three and a half years. AMK institutions represent the non-university sector of higher education and differ from universities in being more practically oriented and training experts for the new labour market. About 35-45% of the age group will receive polytechnic education and about 20% university education. This is because the changes that have taken place in Finnish business life have meant that the demand on the labour market concentrates much more on high-tech professions.

### *Norway*

The Norwegian Reform 94 brought general and vocational upper-secondary schools together in new combined (or comprehensive) schools increasing the general education component of vocational courses. It rationalised first-year courses, and remedied the shortage of places on second- and third-year courses. It made the pathways through the system more flexible, by broadening the second-year options available to students completing a given first-year course, and likewise in the third year. It introduced a '2+' model for vocational courses, which allowed students after two years of school-based study to choose between a further year of training or two years of training combined with productive work. It developed new pathways from vocational education to higher education.

Upper secondary education, which follows nine-year comprehensive school, is organised

as a single type of school, the upper secondary school. In this sense the school systems of Norway and Sweden are alike and differ from those of Denmark and Finland, where there are separate schools for general upper secondary education and vocational education, even if it is possible to select studies from both kinds of school.

In Norway, upper secondary school lasts three years and is divided into 10 study fields consisting of a general studies programme and nine vocational programmes. About 45% of 16-year-olds enrol in the general studies programme. All study fields have the same basic structure: a foundation course (one to two years), advanced courses (one to two years) and shorter courses. The two-year foundation course combines general and vocational subjects and enables students to choose either an academic or a vocational track after the foundation course has been completed. The apprenticeship training system is based on close cooperation between school and working life and on a combination of school-based training and practical apprenticeship. It is also possible to attend an apprenticeship school one day a week and receive workplace training four days a week.

In higher education there are two main sectors: the university and the college sectors. Non-university institutions of higher education offer programmes lasting one to four years. Longer courses and graduate programmes of up to six years have also been introduced in some of the institutions. Most programmes are oriented towards specific professions such as pre-school teaching and compulsory school teaching, engineering, social work, administration, automatic data processing, health professions, etc.

### ***2.4.3 Links between vocational and general education***

#### *England and Wales*

As a background for reforms, political and economic factors since the 1980s have included increasing unemployment and the collapse of the youth labour market. Academic and vocational education is in a dual crisis.

The academic route or A levels caters for a minority, includes premature specialisation and creates negative attitudes towards vocational alternatives. Vocational education has attracted a minority of the cohort, mostly at lower qualification levels, and has poor completion rates. A bias towards lower-achieving students means that the vocational route is invariably seen as an option of secondary choice. By the mid-1990s, vocational education in England and Wales consisted of two tracks: broad vocational courses (increasingly GNVQs) and occupationally-focused courses (NVQs). The vocational curriculum is split between three traditions: a weak technical tradition, a pre-vocational tradition (GNVQs) and a narrow competence-based and occupationally-focused approach to work-based learning (NVQs). The 'Dearing review of 16-19 qualifications' proposed reforms to clarify the purposes, reduce the overlap and enhance the distinctiveness of each of the three 'pathways' (academic, applied and vocational). Its declared aim was to improve the parity of esteem between academic and vocational qualifications at upper secondary level.

The Dearing review proposed a number of measures to link or bridge the pathways, including common nomenclature, levels and quality assurance procedures for the three pathways, overarching diplomas, a restructuring of courses into smaller units or groups of units to promote mixing and transfer between pathways, the promotion of key (core) skills across all three pathways, and the merger of the main bodies regulating the different pathways.

The changes introduced in the ensuing reform, especially measures intended to move GNVQs and A levels closer together, helped consolidate vocational qualifications and establish vocationally-oriented components of learning and achievement. Thereby, progress was made in the direction of attaining parity of esteem, with more students combining vocational and academic study programmes (Hillier and Oates 1998). The Labour government elected in 1997 has expressed broad support for the Dearing recommendations, while preparing to consult on the specific next steps.

### *France*

In 1985, France introduced the *Baccalauréat professionnel* (Bac Pro), a vocational Bac alongside the existing general and technological Bacs, with substantial common content. In 1993, there were 35 different Bac Pros. They are designed primarily for students who embarked on lower-level (CAP/BEP) vocational courses at 15, and thus extends the progression opportunities in vocational education. It also confers entitlement to higher education, although a majority of its graduates enter the labour market. The Bac Pro programmes are the least favourable among students compared to the two other Bacs. In 1995, the Bacs were reformed to promote flexibility, cater for the greater diversity of students and reduce the hierarchy among them. The programmes leading to Bac Pro are based on the cross-fertilisation of experiences from school-based and work-based vocational education and training. French pedagogic research (*raison graphique*) involves a comparative approach whose aim is to capture the various learning and teaching styles for languages to be found in upper secondary vocational schools. Identifying the cognitive processes forming a vocational level of understanding leads to an improved esteem of vocational education and training. This concept of promoting parity of esteem is similar to the German approach.

In the English and Welsh case, the main aim is to raise the quality of post-compulsory participation and qualification outcomes by strengthening vocational education and vocational progression paths to higher education and creating broader links between academic and vocational learning. This has also been the case in France, but the strategy applied there is clearer and more advanced, involving 80% of young people attaining the baccalaureate level, but only partly through the vocational route.

#### ***2.4.4 Unification of vocational and general education***

### *Scotland*

There are three types of post-16 courses and diplomas available in Scotland. Two kinds of

courses qualify young people for university studies, Highers and Certificates of Sixth Year Studies (CSYS). Both are single-subject courses. Highers are available in S5 and S6 or further education colleges. CSYS are available in S6 for students who have a Higher in a subject and need further preparation for university study. General vocational courses, available in school or in further education colleges, lead either to National Certificate (NC) or General Scottish Vocational Qualifications (GSVQs). NC modules are a national framework of some 2000 outcome-based modules, while each GSVQ covers a broad occupational area and has a substantial general education component. School students have tended to 'pick and mix' NC modules in combination with academic courses. Full-time further education students usually follow ready-made programmes of modules.

In 1999, a 'unified curriculum and assessment system' will replace nearly all provisions for adults and young people beyond 16 years, except for higher education and work-based training. It will incorporate general (academic) and vocational courses in a single framework of 40-hour units, usually grouped into 160-hour courses, available at five levels. The system is designed to have flexible entry and exit points. Most students will have a relatively free choice of courses, although they may choose to take combinations of subjects which lead to specified group awards. Common principles of curriculum design, assessment and certification will apply throughout the system. Failure to incorporate work-based provision is possibly one of the main limitations of the *Higher still* reform. The unified system will remain based on full-time delivery in schools and colleges, with very little scope for alternance or for input from the workplace.

#### *Sweden*

In Sweden, where an earlier reform had established integrated upper-secondary schools, reforms in 1994 replaced the previous structure of general and vocational programmes of varying length, with a system based on 16 national three-year programmes. Two programmes (natural and social sciences) focus

on university entry; the other 14 are more vocationally oriented but also give access, at least in principle, to higher education. For these programmes at least 15% of study time is provided in the workplace. There is substantial common content, and all programmes include the same eight core courses or modules; the system is intended to facilitate transfer between programmes or from an 'individual' (self-chosen) programme to a national one. All young people up to 20 years have an entitlement to education within the system. The reform has also decentralised education and increased the autonomy of localities and institutions.

Over 95% of compulsory school leavers continue their studies at upper secondary level. Most upper secondary studies take place in schools under municipal responsibility. Studies in agriculture, forestry, horticulture and certain caring occupations are delivered in schools run by county administrative boards.

Sweden also has apprenticeship training programmes, which combine vocational training organised by employers with education at upper secondary school.

#### ***2.4.5 Substrategies for enhancing vocational education***

Considering the current trend towards a closer relationship between education and employment policies and given that the four previous hypothetical strategies did not include all countries, four substrategies were identified by the partnership of the SPES-NET project (Stenström and Lasonen 2000). These are aimed at improving upper secondary vocational education:

- a) promoting links with higher education (e.g. expansion and creation of a new vocational higher education or a single system of post-compulsory education);
- b) enhancing links with employers (e.g. strengthening dual system partnerships or partnerships between providers of VET and employers, or strengthening links between employers and VET and general education teachers);

- c) raising the status and qualifications of VET teachers and trainers (e.g. establishing parity of status and providing some common courses or common training and degrees for VET and general education teachers);
- d) improving the VET curriculum (e.g. improving vocational education knowledge or integrating vocational and general learning).

Furthermore, four common trends were found:

- a) more standardisation of qualifications for students and teachers;
- b) a greater emphasis on work-based learning and the educational potential of workplaces,
- c) efforts to increase employer involvement in all aspects of VET provision, and
- d) more choices for students and more autonomy for local authorities and individual institutions.

## 2.5 Résumé

Each country's reform programme might include elements of different strategies, and the emphasis of a country's policy could change over time. The four strategies represent a continuum between strategies based on the distinctiveness of academic and vocational education and those based on their full integration, with links and mutual enrichment as intermediate strategies between the two poles. Each of the partner countries have key system issues which the reforms are seeking to resolve.

Those systems that want to move in a more unified direction and at the same time have high degrees of student choice may also be encouraging academic drift or reflecting more basic social divisions between academic and vocational orientations because of the way in which prevailing values and cultures impinge upon student choices. This could be countered by very strong and supportive messages com-

ing from the labour market concerning the acquisition of certain types of vocational qualifications.

However, in the absence of this or of divisions of opinion amongst employers, the answer may be more prescription and rules of combination provided by qualification authorities, both to protect the integrity of the vocational route and to encourage students to be more radical in the ways in which they combine studies.

All of the reforms respond to, or anticipate, trends in the labour market and in the organisation of work. All respond to a perceived need for *qualitative* changes in the knowledge and competences which young people bring to the labour market. Changes in the content of work, new technology, patterns of occupational mobility and the pace of change itself are seen to require increased adaptability, capacity to learn new skills in the future, personal and transferable skills, and so on.

Most of the reforms seek to enhance links between VET and the labour market, and to make VET more responsive to labour-market needs. This is pursued through networking with local enterprises, through the formal representation of industry in the machinery for designing curricula and qualifications, and in some systems by allowing greater responsiveness to local needs. In most countries, therefore, we can identify an attempt to increase the influence of the labour market *within* the reforms.

However, this is not the same as a labour-market influence *on* the reforms themselves. In most of the countries studied the main impetus to reform appears to be, not pressure from the labour market, but internal pressures arising from the need to rationalise the education system itself. This is most obvious in Austria and Germany. The reforms in Norway, Scotland and Sweden aim to simplify their systems and make them more coherent through unifying or comprehensive reforms. The reforms in England, Finland and France pursue rationalisation through links of various kinds rather than unification. We assume that VET systems' responses to labour-mar-

ket changes depend on whether and how these changes coincide with problems internal to VET itself.

### **3. Implications of unifying post-compulsory education – the British case**

A comparative study on unifying post-compulsory education in England, Wales and Scotland (Unified Learning Project – ULP, see project references) throws further light on the issue of parity of esteem. The focus of this project is on attempts in these countries to reduce divisions between academic and vocational tracks and to develop a more coherent system. In addition, a critical assessment of the 'parity of esteem' debate in England (Hillier and Oates 1998) illuminates the rhetoric and reality of this concept. A further comparative study on flows and pathways in post-compulsory education and training (home internationals project, see project references) provides empirical evidence on the destination of students of academic and vocational tracks in England, Scotland and Wales against the background of educational attainment and social class.

Due to the specific objectives and approaches in these two projects, the question of how to improve the standing of vocational education compared to general education is only included by implication. The issue of parity of esteem is related to the relative social status of entrants to vocational and academic tracks rather than to the quality of educational provision. The following review of the projects therefore intends to filter the outcome from the point of view of 'standing'. First, the relevant evidence of the project results is set out according to selected aspects (summarising text from the quoted project reports and additional sources); second, tentative conclusions are drawn from the evidence with regard to the issue of 'standing'.

#### **3.1 Addressing parity of esteem in strategies for unification**

In the above-mentioned analyses of developments in post-compulsory education in Brit-

ain, the issue of parity of esteem is addressed in the following context: the starting point of reforms, the rhetoric and reality of parity of esteem, the emphasis on core/key skills, the role of work-based learning, the concept of overarching certification, and the flow of students into academic and vocational tracks.

##### ***3.1.1 The starting point of reforms***

The policy agendas which have driven recent changes towards unifying post-compulsory education in England, Wales and Scotland, focus on the need to promote employability and to combat social exclusion. The unification strategies are related to the dimensions of government and regulation, and of certification; the reforms are qualifications-led. This distinguishes Britain from other European countries where post-16 strategies put more emphasis on the dimensions of content and process and on institutional reform.

The comparative analysis (ULP) sets out major challenges for unification strategies in Britain, including the need to respond to the wider range of aspirations of students in a high participation system; the demand for higher levels of attainment and new kinds of skills and knowledge; the pressure for greater coherence, transparency and responsiveness; the need for greater social inclusiveness and the need for parity of esteem of academic and vocational learning.

##### ***3.1.2 The rhetoric and reality of parity of esteem***

As argued by Hillier and Oates (1998), parity of esteem in the mid-1990s became a rallying cry and overriding policy objective, while little attention was paid to its aims and meaning. The uncritical pursuit of parity of esteem might have undesirable consequences, in particular, an introduction of 'sameness' in currently diverse qualifications, leading to a qualifications system failing to meet the needs of diverse learner groups. That GNVQs must achieve parity of esteem with A levels has been repeated as a priority by policy-makers and practitioners, with little attention being paid to why parity of esteem is desirable, what it involves and how it can be measured.

A key point is that parity of esteem issues reflect deeper social patterns of distribution of value and opportunity. Poor parity of esteem is not solely a reflection in ideology of deeper inequalities, it sustains and propagates these differences through mechanisms such as career advisers and teachers recommending certain qualifications for lower ability groups and others for higher ability groups; candidates attaching lower status to certain qualifications and thus being attracted more to other qualifications; selectors placing a premium on certain qualifications; and certain qualifications being treated preferentially in funding and approval listings. This gives the issue of parity of esteem the janus-headed quality of being both an effect and a cause – a reflection of past and current inequalities and the support of mechanisms which cause these inequalities to persist in areas such as earnings potential. As Robinson (1997) revealed in a study on earnings and qualifications, there is no parity of esteem between academic and vocational qualifications in the labour market. The notional equivalences established by qualification structures contrast with the disparity in levels of earning: academic qualifications tend to offer access to more highly paid occupations, and often pay a higher wage within some of those occupations, than their formally equivalent vocational counterparts. This experience again influences the decisions taken by young people in their choice of pathways.

Practical measures are essential for improving the parity of esteem, for instance changes for advanced GNVQs to allow programmes combining vocational and academic qualifications to be delivered in schools and colleges. The success of GNVQs post-16 (with participation moving from an initial 10 000 in 1993 to 240 000 in 1996) has contributed to underpinning the role of vocational provision alongside academic provision. The sustained success of GNVQ candidates in applications for HE has consolidated the currency of vocational qualifications. In addition, the proposal to implement across the whole education and training system key skills – developed principally in vocational qualifications – further established the importance of vocationally-ori-

ented components of learning and achievement. Recently GNVQs and A levels have been moving closer together (in terms of unit structure, assessment and grading), thereby encouraging more students to combine vocational and academic qualifications in their study programmes.

### ***3.1.3 The emphasis on core/key skills***

The national policies in England, Wales and Scotland place great importance on the development of core/key skills. In this respect, the reforms respond to both external demands, especially from industry, and to internal problems of the education and training systems. Core/key skills may play a unifying role for general and vocational learning in several respects: they may comprise a component of the curriculum of all learners; their purposes may relate both to employment and to higher education; and they may prefigure the more process-oriented concepts of learning which could characterise a unified curriculum of the future.

The unifying effect which core/key skills may have, however, is dependent on the education context. In the Scottish approach, core skills are incorporated into the design of units or courses wherever the subject-matter and assessment arrangements make this appropriate, i.e. they are developed as part of an integrated curriculum. In England on the other hand, except for the design of GNVQs, key skills add a common element to programmes with different content, pedagogy and assessment approaches, i.e. they are additional rather than integrated in the curriculum.

### ***3.1.4 The role of work-based learning***

In all three systems unifying strategies have centred on school/college-based provision, while work-based provision such as apprenticeships and youth training programmes have not been incorporated. Several reasons for the marginal role of work-based learning are identified: the dominance given by young people to the full-time route; the institutional complexity and fragmented nature of work-based training; the competence-based approach of national/Scottish vocational quali-

fications which sets them apart from qualifications in the full-time system.

Indeed, both in England and Scotland there is a widespread view that work-based provision needs to be kept distinct if it is to retain its character and function. In this way it would safeguard the delivery of occupational competence, maintain industry ownership and avoid domination by educational interest. The introduction of modern apprenticeships and national traineeships is intended to 'regenerate' work-based training. The maintenance of a distinct work-based route is perceived as more effective in ensuring the supply of high quality skills matched to the needs of employers than full-time provision. In England in particular, government unwillingness to promote any general education component as part of work-based qualifications has contributed to the marginalisation of the work-based route.

The study (ULP) arrives at the hypothesis that the problems of incorporating work-based provision are more severe for a unified system strategy than for a links strategy, since a unified approach has more stringent requirements for common design features. The analysis of the flow of students (home internationals project) suggests that work-based provision may be more critical for inclusion, by attracting people at risk, while full-time vocational education, having a closer interface with academic education, may be more critical for parity.

Another argument (ULP) put forward in the Scottish context is that vocational qualifications have not yet developed a strong enough position to be able to preserve, within a unified system, the principles that they represent. They should be built up before they are included in a more unified system. In conclusion the question is raised whether strong work-based qualifications and a strong work-based route can be developed in Britain.

### ***3.1.5 The concept of overarching certification***

There are proposals for overarching certificates in England and group awards in Scotland. According to the Dearing review, the

overarching certificates should be awarded for equivalent levels and quantities of attainment in either academic or vocational qualifications and be subject to additional criteria such as the achievement of key skills. The function of an overarching certificate would be to build on existing plans for smaller qualification blocks and provide a framework for curriculum breadth and coherence. The Scottish group awards are different in that they bring together units and courses from a single unified system. The group award criteria, therefore, can be more stringent with regard to assessment and curriculum design.

The study (ULP) concludes that both overarching certificates and group awards are potential instruments for unifying academic and vocational learning and for promoting parity of esteem, provided these additional layers of certification acquire sufficient currency and status as against their constituent parts.

### ***3.1.6 The flow of students into academic and vocational tracks***

The unifying strategies are put in another perspective by an empirical analysis of flows and pathways in post-compulsory education and training in Britain (home internationals project). These investigations on the flow of students into academic and vocational tracks in England, Scotland and Wales have drawn attention to a significant correlation with educational attainment and social class background. The patterns of entry to the academic track (high attainers and middle class) and to the work-based track (middle/low attainers and working class) are similar in the three systems. Participation in the full-time 'further education' (broad vocational) track, however, is marked by significant differences: while in England these youngsters are mostly middle-attainers (Wales: low attainers) and from the middle class, in Scotland the participants are predominantly low-attainers and from the working class.

These differences are partly related to the provision of full-time further education in the systems concerned. The Scottish track is not only low in educational status but also considerably smaller (compared to the academic

track) than the one in England. Also, the standards of courses are different. While one in three English students in full-time further education in the early 1990s took academic courses, which would be more likely to attract higher attaining and middle-class students, hardly any Scottish student in the corresponding track did so.

The results of this investigation not only inform the debate on parity of esteem; they also throw light on difficulties encountered in implementing unification strategies, particularly in the Scottish context. It becomes evident that despite formal educational similarities between academic and broad vocational tracks, they are very different in terms of their relation to educational and social differentiation. The academic sector in Scotland proved to be more exclusive, in terms of educational status (prior attainment) and social class of entrants, than the one in the other UK countries – which means that the most unified system was the furthest from achieving parity of esteem.

### **3.2 Tentative conclusions with regard to the issue of ‘standing’**

Following from the aspects set out above, some tentative conclusions can be drawn on the issue of ‘standing’.

Although parity of esteem between vocational and general education has been voiced as an aim in the strategies concerned, the ensuing reforms have only brought about tentative progress in this respect. This is because the underlying problems of disparity and low standing are deeply rooted in education and training traditions, societal interests and aspirations of young people, and can therefore only be solved by targeted policies. The drive towards a unifying system observed in Britain may provide a framework for possible improvement in ‘standing’. The preoccupation with government and regulations and the guiding role of qualifications in this system, however, appears to contribute little to this effect.

Potential progress in ‘standing’ is closely related to a rise in the quality of educational

provision at course/curriculum level, e.g. the achievement of GNVQ and the potential impact of core/key skills. At the same time, there is a need for qualitative advance in vocational education to underpin the unification strategy. Qualitative improvements of vocational education, in particular work-based training, are required as preconditions e.g. for attracting higher-achieving students, for including work-based qualifications in a unified system and for achieving the desired effect of overarching certification.

A higher standing of vocational, particularly work-based, education will depend, above all, on qualitative advances in the contents and pedagogy. Attempts, however, to promote work-based qualifications in isolation, e.g. by excluding general education components, may be counter-productive.

The principal way to improve ‘standing’ in the British context is implied by the following conclusion put forward in the project (ULP): there is a need to go beyond unification as a rejection of academic/vocational division and to explore new possibilities for relating academic and vocational learning.

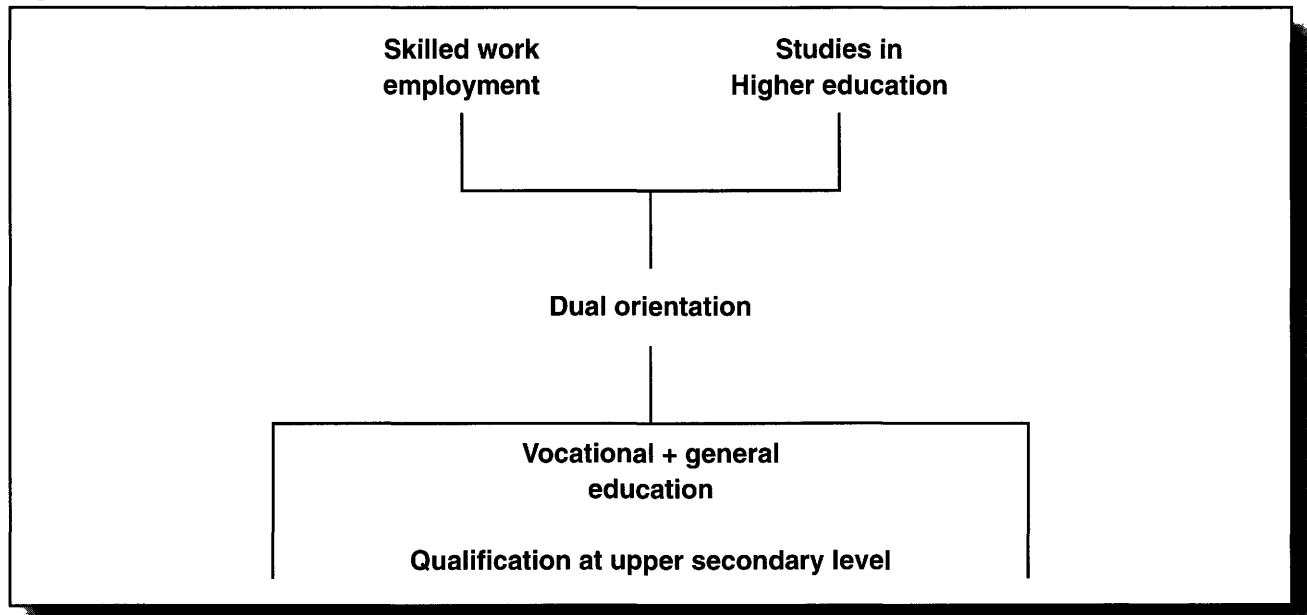
## **4. Qualifications with a dual orientation towards employment and higher education**

An initiative taken in several countries is to provide the option for trainees or students of vocational programmes to acquire qualifications for university access alongside their vocational qualifications. This provision is based on varying degrees of combination or integration of general and vocational education, and of work-based and education-based learning. The resulting qualification opens up alternative routes into professional work and advanced studies (see Figure 4).

Starting out from partnership work in the projects INTEQUAL and DUOQUAL, the characteristics of qualifications with a dual orientation towards employment and higher education (dual qualifications) and their practical impact are investigated in the sections below.



**Figure 4: Qualifications with a dual orientation**



It should be emphasised that the selection of these schemes is related to the composition of the partnership and the involvement of partners in specific pilot or reform initiatives. Obviously this approach is bound to neglect other schemes operating within individual countries and Europe, so that conclusions have to be drawn with care. References to the broader contexts are in fact included in the national case studies (see references). On the other hand, the approach adopted has provided valuable 'insider' knowledge for the partnership project and strong feedback from the project to the partners' environments.

#### **4.1 Characteristics of dual qualifications**

The schemes of dual qualification considered in this study differ considerably with regard to their function, scope and structure. While this poses problems in comparative analysis, it also shows the great variety of initiatives and solutions adopted in the countries concerned. Dual qualifications may be described according to the following characteristics:

- a) aims in the national context;
- b) dimension;
- c) place within upper secondary education;
- d) type of certification awarded;
- e) role in the process of training and employment;
- f) target groups.

#### ***4.1.1 The aims of dual qualifications in the national context***

The development of dual qualifications is related to specific educational aspirations in the countries concerned:

- a) in the Czech Republic, vocational programmes offering a dual qualification enjoy a strong tradition and have recently seen considerable extension throughout upper secondary education;
- b) the national reforms in Norway, Portugal and Sweden were initiated to reorganise the education system, particularly at upper secondary level, in such a way that it could meet the demands for lifelong learning and provide qualifications for employment as well as for access to higher education;
- c) the ongoing reform in England has aimed at creating a coherent national qualifications framework with three different pathways: general, vocational and a middle one with dual orientation (GNVQ);
- d) in France, starting out from the need for higher qualification standards, the intention was to bring the majority of young people up to baccalauréat level and, by creating the Bac Pro, also to meet the demand

for a new category of industrial technicians;

- e) the rising educational demand of young people in the Netherlands, especially for a double qualification already in operation (MBO, now: BOL4), has put the question of further developing its dual orientation on the agenda;
- f) new schemes have been introduced in Austria, Finland, Germany and, for a period, in Greece specifically designed to overcome the gap between general and vocational education by developing approaches of integrated learning.

#### **4.1.2 The dimension of the schemes of dual qualification**

All schemes investigated are part of the upper secondary level of education. Three groups may be distinguished:

- a) schemes which extend over an integral part of the whole educational sector, such as the study branches in the Czech Republic, the vocational courses in Portugal and the vocational programmes or streams within the comprehensive school systems of Norway and Sweden;
- b) schemes which refer to individual courses or qualifications, e.g. the Bac Pro in France, the GNVQ in England, the IML in Greece, the MBO/ BOL4 in the Netherlands and the WIFI academy courses in Austria;
- c) schemes which represent pilot projects within the established systems of vocational education and training, including the experimental reform in Finland and individual projects in Germany (Bavaria/ Brandenburg).

Most of the schemes considered in this study are still in their initial stage (Austria, England, Norway, Portugal, Sweden) or in a pilot phase (Germany, Finland), with one no longer operating (Greece); only three are already established (Czech Republic, France, the Netherlands).

#### **4.1.3 The place of dual qualifications within upper secondary education**

The schemes analysed in this study are selected from a broader range of dual qualifications existing in the countries concerned. Dual qualifications can be found in or across all strands of upper secondary education including full-time general, full-time vocational and dual/part-time vocational education.

In all countries, dual qualifications are available within full-time vocational education, i.e. as school-based schemes (Figure 5). This strand of upper secondary education may be regarded as the most fruitful basis of dual qualifications. The schemes involved vary, however, in the extent to which they are related to other strands. Several patterns can be identified:

- a) some schemes are confined to the full-time vocational strand only, e.g. the *baccalauréat technologique* (France) and the technological lyceum (Greece) – both being outside this investigation; a few of the full-time schemes (MBO/ BOL4 and GNVQ) are accessible via modular structures which extend over the rest of vocational education (the Netherlands) or over the whole of secondary education (England);
- b) other schemes are vocational programmes or streams which link up with full-time general education as part of comprehensive systems (Norway, Sweden); some schemes involve apprenticeships as preceding stages (Czech Republic; France: Bac Pro) or as optional part of the stream (Norway).

In some countries, schemes of dual qualification have been specifically designed to integrate educational strands. General and vocational full-time education have been integrated in two schemes: in the Integrated Multivalent Lyceum (Greece) and in the individual study programmes (Finland). Full-time vocational education and apprenticeship training have been integrated within a course (project in Bavaria, Germany).

In three countries dual qualifications are provided within the strand of apprenticeship or part-time education: either as a general entitlement (Portugal) or as specific schemes: the *Berufsmatura* and the WIFI academy (Austria) and a pilot project (Brandenburg, Germany).

#### **4.1.4 The type of certification awarded for dual qualifications**

Certification for dual qualifications is dependent on the legal framework of the national education system (see also Kirsch et al. 1999) and on the role of academic versus vocational credentials in the society concerned. The type of certificate, therefore, gives little indication in transnational comparison of the characteristics or status of the individual dual qualification. Nevertheless, among the schemes investigated a certain pattern emerges:

- a) the most common form is a combination of matriculation and vocational certification – as an expression of a ‘double qualification’ (Austria, Germany, Greece, Finland, Norway, Portugal); in one case the vocational certificate may be complemented by adding a transfer certificate for higher education (the Netherlands);
- b) three schemes (Czech Republic, France, Sweden) lead to matriculation only, with one being qualified as vocational (Bac Pro);
- c) only one scheme has a specific certificate (GNVQ: England).

#### **4.1.5 The part of dual qualifications in the process of training and employment**

Most schemes of dual qualification have emerged from vocational education and training, thus being part of the process of acquiring vocational qualification for skilled employment in the countries concerned.

While most schemes start immediately after compulsory education, some operate on the basis of a preceding apprenticeship or course of initial training (Czech Republic in part; France) or build on experience of skilled employment (Austria).

Within the schemes, training in full-time, apprenticeship or part-time arrangements may be applied. The majority of schemes are based on full-time education which is extended by offering practical assignments (England, Finland, France, the Netherlands, Portugal and Sweden). The German pilot projects are part of a dual system linking a full programme of training at an enterprise with theoretical vocational instruction at school. The Norwegian scheme includes the options of a full-time course (three years) or a combination of a full-time period and an apprenticeship (two+two years). In the Czech Republic, dual qualifications can be obtained in full-time or part-time courses. An exception is the Austrian scheme, which operates as a part-time course alongside employment.

There is a significant distinction in the relevance for employment between:

- a) schemes providing basic vocational education as entry-level qualifications which have to be supplemented by continuing vocational training or on-the-job training (England, Finland, Norway: three years, Sweden);
- b) schemes representing full qualifications for skilled labour at craft, technician or middle-management levels (Austria, Czech Republic, Greece, France, the Netherlands, Norway: two+two years, Portugal).

#### **4.1.6 The target groups entering the schemes of dual qualification**

All the investigated schemes except for two (Austria, France) are part of the initial vocational training provided at upper secondary level for 16 to 19 year olds. Several of these schemes (Czech Republic, England, Norway, Portugal, Sweden) are open to adult students as well. The Czech and French schemes also offer the option of advanced education and training for students who have already completed initial vocational courses or certain stages of them. In Austria, the scheme is exclusively geared to adults who are already qualified and employed.

While some schemes are accessible for the corresponding target group without precon-

Figure 5: The place of schemes within upper secondary education

Country	General education: full-time (school-based)	Vocational education: full-time (school-based)		Vocational education: dual or part-time (work-based)	
		Dual qualifications <i>within</i> project	Dual qualifications <i>outside</i> project		
Greece	General lyceum	IML	Tech. lyceum	Voc. school	Apprenticeship
Finland	Gen. Upper sec. school	Exp. reform	Voc. school		Apprenticeship
England	GCE 'A' level	GNVQ: advanced level		NVQ	
The Hetherlands	VWO/HAVO	MBO/BOL4		Apprenticeship	
Sweden	Preparatory study programmes	Vocational programmes		Apprenticeship	
Portugal	General courses	Vocational courses		Apprenticeship	
Norway	General streams	Vocational streams (incl. apprenticeship)			
Czech Republic	Gymnasium	Study branches (incl. apprenticeship) (also part-time)			
France	General streams	BTn	Bac pro	(incl. apprent.)	Apprent.
Germany	Abitur/Gymnasium	Tech. courses	Pilot project	Dual system	
Austria	Matura/AHS	BHS		Berufs-matura	WIFI Academies

Abbreviations: see list in annex.

Source: Manning 1998.

ditions (Austria, Greece, Finland, Norway, Portugal, Sweden), others are restricted in access by requiring specific entry qualifications (England, France, the Netherlands), by setting entry examinations (Czech Republic) or by applying selection criteria (Germany). These distinctions are partly due to general characteristics of the national systems concerned. However, they may also reflect differences in the function and status of the individual schemes. For instance, certain schemes offer dual qualifications as a general option, leaving it to the individual students to make the most of it (Finland, Norway, Portugal, Sweden); other schemes offer dual qualifications as part of distinct and demanding vocational courses (Czech Republic, the Netherlands), and a few schemes are particularly designed to attract high-achievers (Germany, France).

## **4.2 Practical impact of dual qualifications**

In order to assess the practical impact of the schemes of dual qualification, the following indicators are applied:

- a) the scale of enrolment in the schemes;
- b) the degree of integration within the curriculum;
- c) the success rate of students within the scheme and in further study;
- d) the balance of dual orientation;
- e) the patterns of dual progression.

### **4.2.1 The scale of enrolment in the schemes**

Since the schemes of dual qualification differ in their educational aims, in the length of time they have been in existence and in the target groups they address, the scale of enrolment is bound to vary considerably. In terms of proportion of the relevant age group, participation in the schemes ranges from low level (less than 1%: Austria, Germany) via medium level (5-20%: Greece, England, Finland, France, Portugal) to high level (up to 45%: Czech Re-

public, the Netherlands, Norway, Sweden). It should be noted, though, that some of these percentages refer to a 'gross' proportion of all entitled entrants, while only a smaller part of these either reach the corresponding level of the course (the Netherlands) or choose to acquire a dual qualification (Finland, Sweden).

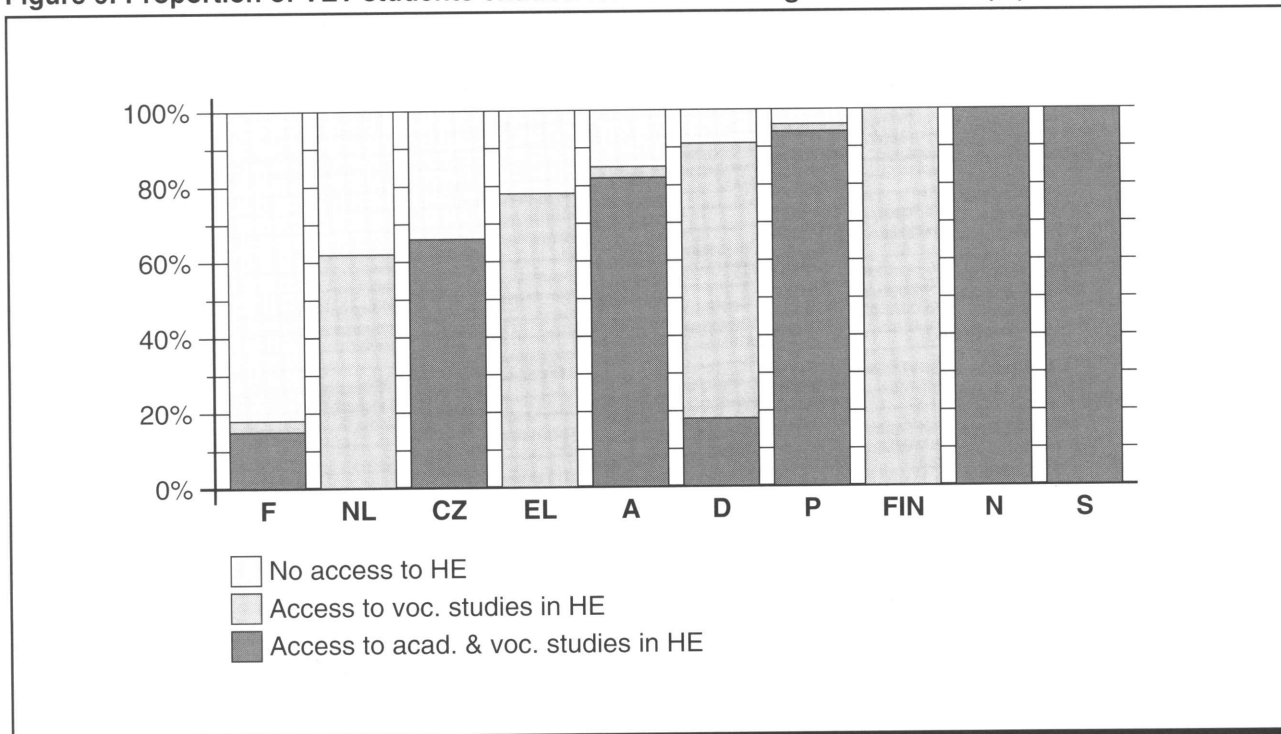
The trends in enrolment point upwards in most schemes (Czech Republic, Greece, England, Finland, the Netherlands, Norway, Portugal). The stable trend observed in some cases may either be connected with a given framework of the scheme (Czech Republic, Germany, Austria) or caused by a saturation of demand (France, Sweden). None of the schemes shows a downward trend in participation.

The predominant upward trend in enrolment correlates, in seven schemes, with significant proportions of the age group involved. This can be interpreted as an indication of both the attractiveness and the relevance of dual qualifications in the majority of the countries concerned.

The schemes selected for this study only partially represent the entire opportunities of acquiring dual qualifications at upper secondary level in the given countries (see also Figure 5 above). To get a more comprehensive picture, data from other sources are included which indicate the entitlement of VET students for access to higher education. In Figure 6, a distinction is made between two choices open for these students: progression to vocational studies or to both academic and vocational studies. It should be stressed that these data only refer to the opportunity in principle and not to the actual flow of students.

As the figure shows, opportunities for taking up further studies after completing vocational education are open to a majority of students (except in France). Access in several countries, however, is restricted (almost or totally) to further vocational studies (Germany, Greece, Finland, the Netherlands). A dual option in the full sense, granting access to both academic and vocational studies, is only avail-

**Figure 6: Proportion of VET students entitled for access to higher education (%)**



Sources: European Commission 2000; Norway: Manning 1998; Czech Republic: European Training Foundation 1998.

able in five countries (Czech Republic, Norway, Austria, Portugal, Sweden). Finland will join this group after the present reform. It is worth noting that the ‘fully’ dual option can be found with both comprehensive systems (Nordic) and track systems including several courses/qualifications (Czech Republic, Austria, Portugal).

#### 4.2.2 The degree of integration within the curriculum

A key question raised in this study is the extent to which vocational and general education are integrated. This includes the issue of competence acquired in these schemes. The following comparative analysis stems from two dimensions assumed to be relevant for qualifications with dual orientation:

- a) the relationship of dual qualifications to skilled work; and
- b) the relationship within the schemes between general and vocational subjects.

In conclusion, the schemes are compared in relation to both dimensions.

#### *Relation of dual qualifications to skilled work*

Since dual qualifications are situated in various contexts of education and training they differ in their relation to the requirements of work. To determine the extent and character of their work orientation, two indicators are applied:

- a) the part played in the schemes by practical training, characterised by the organisational form (assignment, traineeship and employment) and by duration within the course; and
- b) the degree of vocational specialisation within the schemes, measured by the number of primary and secondary divisions (areas, programmes, branches, etc.).

Analysis according to the two indicators produces different groups of schemes whose work orientation ranges from a low via a medium to a high degree. The characteristics of work orientation among the three groups of schemes are summed up below:

- a) low: training in broad areas; no compulsory practical assignment (Greece, England);
- b) medium: training in differentiated vocational areas; practical assignments (Finland, France, Norway: three years, Sweden);
- c) high: basic vocational training and full specialisation; extensive practical assignments or traineeship (Czech Republic, Germany, the Netherlands, Norway: two+two years); or broad continuing training related to skilled occupations (Austria).

*Relation between general and vocational subjects within the schemes*

Attempts made in all schemes to link vocational and general/academic components of the curriculum are relevant not only for advanced studies, but also for high-level skilled work. The curricula of the schemes provide for a variety of combinations involving vocational and general subjects. In the comparative analysis, four approaches have been identified, extending from an additive to an integrative focus:

- a) provision of separate general or theoretical subjects within the major curriculum and also as optional units; this additive approach is found in all schemes, mostly as a dominant feature (Czech Republic, Greece, France, Austria, the Netherlands, Norway, Portugal, Sweden);
- b) vocational application of general/theoretical subjects or a combination of theoretical and vocational subjects; this approach expresses itself in various initiatives across all schemes, often playing a prominent role (Czech Republic, Germany, Greece, England, Austria);
- c) education and training related to transferable skills, overcoming the division of general and vocational abilities; this approach cannot be traced in all schemes, it tends to be an underlying principle (Czech Republic, Germany, England) rather than being applied in practical terms (Finland, Norway, Austria);

- d) action-orientated education and training based on work-related parts of the curriculum (projects); all schemes include variants of this approach, with particular relevance being attributed to a project-related curriculum in the German case.

Within each approach, a considerable similarity (groups (a), (d)) or variety (groups (b), (c)) of practice can be observed across all schemes. This evidence suggests that the forms of combining general and vocational subjects are fairly independent of or easily adaptable to different categories of schemes. The relative weight of the different approaches, however, differs between schemes. This is an indication of the degree to which general and vocational subjects are integrated. According to this criterion, the schemes range from a low degree of integration (France, the Netherlands, Portugal, Sweden) via a medium degree (Czech Republic, Greece, England, Finland, Norway, Portugal) to a high degree (Germany, Austria).

*Curricular structure of dual qualifications*

Analysis of schemes according to dimensions of work orientation and integration of subjects has led to different groupings in each case. In a concluding step, both dimensions are combined in a matrix with the schemes arranged accordingly (Figure 7). Three clusters of schemes may be distinguished:

- a) the majority of schemes combine medium work orientation with either low integration (the Netherlands, Portugal, Sweden) or medium integration of subjects (Greece, Finland, Norway: three years). Two more cases are included in this cluster which are characterised by either low work orientation and medium subject integration (England) or high work orientation and low subject integration (the Netherlands);
- b) the rest of the schemes form a cluster combining medium and high degrees of both work orientation and integration of subjects (Czech Republic, Germany, Norway, Austria: two+two years). The German pilot projects, in particular, display the potential of work-based education and train-

Figure 7: Curricular structure of dual qualifications – presentation in two dimensions

I. Work organisation	H		MBO/BOL4 (NL) Study branches (CZ) Vocational streams (N: 2+2 years)	Pilot projects (D) WIFI academy courses (A)
	M	Bac Pro (F) Vocational courses (P) Vocational programmes (S)	Experimental reform (FIN) Vocational streams (N: 3 years)	
	L		GNVQ: advanced level (EN) IML (EL)	
		L	M	H
		II. Integration of Subjects		

- I. Degree of work orientation (practical training and specialisation)
- II. Degree of integration between general and vocational subjects

L = low/ M = medium/ H = high  
Abbreviations, see list in annex.  
Source: Manning 1998.

ing in combination with a highly integrated curriculum;

- c) there are no cases of both low work orientation and low integration of subjects. If recent developments of and plans for the schemes are considered, little change may be expected with regard to work orientation, but further advance is likely with regard to the integration of subjects (e.g. initiatives in NL, and gradual steps following the reforms in Norway, Portugal, Sweden). This trend may result in boosting the group of schemes which combine a medium degree of integration with various degrees of work orientation (the central column in the matrix).

#### 4.2.3 The success rate of students within the scheme and in further study

In preparation for access to higher education, students in schemes of dual qualification compete with those in tracks of general education. Their comparative performance at the point of graduation is therefore significant. On the one hand, Bac Pro students achieve a rate of success by the end of their course which characterises French baccalauréat holders in general, and graduates from German pilot

projects reach a particularly high performance rate; on the other hand, the poor completion rate in GNVQ courses is a cause of concern in England, and the performance of students in the Finnish experimental reform is also below that of students in general education.

At the point of entry to higher education, the success of graduates with dual qualification may be equal to those with general education (Czech Republic, Greece) or less (Portugal). As to progression within higher education, the two cases for which evidence is available (France, the Netherlands) require a closer look: while the success rate of Bac Pro holders hardly exceeds half of them, but matches the general rate in advanced technical studies, the success rate of MBO holders after two years of study reaches three quarters which is slightly below the average in higher vocational institutes.

A tentative conclusion supported by the case studies is that students in various schemes face difficulties in progression to higher education. Steps considered to raise the chances of success (e.g. in England, the Netherlands) include partnerships or compact arrangements between the institutions which offer a



**Figure 8: The balance of dual orientation towards higher education (HE) and employment**

HE > Employment	HE = Employment	HE < Employment
Pilot projects (D: Bavaria)	GNVQ: advanced level (EN)	Vocational streams (N)
	IML (EL)	Vocational programmes (S)
	Study branches (CZ)	Vocational courses (P)
	Experimental reform (FIN)	WIFI academy courses (A)
		MBO/BOL4 (NL)
		Bac Pro (F)

Abbreviations, see list in annex.  
Source: Manning 1998.

dual qualification and those providing higher education. Also, the possibility for individuals to enter enriched or enhanced programmes within the schemes can greatly affect their subsequent prospects of success in higher education.

#### 4.2.4 The balance of dual orientation

While all schemes allow for a dual orientation, they differ in the relative weight attributed to either employment or higher education. Several of them put the emphasis on employment as the prior aim and also function like this in practice (Austria: 37% 1997, France: 12% 1992, the Netherlands: 27% 1996, Portugal). This emphasis is likely to apply to the vocational streams or programmes (Norway, Sweden) as well, despite their original claim of a balanced orientation. Another group of schemes (Czech Republic, Greece, England, Finland) offers and also achieves a fairly equal weight of the two progression routes (about 50% 1995 for both Greece and England and 46% 1996 for Czech Republic). Only one scheme (Germany) is geared primarily towards higher education (95% 1998), but in terms of a vocational career.

The flow of graduates into higher education, if followed over a longer period, shows vari-

ous trends (downward, stable, upward). These are related to more general changes, for instance in the demand of young people for upper secondary and higher education, in the provision of study places and in alternative chances on the labour market. The evidence of trends does not imply any significant shift in the balance of dual orientation. If the latest percentage figures are considered it is evident that the dual orientation functions in practical terms. The overall balance of the schemes is summed up in Figure 8.

#### 4.2.5 The patterns of dual progression

How does dual orientation towards higher education and employment function in real terms? To start with, evidence on the targets of the qualifications and the options open for graduates is analysed. In conclusion, typical patterns of dual progression are identified.

##### 4.2.5.1 The orientation of dual qualifications towards employment

As the analysis of the curricula of dual qualifications has shown, the degree of work orientation varies significantly between schemes. This diversity affects the level and type of occupation envisaged for graduates, ranging from unspecified employment via skilled work to middle-level management. At

the same time, depending on the national context, the congruence between qualifications and occupations and the modalities of the transfer from education to work vary greatly. While in some countries, the relationship between the qualification obtained in the scheme and the type of occupation it prepares for is clearly defined (Czech Republic, Germany, France, the Netherlands, Austria), in other countries the occupational orientation of the schemes is less specific (Greece, England, Finland, Norway, Sweden).

The pattern of occupations related to dual qualifications includes a category of special significance: so-called ‘highly skilled work’ which is situated between ordinary skill level and technician level. The schemes forming this group (Czech Republic: SVS, Germany, France) have two features in common: they have a clearly defined occupational profile and they address high achievers among the trainees.

Some evidence is available on the position of graduates with dual qualifications on the labour market: chances for graduates to enter the labour market is indicated, in general terms, by the employment rate. This appears to be high for dually qualified graduates compared to the employment rate of other young job seekers, even if the evidence available does not allow to make detailed comparisons (Greece, Germany, Finland, France, the Netherlands). No opposite cases of a low employment rate are known from this study. It may be assumed, therefore, that dual qualifications provide good chances for their graduates compared to other job seekers on the labour market.

Another question is whether the jobs obtained by dually qualified graduates match the occupational levels envisaged in the schemes concerned. While three cases indicate a close relationship between the occupational target of the scheme and the actual job obtained (Greece, Austria, Portugal), one case implies a lower entry level (France) which however may be followed by occupational progression. Altogether, the evidence available suggests a positive relationship between the envisaged and the achieved occupational levels.

It may be concluded from the evidence available that dual qualifications enhance prospects for gaining skilled employment as against ordinary qualifications at upper secondary level.

#### *4.2.5.2 The orientation of dual qualifications towards higher education*

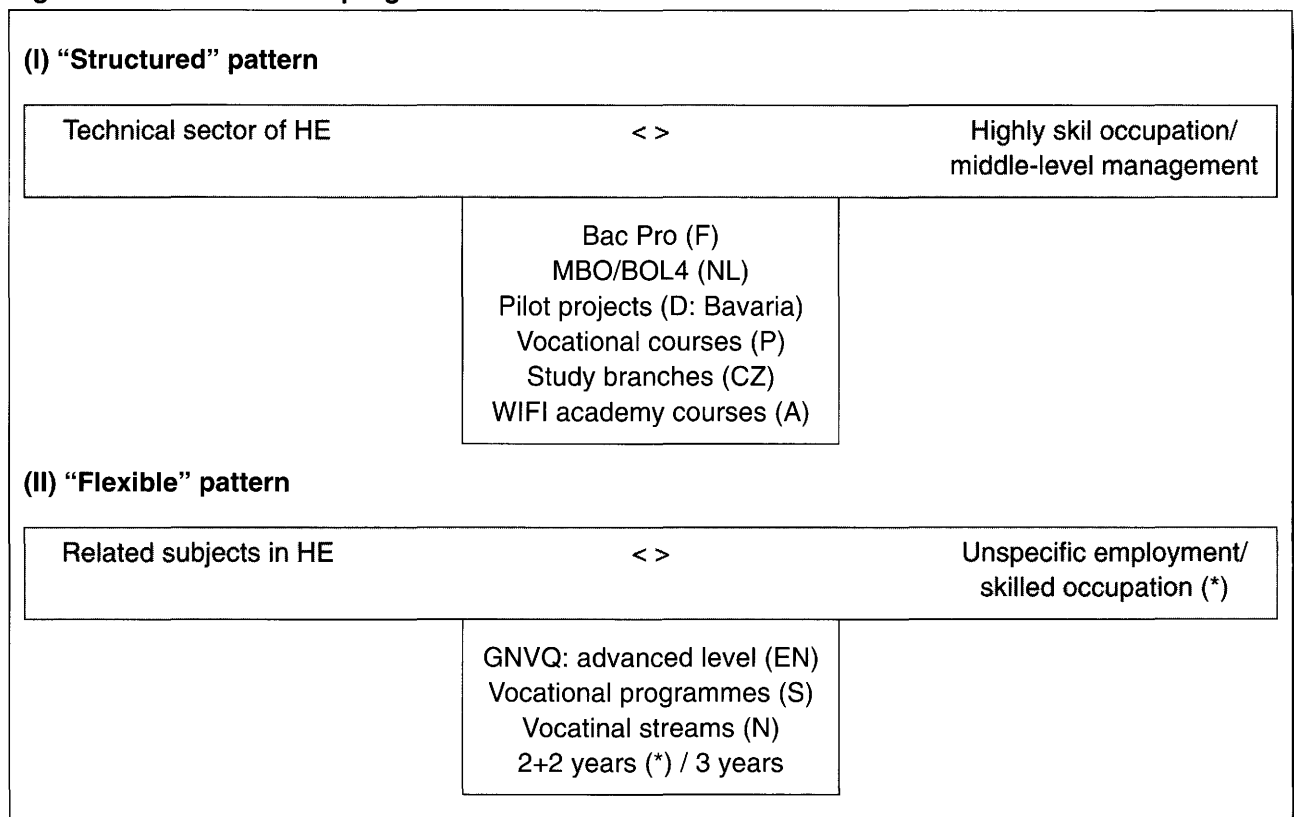
Orientation towards higher education implies a precondition and/ or an entitlement to have access to studies which may extend from higher vocational to academic courses. In those countries where there is a clear distinction between tracks of vocational and academic institutions at upper secondary and tertiary levels (Germany, Greece, the Netherlands, Austria), the schemes specifically qualify for access to the technical sector of higher education, partly granting additional entitlement for access to academic studies (Austria). In other countries which have developed a more integrated structure of secondary and higher education (England, Finland, Norway, Sweden) and in France, the schemes serve as a general entitlement for access to higher education. However, as the case studies show, the special requirements insisted upon by individual faculties reduce the options in actual terms. In most cases, therefore, access is in practice confined to technical courses or studies in the domain-related areas.

#### *4.2.5.3 Patterns of dual progression*

If the typical career prospects of dual qualifications set out above are compiled for each scheme (with evidence available for nine of them), two major patterns of dual progression emerge (Figure 9):

- a) most of the schemes offer a choice between access to studies in the technical sector or entry into highly skilled employment/ middle-level management (Czech Republic, Germany, France, the Netherlands, Austria, Portugal);
- b) a smaller group of schemes provide opportunities of either progression to studies in related subjects (with no established technical sector available) or unspecified em-

**Figure 9: Patterns of dual progression**



ployment (England, Norway: three years, Sweden).

The first of the two patterns is likely to open up more structured professional careers, also in terms of close relations and potential combinations between technical studies and highly skilled/ managerial work. The second pattern functions under conditions of a more flexible relationship between higher education and labour market in the countries concerned.

The patterns above suggest that there is a significant relationship between the two options of progression. Particularly in pattern I, by preparing both for (highly) skilled work and work-related studies, dual qualifications provide a basis for professional careers in a lifelong learning process.

### 4.3 The potential of dual qualifications

Altogether, dual qualifications potentially live up to the criteria identified for high standing of VET (see Figure 1 in Section 1): providing personal competence and facilitating mobil-

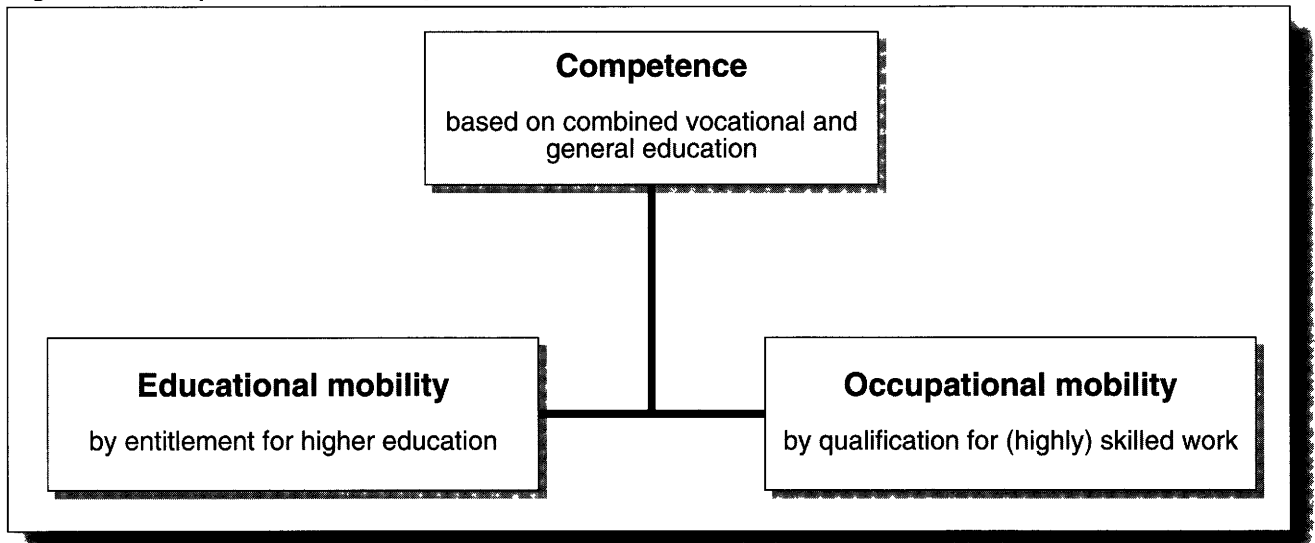
ity both in the education system and the labour market. Figure 10 summarises the characteristics of dual qualification according to this model.

For assessing the relevance of dual qualifications in vocational education provision and in facilitating transition to the labour market, the conclusions drawn in two external studies are significant:

- a) within the whole spectrum of transition from education and training (at secondary level) to work 'double' qualifications are likely to mark the highest degree of opportunity (Hannan 1999);
- b) the introduction of demanding 'double qualifying' pathways is intended to raise participation in VET. The success of these pathways, however, seems to some extent related to their selectivity in favour of the most successful students (Durand-Drouhin 1999).

The results of both of these studies and of the INTEQUAL/DUOQUAL project confirm that

**Figure 10: The potential of dual qualifications**



dual qualifications improve the chances of young people entering educational and occupational careers, thereby contributing to an upward trend of differentiation within secondary vocational education. In a context of wide-ranging problems of transition from education to work, with a large section of young people being at risk, dually qualifying pathways are in effect selective, leaving those perceived as ‘low-achievers’ behind. The challenge for educational policy, therefore, is to ensure that schemes of dual qualification are part of transparent and flexible systems, being accessible from any point and linking up to other parts of education and training.

**5. Attitudes towards the esteem of vocational education – evidence from case studies**

The esteem of vocational education and ways of improving its attractiveness have been analysed in another parallel project (PAVE), involving case studies on England and Wales, Finland, Greece, Ireland and the Netherlands. The following section summarises the major approach and relevant results, based on the project report (Trant et al. 1999).

The investigation focuses on the tension between vocational and liberal (rather than general) education, also tracing the evolution of these concepts, and sets out to explore ways

of reconciling the two. Three hypotheses have led the project research:

- a) *‘vocational education in general has low prestige because it is perceived to lack the qualities traditionally associated with liberal education;*
- b) *liberal education at its best has a vocational dimension and vocational education at its best has a liberal dimension; hence it makes good sense to integrate the two;*
- c) *examples of such integration already exist but they need to be examined critically and articulated more clearly.’*

The major message in conclusion is that liberal and vocational education should be regarded as two complementary aspects of the same task: the fashioning of the human person. An educational challenge of the coming century will be to create a new synthesis of the liberal and vocational ideals and to rediscover their underlying complementarity.

The methodology applied in the study comprises three dimensions:

- a) the philosophical one which attempts to analyse possibilities of integrating the liberal and vocational traditions;
- b) the historical/hermeneutical one which facilitates the evaluation of documentary evidence;

c) the ethnographic one which examines examples of good practice through selected case studies.

Other than the previously reviewed projects, PAVE did not undertake a comparative analysis of different education systems, but sought to study a number of individual cases in their national contexts. These case studies include:

- ❑ the GNVQ experience in England and Wales;
- ❑ double qualifications through cooperation between academic and vocational upper secondary schools in Finland;
- ❑ improving the status and attractiveness of vocational education in Greece;
- ❑ the leaving certificate applied: a prevocational programme in Ireland;
- ❑ the liberal dimension in secondary vocational education in the Netherlands.

A special approach applied in the case studies are interviews and questionnaires carried out in individual schools involving students, teachers, and also partly administrative staff, parents and professionals. The evidence produced on this basis offers special insight into the issue of parity of esteem: the studies reveal the perception of individuals, their attitudes towards vocational education and ways of influencing these attitudes.

Parity of esteem is considered in a social context, starting out from the observation that vocational education is in most cases regarded as having lower status than liberal education. The reason for this is sought in the values, attitudes and beliefs that people hold. These values may refer to the courses which students follow, the schools they attend, the types of learning, the forms of knowledge and the ways in which these are assessed.

On a closer look, the world of education turns out to be concerned with diverse patterns of values. While the value system of society has its impact on schools, education itself is saturated with values. Moreover, education is not

only a mirror of values, it also transmits and communicates values and may shape these values in its own right (see also Walsh 1993). These considerations provide the background against which the evidence of the case studies related to the issue of parity of esteem, is assessed in the study.

A conflict may occur between new values realised in the learning environment and the prevalent value system, e.g. students could benefit educationally from a learning environment created in a vocational course, but in the end face barriers of prejudice associated with the qualification obtained. This situation raises the question of whether and how the prevalent system could be challenged.

The values involved in the traditional vocational subjects can make a substantial contribution to the social and personal fulfilment of human beings. Their liberating potential therefore can be just as important as that of the traditional 'liberating' subjects. This potential however has been both undervalued and underdeveloped. Many academics share this underestimation, while vocational educators may fail to demonstrate the values of vocational subjects for human development.

In view of the generally low status of vocational education, the question is how to remedy the situation. Individual schools facing this challenge often experience an uphill struggle, with several approaches being adopted to improve the image of vocational education:

- a) two English schools have attempted to reassure parents that the new vocational course concerned is as good as the traditional academic one (GNVQ as compared with the more familiar A levels);
- b) an Irish school has initiated a publicity campaign in the local area to make employers and parents aware that the new vocational course is more work-related than the traditional one (the leaving certificate applied compared to the leaving certificate). Despite these efforts, the public perception of vocational courses proved difficult to correct.

In both cases, media coverage particularly in the tabloid press had an adverse effect on the attitudes of students and parents.

An important factor in determining the status of new vocational courses is the drop-out problem, as experienced in the Finnish, Greek and Irish cases. Among the reasons encountered for the drop out of students in the Finnish experiment (individual programmes of double qualification) was the extra work load which the students had to bear and also inadequate selection, with students underestimating the demands of the study.

Problems of communication, too, appear to affect the status of vocational education. In the Finnish case, this problem turned out to be related to the culture gap between the academic and vocational traditions. Information provided for prospective students in double qualification programmes, for instance, did not cover everyday routines in the academic schools. Academic teachers providing the information took these routines for granted, not realising that these were unknown in vocational schools. Experience from the English case study confirmed that clear information and first-hand experience were vital for generating positive attitudes towards vocational education among students.

In summing up the evidence of the case studies the authors see a certain chance for schools themselves being able to influence the esteem of vocational education and in some ways being ahead of national consciousness.

A major conclusion drawn from the analysis of parity of esteem is that vocational education should not only prepare technicians and skilled workers but also enable young people to enhance their own human development. In particular, the aspiration to proceed to further and higher education is encountered across the case studies. It is seen as the critical factor in deciding the status of a particular vocational course. At the same time, the failure of both academic and vocational education to cater adequately for underachievers exposes these youngsters to perpetual low status.

It is worth noting that the PAVE project with its focus on values and attitudes, arrives at virtually the same conclusion as the previous projects adopting a systemic approach. In essence the study provides further dimensions of the quality of vocational education, as a major basis of esteem, and confirms the key role of the dual option for skilled work and higher education in improving the esteem.

## **6. Conclusions about trends and prospects for improving the standing of vocational compared to general education**

To summarise issues of the standing of vocational compared to general education across the various projects and the countries involved, the comparative approach outlined at the beginning (Section 1) is taken up again. First, the issues of 'standing' are considered in typical settings, second, criteria are applied to assess the 'standing'.

### **6.1 Issues of 'standing' in typical settings**

Starting out from the three levels of analysis – course/curriculum, education system and labour market (Figure 1) – a tentative typology of national settings is applied which cuts across these three levels. This typology picks up on investigations of education and work in an institutional context (Müller and Shavit 1998) and on studies into the transition from education to work (Durand-Drouhin 1999; Hannan 1999) which capture the relation between the education system and the labour market. The following three types of national settings for relating education and work, particularly for the 16 to 19 age group, are suggested (Figure 11):

It should be noted that the allocation of countries to these types follows a normative approach, being based on systemic characteristics rather than empirical findings. Evidence for the loose type can in fact only be found outside the European context of investigation. Furthermore, the reforms which several countries are undergoing imply processes of

Figure 11: National settings of relating education and work

Type	Setting	Country
I = close	Close relationship between education system and labour market, including a tracked system of education and a qualification structure which has direct relevance for occupational entry	Austria, Czech Republic, Denmark, Germany, Netherlands, Hungary
II = loose	Loose relationship between education system and labour market, with a flexible match between qualifications and occupations or jobs, allowing for predominant school-based, broad vocational education and subsequent on-the-job training	Australia, Canada, Japan, USA(*)
III = varied	Varied relationship between education system and labour market, with close matching confined to apprenticeship or specialised VET and loose matching related to predominant full-time education; calling for coherent education and qualification frameworks across all sections	England, Estonia, Finland, France, Greece, Norway, Portugal, Scotland, Spain, Sweden

(\*) Countries included according to external study (Durand-Drouhin 1999).

change which cannot be considered in this structure. Nevertheless, by grouping the countries according to these settings, basic relations between education systems and labour markets can be identified which help interpret national differences in the standing of vocational compared to general education. The problems related to 'standing' and the measures expected to solve them are summarised below according to the three types of setting.

**Type I: close relationship**

Based on established standards of apprenticeship training and full-time technical courses, countries seek to enhance the quality and status of vocational education by measures such as:

- a) promoting key qualifications (Austria, Germany);
- b) providing flexible links between school- and work-related provision at various levels and institutions (Denmark, Netherlands);

- c) offering dual qualifications (access to higher education) for high achievers from vocational tracks, e.g. *Berufsmatura* (Austria), pilot projects (Germany).

In cases of socioeconomic transition, where training systems used to be fully developed in a planned economy being highly specialised according to occupational structures, and now having to adapt to new demands of a market economy (Czech Republic, Hungary), the reform measures are geared to:

- a) overcoming extensive specialisation;
- b) developing key qualifications;
- c) retaining traditional pattern of work-based qualification.

The standing of vocational education in the first type of setting (established group) is underpinned by regulations which make vocational qualifications a precondition for entry to skilled employment. This provides a certain advantage over secondary general education and partly even stimulates mobility

from general to vocational tracks at upper secondary level (the Netherlands). The challenge, however, lies in the superior career prospects of graduates with both vocational and general certificates at upper secondary level and of higher education graduates.

***Type II: loose relationship***

Both the occupational specificity and stratification of secondary education are at a low level, matching open labour markets characterised by large service sectors. Countries with this setting often provide comprehensive school patterns, with programmes of broad vocational education included, while entry to employment is facilitated by on-the-job training. Generic concepts of employability, with an emphasis on key competences, dominate. At the same time, there are efforts in such countries to involve employers in education and training, through development of school-enterprise partnerships and practical assignments (Durand-Drouhin 1999; Mueller and Shavit 1998).

Despite far reaching attempts to raise the standards and occupational relevance of vocational education in these countries, ‘standing’ in terms of demand for places and prospects of employment remains problematical. A major reason for this can be found in the characteristics of this setting: since there is no distinct relationship between vocational qualifications and occupational requirements (specific skills being acquired in the workplace), the qualification obtained at school is considered by employers as indirect information on the applicant (general abilities, etc.) rather than as evidence of defined knowledge and skills. (This contrasts with the ‘close’ relationship in type I, where a standard qualification or vocational certificate is regarded by the employer as a direct indication of the competence and skills acquired.) In this respect, graduates from vocational programmes or strands tend to be at a disadvantage over those from general programmes in cases where they both compete for the same jobs.

***Type III: varied relationship***

Attempts are made in this setting to overcome problems of transition from education to work

arising from a diversity of institutions, courses and certificates in vocational education and to establish coherent structures across upper secondary education. This is done, for instance, by integrating general and vocational programmes in comprehensive schools (Norway, Sweden), by promoting horizontal flexibility between vocational and educational pathways, especially within individual study programmes (Finland), and by providing at certificate and programme levels a framework of formal recognition of vocational education (England, Estonia, France, Portugal, Spain, Scotland). Output-related qualification structures are developed particularly for modular systems (England, Scotland). In some cases the framework includes provision for equivalence between vocational and general education, e.g. equal entitlement for access to higher education (Portugal) or overarching certification (England).

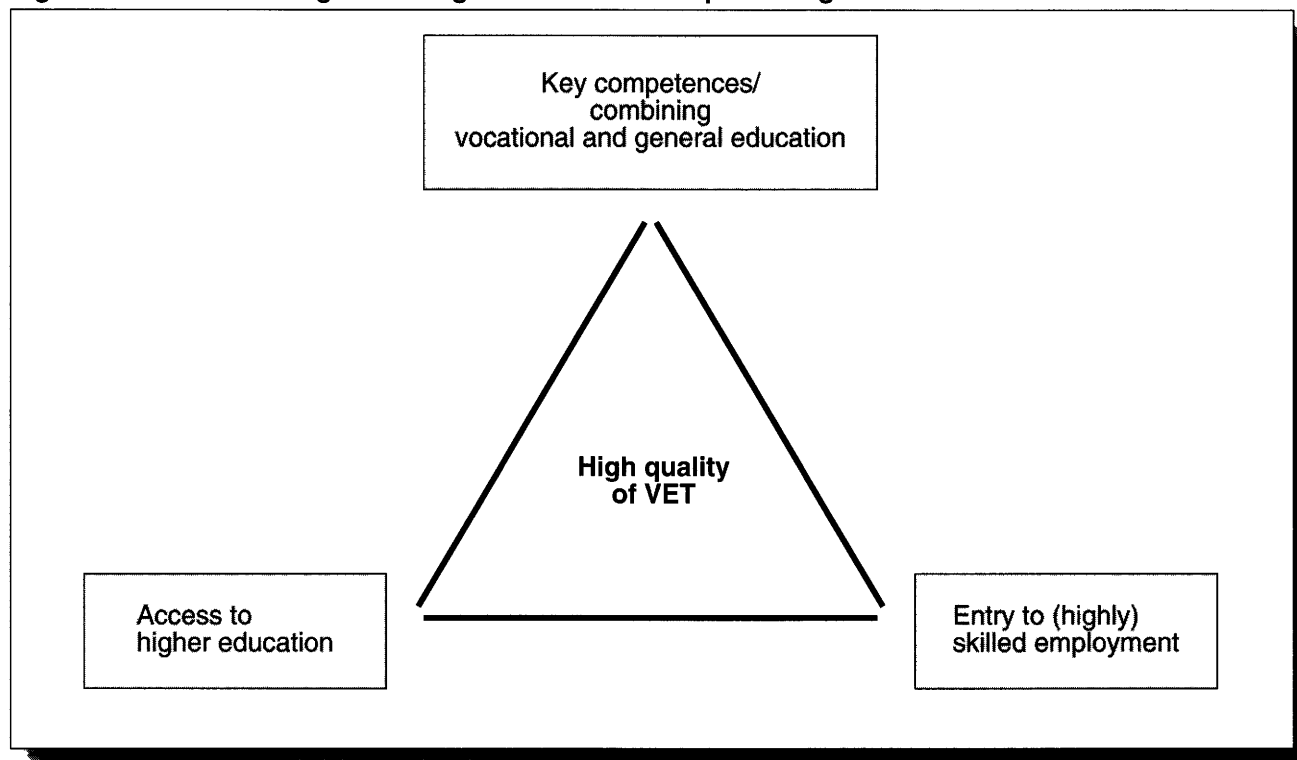
These attempts of promoting coherence only partly include the curricular level. Examples are the creation of the (former) integrated multivalent lyceum (Greece) and the implementation of general pedagogical concepts of new professional competences (Portugal).

The relationship between the education system and the labour market within this setting varies, among other factors, according to the role and involvement of enterprises, particularly in work-based training. The following situations may be identified:

- a) in a few countries (e.g. France) relations between the diverse education system and the labour market are facilitated by a large-scale commitment of enterprises in providing work-based training, partly as assignments or traineeships for students and partly as firm-specific training for new employees;
- b) moves towards building up the work-based part of vocational education have been made especially in the Nordic countries, e.g.:
  - i. by forging cooperation between schools and enterprises for providing practical assignments (Sweden),



**Figure 12: Criteria for high standing of vocational compared to general education**



- ii. by introducing an extra year of work-based training in VET programmes (Finland), or
- iii. by linking school-based and apprenticeship training, with a pattern of two years full-time education and two years apprenticeship (Norway).

However, problems in finding placements and qualified trainers in enterprises partly pose drawbacks to these reforms;

- c) most countries (England, Estonia, Greece, Portugal, Scotland, Spain) face problems related to a low profile and insufficient provision of work-based training, with inferior standards of apprenticeships and lack of opportunities of gaining practical experience within school-based programmes. Their specific conditions, actions and achievements in tackling these problems, however, vary considerably owing to the diversity of education systems and labour markets particularly in these types of setting.

### 6.2 Improvement of 'standing'

For assessing the standing of vocational compared to general education and its prospect

of improvement resulting from various measures, the initial framework of three criteria is applied (Section 1, Figure 1). In more specific terms, high 'standing' should be interpreted according to the following characteristics which relate to dual qualifications:

- a) acquisition of key competences/ integration of vocational and general education;
- b) opportunity for access to academic and vocational higher education;
- c) qualification for entry to (highly) skilled employment.

This set of characteristics represents an ideal-type model which should be regarded as an aim or direction of development, linking up with all sections of vocational education and with general education (Figure 12).

The 'standing' of vocational education in a given system may be assessed as 'high' (or equal to general education) given the following conditions:

- if high 'standing' is achieved according to all three criteria (or characteristics).

In the German dual system, for instance, only two criteria are fully met: young people typically acquire a high level of competence and gain entry to skilled employment, but they have limited access to higher education (apart from schemes in individual *Länder*);

- ❑ if high 'standing' extends over a major part of upper secondary education.

The French scheme of Bac Pro for example proves to be limited in this respect: although corresponding to all criteria of high standing, it involves only a moderate percentage of young people while the major part of vocational education remains at the bottom of the educational hierarchy;

- ❑ if high 'standing' relates to public esteem.

The Swedish vocational programmes for instance meet the three criteria, but do not seem to gain in public esteem, presumably because the traditional role of vocational education as second choice for low-achievers has not changed and the qualitative improvements in the curricula are largely shared by the general programmes as well.

Altogether, improvement of the standing of vocational compared to general education is a permanent aim which can only be approached by continuing enhancement and adaptation to new requirements.

For enriching and deepening existing knowledge on 'standing', further insight is required into the basic assumptions guiding definitions of the core contents of academic/general and vocational educational goals, in particular the following aspects:

- ❑ how changing concepts of knowledge accumulation and management may affect assessments of the ability of different forms of education to create preconditions for tertiary-level studies and qualifications;
- ❑ how modern curricula and/or teaching and learning environments may shift the balance between
  - i) absorbing fundamental knowledge structures,

- ii) acquiring knowledge with a view to applying it in practice and

- iii) linking the acquired knowledge bases to new knowledge and new contexts of application;

- ❑ how the ability to coordinate, systemically and socially, organisation-specific operational situations, (an essential aspect of modern occupational skills) may also become a model in academic/general education;

- ❑ how developing the structures and curricula of vocational education may serve as a dynamic response to the challenge of shifting occupational structures and the gradual obsolescence of practical occupational knowledge.

This contribution may stimulate further projects to consider these aspects and relate them to the current debate about vocational pedagogy and educational policy.

## Summary

This contribution is mainly based on research results provided by four major partnership projects: Post-16 Strategies/ SPES-NET coordinated by the Institute for Educational Research, University of Jyväskylä, and INTEQUAL/ DUOQUAL coordinated by the research forum WIFO, Berlin. These projects have been carried out with the financial support of the European Commission within the framework of the Leonardo da Vinci programme. The SPES-NET and DUOQUAL projects are still running and, therefore, final results are not available yet. Further, the contribution draws on the results of studies undertaken by individual partners involved in associated projects, in particular the UK-based project on unifying academic and vocational learning (ULP) and a parallel Leonardo project on improving the status and attractiveness of initial vocational education and training (PAVE).

In analysing the standing of vocational compared to general education (the 'standing') in

European countries, three levels are considered: course/ curriculum, education system and labour market. On this basis, a model of criteria is applied which relates 'standing' to the quality of VET. The three criteria are personal competence (including skills), educational mobility (for lifelong learning), and occupational mobility (at the labour market). This comparative approach serves to carry out the present investigation within and across several individual projects, providing a framework of secondary analysis.

### **Reforms focusing on post-16 education strategies to promote parity of esteem between vocational and general education**

The Post-16 Strategies project identified four reform strategies in eight upper secondary education systems for promoting parity of esteem between vocational and general education. These were vocational enhancement, mutual enrichment, links and unification. The inclusion of more countries in the SPES-NET project led to further differentiation within and between categories of reform. The original strategies were complemented with substrategies focusing on lifelong learning including the issue of access; partnerships between providers of VET and employers; teachers' and trainers' qualifications; and the knowledge base of VET.

Each country's reform programme might include elements of different strategies, and the emphasis of a country's policy could change over time. The four strategies represent a continuum between strategies based on the distinctiveness of academic and vocational education and those based on their full integration, with links and mutual enrichment as intermediate strategies between the two poles. Each of the partner countries have key system issues which the reforms are seeking to resolve.

Those systems that want to move in a more unified direction and at the same time have high degrees of student choice may also be encouraging academic drift or reflecting more basic social divisions between academic and vocational orientations because of the way in

which prevailing values and cultures impinge upon student choices. This could be countered by very strong and supportive messages coming from the labour market concerning the acquisition of certain types of vocational qualifications.

However, in the absence of this or of divisions of opinion amongst employers, the answer may be more prescription and rules of combination provided by qualifications authorities, both to protect the integrity of the vocational route and to encourage students to be more radical in the ways in which they combine studies.

All the reforms respond to, or anticipate, trends in the labour market and in the organisation of work. All respond to a perceived need for qualitative changes in the knowledge and competences which young people bring to the labour market. Changes in the content of work, in new technology, in patterns of occupational mobility and in the pace of change itself are seen to require increased adaptability, the capacity to learn new skills in the future, personal and transferable skills, and so on.

Most of the reforms seek to enhance links between VET and the labour market, and to make VET more responsive to labour-market needs. This is pursued through networking with local enterprises, through the formal representation of industry in the machinery for designing curricula and qualifications, and in some systems by allowing greater responsiveness to local needs. In most countries, therefore, we can identify an attempt to increase the influence of the labour market within the reforms.

However this is not the same as a labour-market influence *on* the reforms themselves. In most of the countries studied the main impetus to reform appears to be, not pressure from the labour market, but internal pressures arising from the need to rationalise the education system itself. This is most obvious in Austria and Germany. The reforms in Norway, Scotland and Sweden aim to simplify their systems and make them more coherent through unifying or comprehensive reforms.

The reforms in England, Finland and France pursue rationalisation through links of various kinds rather than unification. We assume that VET systems' responses to labour-market changes depend on whether and how these changes coincide with problems internal to VET itself.

### **Implications of unifying post-compulsory education – the British case**

The focus of this analysis is on attempts in these countries to reduce divisions between academic and vocational tracks and to develop a more coherent system. In addition, a related study on flows and pathways in post-compulsory education and training provides empirical evidence on the destination of students of academic and vocational tracks in England, Scotland and Wales against the background of educational attainment and social class.

The drive towards a unifying system observed in Britain may provide a framework for possible improvement in 'standing'. The preoccupation with government and regulations and the guiding role of qualifications in this system, however, appears to contribute little to this effect. Potential progress in 'standing' is closely related to a rise in the quality of educational provision at course/curriculum level, e.g. the achievement of GNVQ and the potential impact of core/key skills. At the same time, there is a need for qualitative advance in vocational education to underpin the unification strategy. Qualitative improvements of vocational education, in particular work-based training, are required as preconditions, e.g. for attracting higher-achieving students, for including work-based qualifications in a unified system and for achieving the desired effect of overarching certification.

### **Qualifications with a dual orientation towards employment and higher education**

An initiative taken in several countries is to provide the option for trainees or students to acquire qualifications combining vocational and general education to provide a dual orientation towards employment and higher

education. In the projects INTEQUAL/DUOQUAL the characteristics and practical impact of these dual qualifications have been investigated across Europe.

In analysing the curricula of dual qualifications, two clusters may be distinguished: the majority of schemes combine medium work orientation with low or medium integration of subjects; the rest of the schemes combine medium and high degrees of both work orientation and integration of subjects. Looking at recent developments, little change may be expected with regard to work orientation, but further advance is likely with regard to the integration of subjects. This trend may result in boosting the group of schemes which combine a medium degree of integration with various degrees of work orientation.

If the typical career prospects of dual qualifications are compiled, two major patterns of dual progression emerge: most of the schemes offer a choice between access to studies in the technical sector or entry into highly skilled employment/ middle-level management; a smaller group of schemes provide opportunities of either progression to studies in related subjects (with no established technical sector available) or unspecified employment. These patterns suggest that there is a significant relationship between the two options of progression. By preparing both for (highly) skilled work and work-related studies, dual qualifications provide a basis for professional careers in a lifelong learning process.

Altogether, dual qualifications potentially live up to the criteria identified for high standing of VET: providing personal competence and facilitating mobility both in the education system and the labour market. Dual qualifications improve the chances of young people for entering educational and occupational careers, thereby contributing to an upward trend of differentiation within secondary vocational education. In a context of wide-ranging problems of transition from education to work, with a large section of young people being at risk, dually qualifying pathways are in effect selective, leaving those perceived as 'low-achievers' behind. The challenge for educational policy, therefore, is to ensure that

schemes of dual qualification are part of transparent and flexible systems, being accessible from any point and linking up to other parts of education and training.

**Attitudes towards the esteem of vocational education – evidence from case studies**

The esteem of vocational education and ways of improving its attractiveness have been analysed in another parallel project (PAVE), involving case studies on England and Wales, Finland, Greece, Ireland and the Netherlands. The investigation focuses on the tension between vocational and liberal (rather than general) education, also tracing the evolution of these concepts, and sets out to explore ways of reconciling the two. The project's major message is that liberal and vocational education should be regarded as two complementary aspects of the same task: the fashioning of the human person.

Parity of esteem is considered in a social context, starting out from the observation that vocational education is in most cases regarded as having lower status than that of liberal education. The reason for this is sought in the values, attitudes and beliefs that people hold. These values may refer to the courses which students follow, the schools they attend, the types of learning, the forms of knowledge and the ways in which these are assessed. The values involved in the traditional vocational subjects can make a substantial contribution to the social and personal fulfilment of human beings. Their liberating potential therefore can be just as important as that of the traditional 'liberating' subjects. Schools themselves may be able to influence the esteem of vocational education and in some ways be ahead of the prevalent value system.

A major conclusion is that vocational education should not only prepare technicians and skilled workers but also enable young people to enhance their own human development. In particular, the aspiration to proceed to further and higher education is seen as the critical factor in deciding the status of a particular vocational course.

**Issues of 'standing' in typical settings**

Starting out from the initial levels of analysis – course/curriculum, education system and labour market – a typology of national settings is applied which cuts across these three levels. The following three types of national settings for relating education and work are distinguished:

a) *Type I: close relationship between education system and labour market, including a tracked system of education and a qualification structure which has direct relevance for occupational entry (Austria, the Czech Republic, Denmark, Germany, Hungary, the Netherlands).*

Based on established standards of apprenticeship and full-time technical courses, these countries seek to enhance the quality and status of vocational education. The standing of vocational education is underpinned by regulations which make vocational qualifications a precondition for entry to skilled employment. This provides a certain advantage over secondary general education and partly even stimulates mobility from general to vocational tracks at upper secondary level (the Netherlands). The challenge, however, lies in the superior career prospects of graduates with both vocational and general certificates at upper secondary level and of higher education graduates.

b) *Type II: Loose relationship between education system and labour market, allowing for predominant school-based, broad vocational education and subsequent on-the-job training (Australia, Canada, Japan, USA).*

Both the occupational specificity and the stratification of secondary education are at a low level, matching open labour markets characterised by large service sectors. Countries with this setting often provide comprehensive school patterns, with programmes of broad vocational education included, while entry to employment is facilitated by on-the-job training. Generic concepts of employability, with an emphasis on key competences, are dominating.

At the same time, there are efforts in such countries to involve employers in education and training, through development of school-enterprise partnerships and practical assignments.

- c) *Type III: Varied relationship between education system and labour market, calling for coherent education and qualification frameworks (England, Estonia, Finland, France, Greece, Norway, Portugal, Scotland, Spain, Sweden).*

Attempts are made in this setting to overcome problems of transition from education to work arising from a diversity of institutions, courses and certificates in vocational education and to establish coherent structures across upper secondary education. A major problem addressed by several of these countries is the insufficient provision of work-based training, with inferior standards of apprenticeships and lack of opportunities of gaining practical experience within school-based programmes. An essential condition for solving this problem lies in promoting the cooperation with enterprises.

### **Improvement of 'standing'**

For assessing the standing of vocational compared to general education and its prospect of improvement resulting from various measures, the initial model of three criteria is ap-

plied. In more specific terms, high 'standing' should be interpreted according to the following characteristics (which essentially relate to dual qualifications):

- a) acquisition of key competences/ combining vocational and general education;
- b) opportunity for access to academic and vocational higher education;
- c) qualification for entry to (highly) skilled employment.

This set of characteristics represents an ideal-type model based on high-quality vocational education and linking up with general education. The 'standing' of vocational education in a given system may be assessed as 'high' (or equal to general education) given the following conditions:

- a) if high 'standing' is achieved according to all three criteria (or characteristics);
- b) if high 'standing' extends over a major part of upper secondary education;
- c) if high 'standing' relates to public esteem.

Altogether, improvement of the standing of vocational compared to general education is a permanent aim which can only be approached by continuing enhancement and adaptation to new requirements.

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Coordinator: Johanna Lasonen, Institute for Educational Research, University of Jyväskylä.

Partnership: A – Institute for Industrial Sciences (IWI) and Institute for Vocational and Adult Education Research (IBE); D – Institute for Technology and Education (ITB); F – International Centre of Pedagogical Studies (CIEP) and National Institute for Pedagogical Research (INRP); FIN – Institute for Educational Research (IER); N – Agder College; S – National Agency for Education; England and Scotland, UK – Post-16 Education Centre, Centre for Educational Sociology (CES) and Scottish Qualification Authority (SQA).

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Title: Sharpening the post-16 education strategies by horizontal and vertical networking.

Coordinator: Marja-Leena Stenström, Institute for Educational Research, University of Jyväskylä.

Partners:

1. Institute for Industrial Sciences, Vienna University of Economics, Austria (A)
2. BIEF, Multidisciplinary Research Bureau, Louvain-la-Neuve, Belgium (B)
3. Danish Institute for Educational Training of Vocational Teachers, Denmark (DK)
4. Post-16 Education Centre, University of London, England (UK)
5. National Examination and Qualification Centre, Tallinn, Estonia (EE)
6. National Board of Education, Helsinki, Finland, (FIN)
7. National Institute for Pedagogical Research, Paris, France (F)
8. Institute for Technology and Education, University of Bremen, Germany (D)
9. Institute for Work and Technology, University of Flensburg, Germany (D)
10. Laboratory of Sociology and Vocational Education, University of Patras, Greece
11. Technical University of Budapest, Hungary (HU)
12. Agder College, Kristiansand, Norway (N)
13. Faculty of Education, University of Valencia, Spain (E)
14. Clydebank College, Glasgow, Scotland (UK)
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Coordinator: Sabine Manning, Research Forum Education and Society (WIFO), Berlin.

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Partners (I=INTEQUAL; D=DUOQUAL):

1. Berufsbildungsinstitut Arbeit und Technik (BIAT), Universität Flensburg, Germany (D);
2. Centre d'Etudes et de Recherches sur les Qualifications (CEREQ), Marseille, France (I);
3. Cooperativa Marcella, Lurago Marinone, Italy (D);
4. Department of Educational Research, Roskilde University, Roskilde, Denmark (D);
5. Faculdade de Ciências e Tecnologia – Ciências da Educação, Universidade Nova de Lisboa, Monte de Caparica, Portugal (D);
6. HIAK Akershus College, Bygdoy, Norway (I/D);
7. Institut für Bildungsforschung der Wirtschaft (ibw), Wien, Austria (I/D);
8. Institut Technik und Bildung (ITB), Universität Bremen, Germany (I/D);
9. Institute for Educational Research (IER), University of Jyväskylä, Finland (D);
10. Institute for Employment Research (IER), University of Warwick, England (I/D);
11. National Institute for Pedagogical Research (INRP), Paris, France (D);
12. Pedagogical Institute (P.I.), Ministry of Education, Athens, Greece (D);
13. Research Institute of Technical and Vocational Education (VÚO\_), Prague, Czech Republic (D);
14. SCO Kohnstamm Instituut, Universiteit van Amsterdam, The Netherlands (I/D);
15. Staatsinstitut für Schulpädagogik und Bildungsforschung (ISB), München, Germany (I/D);
16. Stockholm Institute of Education, Stockholm, Sweden (I/D);
17. University of Surrey, Surrey, England (I).

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Partners: Cathy Howieson and David Raffe, CSE, University of Edinburgh; Ken Spours and Michael Young, Post-16 Education Centre, Institute of Education, University of London.

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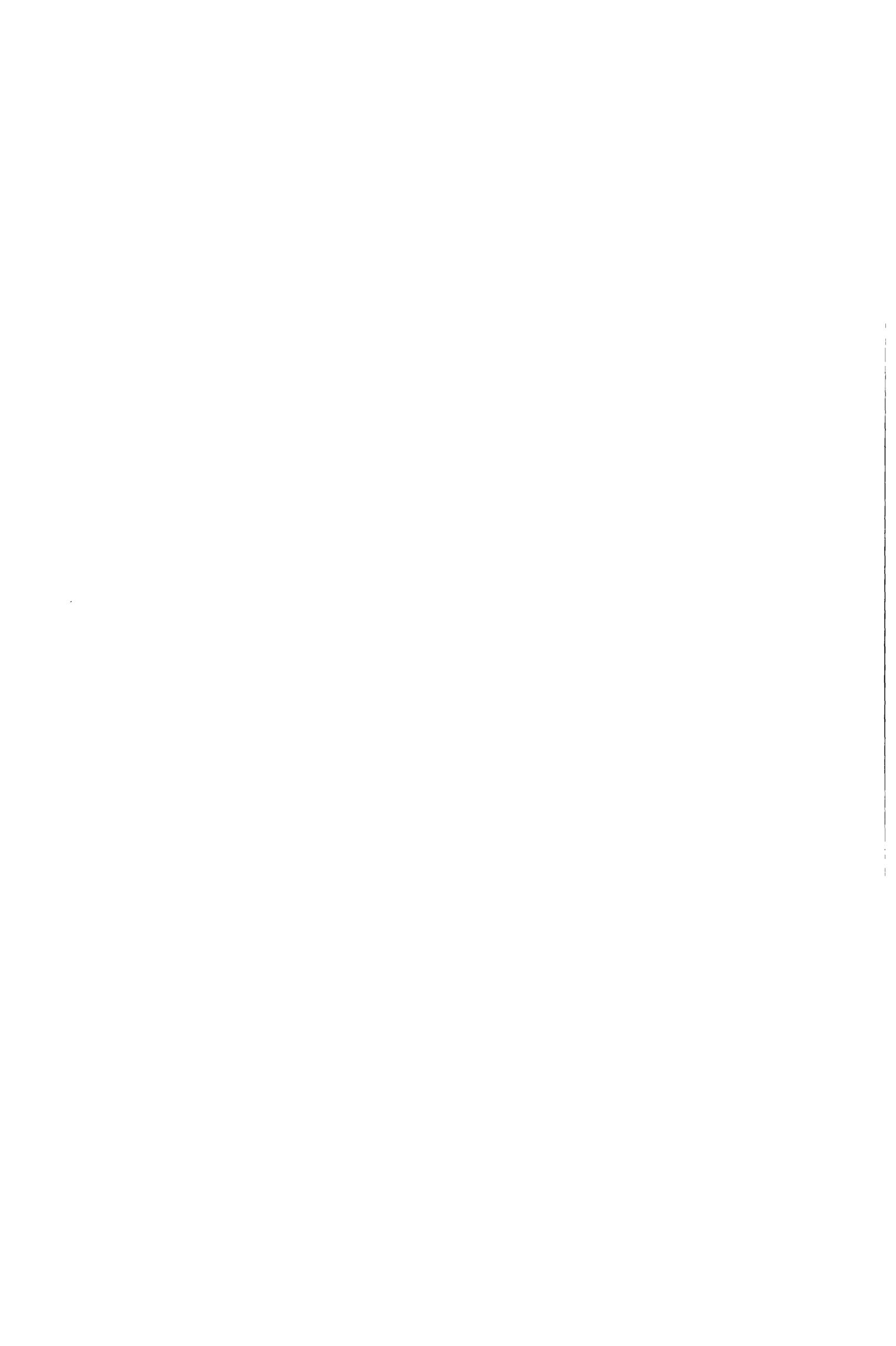
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## Abbreviations

A	advanced level (GCE programmes)	CES	Centre for Educational Sociology
AHS	<i>Allgemeinbildende Höhere Schule</i>	DUT	<i>Diplome Universitaire de Technologie</i>
AS	advanced supplementary level (GCE programmes)	EA	economic/administrative mbo courses
Bac Pro	<i>baccalauréat professionnel</i>	EU	European Union
BEP	<i>brevet d'études professionnelles</i>	EUROPROF	(acronym of Leonardo project)
BHS	<i>Berufsbildende Höhere Schule</i>	FEDA	Further Education Development Agency
BMBF	<i>Bundesministerium für Bildung, Wissenschaft, Forschung und Technologie</i>	FRG	Federal Republic of Germany
BMS	<i>Berufsbildende Mittlere Schule</i>	G	Germany
BOL4	Vocational training pathway at level 4 (from 1997)	GCE ('A' level)	General Certificate of Education (advanced level)
BTEC	Business and Technical Education Council	GCSE (A*-C)	General Certificate of Secondary Education (grades A* to C)
BTn	<i>baccalauréat technologique</i>	GNVQ	General National Vocational Qualification
BTS	<i>brevet de technicien supérieur</i>	GSVQ	General Scottish Vocational Qualification
CAP	<i>certificat d'aptitude professionnelle</i>	HAVO	senior general secondary education
CBS	National Bureau of Statistics	HBO	higher vocational education
Cedefop	European Centre for the Development of Vocational Training	HE	higher education
CEREQ	<i>Centre d'études et de recherches sur les qualifications</i>	HIAK	<i>Høgskolen I Akershus</i>
CSYS	Certificates of Sixth Year Studies	ibw	<i>Institut für Bildungsforschung der Wirtschaft</i>
		IHK	<i>Industrie- und Handelskammer</i>
		ILWT	integrated learning and working tasks

IML	Integrated Multivalent Lyceum	ROA	Research Centre for Education and the Labour Market
INTEQUAL	'integrated qualifications'... (acronym of Leonardo project)	RUBS	school leavers survey
ISB	<i>Staatsinstitut für Schulpädagogik und Bildungsforschung</i>	S	Social services and welfare MBO courses
ITB	<i>Institut Technik und Bildung</i>	SCO-KI	SCO-Kohnstamm Institute
IUT	<i>institut universitaire de technologie</i>	SEAC	School Examinations and Assessment Council
KMK	<i>Kultusministerkonferenz</i>	STS	<i>sections de techniciens supérieurs</i>
Leonardo	(acronym of EU programme)	T	Technical MBO courses
LO	Norwegian Federation of Trade Unions	UCAS	Universities and Colleges Admission Service
MAVO	junior general secondary education	UK	United Kingdom
MBO	senior secondary vocational full-time education	VBO	pre-vocational education
NC	National Certificate	VET	vocational education and training
NCU	National Coordinating Unit	VWO / WO	pre-university education / university education
NCVQ	National Council for Vocational Qualifications	WIFI	<i>Wirtschaftsförderinstitut</i>
NHO	Confederation of Norwegian Business and Industry	WIFO	<i>Wissenschaftsforum Bildung und Gesellschaft e.V.</i>
NVQ	National Vocational Qualification		
ÖGY	trial programme		
PETRA	(acronym of EU programme)		



# Certification and legibility of competence

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## **Abstract**

*This report looks at various aspects of the role that certification systems, understood in the broad sense, can play in the very different ways in which competences are recognised in enterprise or in the labour market. There is undoubted interest in these certification systems in the European Union. Faced with the 'maze' of education systems and the fact that the certificates that they award are felt to be unable to adapt to new qualification needs, the problem of identifying competences is raising increasingly urgent questions as regards certification systems. Being able to identify the learning acquired from occupational experience and providing the best possible match between individuals and production functions, while ensuring that they are still adaptable, and therefore more employable, seem to be the current expectations. The answers that the various systems are providing in this respect are examined below from both an institutional and a methodological point of view:*

- from an institutional point of view, the report looks at the role that the state has played in the past in constructing systems responsible for education and training and certification, and goes on to examine contemporary developments that are tending to make certification more independent from education and training with the result that skill identification is tending to make these skills independent from formal learning routes;*
- this therefore raises new methodological problems. First, defining competences through performance standards raises the question of how and to what extent actual work can be taken into account. Second, the construction of assessment standards, analysed here using the accreditation of prior learning as an example, must include thinking about the nature of the competences that are being validated and the legitimacy of validation bodies.*

*Competences are certified and recognised in different ways, depending on national traditions, but the procedures used in all cases have to address the same kind of problem: they must be precise enough to enable efficient adjustment and socially legitimate enough to pave the way for their general validity.*

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## 1. Introduction

### 1.1 Why this topic?

The theme of the certification of occupational abilities has occupied its own space in discussions of vocational training since the beginning of the 1990s. Major events in this area have included the OECD symposium on this issue in 1992 in Lisbon, the various works that Cedefop has published on national situations and the White Paper on the learning society – and in particular those parts of the White Paper that set out proposals for new forms of accreditation. Before the 1990s, little attention seems to have been paid to this issue: certification was seen as a natural and logical stage of a process of education that it both completed and sanctioned.

Two questions helped to call this sequence into question:

- a) Was too much emphasis being placed on the labelling of academic knowledge that lacked an immediately evident link with the actual knowledge used in the practice of an occupation?
- b) In what ways could other forms of acquisition of occupational knowledge, reflecting the mutual expectations of jobseekers and job providers, but not forming part of institutional education and training systems, be recognised?

For these reasons, we felt that it would be interesting to propose a report entitled 'Certification and legibility of competence' to Cedefop. Part 1 looks at the issue of the increasing autonomy of certification systems and the different outcomes of this increasing autonomy in different countries, in particular as regards the reorganisation of the links between training and certification. This increasing autonomy has highlighted the question of skill identification and the need to rethink performance and assessment standards, an issue that is examined in Part 2:

- the link that occupational analysis and definition of performance standards has

with education and training is examined using three types of reference: an overall occupational target, jobs described in varying degrees of detail and the occupational skills attached to these jobs;

- assessment issues are analysed from the point of view of the ways in which informal experience is validated, focusing on the construction of assessment criteria, their links with existing systems, the ways in which they are put into practice and on assessors themselves.

The current systems in Germany, Belgium, Spain, France and the United Kingdom, which show interesting differences in this field, provided a basis for our work. The documentation available on this issue varied from country to country, but there again our objective was not to conduct a comparative study. All these countries have a range of certification systems and any attempt to characterise them by their dominant system – diplomas in France, dual certification in Germany, NVQs in the United Kingdom – was problematic. This would have run the risk of presenting each country by its most firmly rooted characteristics and of disregarding various kinds of innovation. We therefore chose to approach the issue in a different way and to consider that a number of forms of certification, whose proximity has not been systematically shaped by national traditions, can be found throughout Europe.

### 1.2 Terminology

'Certification and legibility of competence': there has been a great deal of research into some of these notions that could be developed in a whole range of ways. The diversity and in some cases the contradictory nature of the definitions proposed, their proximity to other notions – such as recognition, validation, qualification, experience, etc. – which could at least partially explain them, bear this out. It therefore seemed of little use to propose yet another definition for terms that have already received a great deal of attention. Nevertheless, the fact that they are so difficult to place on a formal footing and their protoplasmic ability to find their way into issues involving

the links between training and employment, and to reshape these issues, bear witness to the current turmoil surrounding this field. These terms are therefore used in a broad sense, since the phenomena that they reflect are changing, subtle and part and parcel of wider-ranging debates. Some terminological precisions are needed, however, to explain some of the ways in which they are used in the following report.

Certification is used to mean the formal and official recognition of a person's occupational abilities. It seemed preferable not to determine the extent of this formal and official recognition too far, and merely to contrast it with domestic forms of recognition based solely on the agreement of particular individuals and to note that it provides a more global framework for the latter. Certification is therefore seen as a process and an outcome: a process that involves implementing standards and defining the criteria by which these standards are assessed, and an outcome resulting from these assessment procedures, whether or not they lead to the award of a qualification.

The use of the term 'credential' also needs further explanation: the concrete form that certification takes is expressed by a variety of terms – certificates, diplomas, credits, etc. A detailed study would be needed to understand and explain this variety. In the meantime, we opted in this report to use the general term 'credential' for these different expressions, and to use their particular names when circumstances so required. Moreover, classification, as defined in collective agreements for instance, is not perceived as certification as it takes account more of the qualities mobilised by a particular job. The difference between certification and classification is nevertheless tenuous and questionable in some cases and deserves a detailed study of its own, as its development raises problems. Leaving it out may well have been questionable, but including it would have been unrealistic.

The term 'skill' was unavoidable because it has so many different meanings and is used in such different ways in the worlds of education and training and work, representing an entity to which everyone gives meanings that

are close enough to stimulate a debate and different enough to keep the debate going, in the same way that Binet defined intelligence as what was measured by his test, a skill here is what is identified by certification.

The term 'legibility' is frequently used by decision-makers and consultants, but has not been taken up – as far as we are aware – by academic language. It is part and parcel of those new terms – 'visibility' and 'transparency' are other examples – that are being used to suggest a different form of intelligibility. The growing extent to which they are used should be linked to the introduction of new forms of social rationale reflected, among other things, by the growth of standardisation practices in the production of good and services...but that would be another story.

## **2. The gradual emergence of certification systems**

Judging by historical works, specific mention of certification seems to have been relatively late and piecemeal. Is this because certification has gained importance only in recent years, or, even though it was already playing a role, because it was long seen as a dependent element of the vocational training system? The importance that modern societies attach to assessment makes it impossible to reject this second hypothesis. The few references to certification in historical works show, moreover, a trend towards gradual appropriation by the state, accompanying the state's growing involvement in the education of individuals, starting with higher-level qualifications and moving on to lower-level qualifications. This trend did not, however, follow a harmonious course and encountered opposition from some protagonists, in particular as regards the lower occupational levels. In addition, referring merely to the state is not enough as the state could – and can – intervene through bodies linked to the production system or the education system, depending on policy options linked to one or other sphere, and thereby give certification different objectives. In these circumstances, therefore, it seems logical that occupational certification seems to be rela-

tively recent as a specific issue and that despite a common historic dynamic, it takes different forms, even within the same country, and is not moving in the direction of transnational harmonisation.

It would therefore seem that certification systems are becoming more independent and are no longer being considered as the completion and outcome of an educational process that Bertrand (1997), taking up Gordon (1993), breaks down into the following stages:

- ❑ definition of educational objectives
- ❑ design of education
- ❑ practice of education
- ❑ assessment of education
- ❑ certification
- ❑ recognition of certification on the labour market (Bertrand, 1997, p.5).

Four developments are now accentuating this tendency towards autonomy:

1. comprehension of the specific nature of a 'credential effect';
2. labour market changes;
3. new qualification needs;
4. different forms of knowledge and of ways of acquiring this knowledge.

Two issues are also examined since they reflect very topical questions:

- a) the criticism of credentials, in the broadest sense of the term;
- b) the construction of a single national reference.

## 2.1 History

The history of certification remains to be written, as does that of its impact on vocational training. The academic literature has covered

the history of education and higher education and, in most cases, deals with certification only as an allied variable. To our knowledge, the only work that has set out to retrace the history of technical and vocational education qualifications is that of Guy Bruzy (1998), concerning France. An outline comparative analysis has also been undertaken as part of a European 'Eurocertification' project (Céreq, 1998). Patricia Broadfoot (1996) has conducted a comparative historical study of assessment in French and British education which clearly highlights the role of certification.

Assessment processes have much to do with the construction and award of certification. Assessment is part of all areas of life: 'Assessment is a central feature of social life. Passing judgement on people, on things, on ideas, on values is part of the process of making sense of reality and where we stand in any given situation' (Broadfoot, 1996, p.3). This assessment has been part and parcel of educational processes throughout their history. Traditional learning was a long sequence of assessments that culminated in the production of a 'masterpiece' that provided free but necessary proof. The beginnings of certification can be traced back to the transition from assessment placed to some extent on an official footing to specified and formal assessment. While we tend to see certification only as the completion of an educational process, history shows that the reverse is more often true. Having specified what result was to be obtained, what should be taught and how its acquisition could be verified was then deduced therefrom.

The state tried, in this way, to impose its authority on social groups that had up to then functioned in a broadly independent way and that did not therefore necessarily feel the need to formulate certification strategies: they possessed the source of knowledge, had passed it on and recognised its acquisition by awarding a title. History also shows, however, that social groups have used certification to affirm their social and economic identity, often with state support.

In general, although with differences from one country to another, the trend has therefore

been for the state gradually to take responsibility for vocational training (for young people) and its certification in order to provide it with a national dimension and a national validity. The process by which it has done so started from the higher and moved down to the lower qualification levels. Over time, and more rapidly after the second world war in most countries, the norm assigned to certification and, therefore, to training was initially of a theoretical and then of a general type. It was the productive citizen who needed to be trained, thereby creating a distance with respect to purely practical norms connected with immediate employment.

### **2.1.1 A top-down construction**

European societies had placed procedures for the identification of their elites on a formal footing at the latest by the beginning of the nineteenth century. This process involved education, recognised in some cases by the award of 'certificates', taught, depending on the country, in an essentially general way (Britain, Spain) or in a general and technical (France, Belgium, Germany) way (Brucy, 1998; Dore, 1997). Paradoxically, at a time when the industrial revolution was in full swing, the higher levels tended to remain academic and generalist – with a few notable exceptions: 'In France, there is the long standing tradition of the grandes écoles – Ponts et Chaussées (1715), Ecole Polytechnique (1794), Ecole Centrale (1828-29) (...) In Germany the Technische Hochschulen (now Universitäten) enjoy equal status, with the prestigious D. Ing. of Engineering being the special preserve of the T.H.' (Sanderson, 1993, p.55). The state's aim in setting up these schools was, among other things, to meet its need for military officers: 'This was so with the Ecole Polytechnique which has always produced generals as well as businessmen and politicians. Likewise at Charlottenburg the Prussian army supported science which could be used for military purposes' (Sanderson, 1993, p.55). In Belgium, it was in the second half of the nineteenth century that 'industrial schools and the first university chairs were set up to train managers for industry. The latter had close links with modern industry: metallurgy, chemistry, mineralogy, geo-

logy...(and) were largely supported by the state, especially during the depression (1870-1896)' (Alaluf and Vanheerswynghel, 1998, p.10). The education of the technical elite differed, however, in Britain: 'Britain's industrial strength lay in its amateurs and self-made men: the craftsman-inventor, the mill-owner, the iron-master...In this rise of British industry the British universities played no part; indeed formal education of any sort was a negligible factor in its success' (Ashby, 1961, quoted by Dore, 1997, p.14). On top of this strong ideology of the 'self-made man', the academic training of industrial managers came up, despite some attempts to change the situation, against the humanist university tradition. The Victorian state's attempts to impose new practices failed: 'the mechanics' institute movement from the 1820s was a failure. The civic universities were a noble expression of Victorian civic pride. Yet in their early stages Manchester and Durham were but deferential Northern reflections of Oxford' (Sanderson, 1993, p.55).

The ongoing vitality of the traditional corporations and guilds placed the main obstacle in the way of state intervention. This was particularly true for engineers. Engineering was taught at the universities of Glasgow and London from 1840. The profession did not, however, recognise the certification of these studies: 'it was to be several decades before the possession of a university degree helped by gaining formal exemption from the normal training requirements of the engineering institutions' (Dore, 1997, p.19). Training run by the profession had been established, however, in 1897 and it was not until 1970 that a higher education (university or technology college) qualification became an entry requirement for the engineering profession. Spain followed a similar route since reforms of its university tradition, strongly impregnated with Catholic and absolutist values, began only in 1845 on which date the state assumed complete control over universities. It did not, however, introduce technical subjects into courses: 'the main faculties were those that educated lawyers, doctors and teachers of the scientific and literary disciplines of secondary education. This policy continued up to the reforms of the 1980s' (Hernandez Diaz, 1998, p.38), with the

exception of the Polytechnic Universities set up in the wake of the 1970 reform (idem, p.54).

Certification and vocational training for middle-grade staff (middle managers, supervisors) were introduced in a different way. They were introduced into systems at a later stage. They led to many general outcries against state intervention: 'technical schools were not set up (...) in osmosis with but in opposition to the production world. They were structured according to logics other than those current in the social fields in which the knowledge that they proposed to impart was used (...) The establishment of technical schools to some extent removed this twofold power – training and certification – from the practitioners, so that it became the almost exclusive property of training professionals (...) The certificates that these schools award crystallise this ambivalence' (Brucy, 1998, p.57). They impose a different way of building on knowledge and involve an external assessment that does away with traditional methods without necessarily providing advantages, at least for the profession itself. In France, 'technical education of an elementary and middle level was sketched out during the eighteenth century. It was the Order of 25 February 1803 that genuinely organised the first school of arts and crafts in Compiègne' (Brucy, 1998, p.25). The certificates 'for elite workers' (idem, p.33) date, however, only from 1894. Their regulation set out the practical and theoretical organisation of the teaching of the *Écoles pratiques de commerce et d'industrie* (EPCI – practical trade and industry schools). The 'certificates for future foremen' (Brucy, 1998, p.45) came even later: 'the introduction of an official examination for the award of a certificate to students of the ENP (*Écoles Nationales Professionnelles* – National Vocational Schools) came relatively late (...) it was not until 1904 that an Order set out the list of examinations and their marking methods for all such schools' (Brucy, 1998, p.48-49). In Spain, and in as controversial a way, 'organised and structured vocational education unconnected with the education system and under the supervision of the Ministry of Labour' (Roure, 1998, p.26) was introduced from 1925: the technical institutes. These offered training for 'officers' and

'skilled' workers which was certified. In Britain, 'only towards the end of the (nineteenth) century did technical institutes begin on any substantial scale to provide some skilled workmen with a general basic understanding of mechanical and metallurgical principles which helped them to absorb new techniques' (Dore, 1997, p.18). It was not the state, but rather those structures representing the interests of what remained of the guilds and corporations, that imposed these institutes as a solution. This solution did not involve certification.

For the rest of the working population (manual workers) and in all the countries, the guilds and the commercial sector ran apprenticeship schemes in which it was enough to 'do one's time' without the outcome being certified. Attempts by a public power to interfere in vocational apprenticeship took place at relatively different times in the five countries being examined here – the latest being Britain. It was also training and certification for manual workers that generated the most controversy and disputes. The dual aim of state intervention in this field is also the most visible at this level: to break the monopoly of the old corporations over the vocational training of apprentices by making them subject to national rules administered by the state and to achieve the political objectives, stated in all the countries, of education for the masses. The reciprocal impact of training and certification is difficult to assess in this particular field. The introduction of the CAP (*Certificat d'Aptitude Professionnelle* – Certificate of Vocational Ability) in France in 1919 was an obvious attempt to 'humanise' the training of young apprentices by broadening what they learnt to include subjects that were not occupational. Its detractors criticised the differences in the 'skills considered necessary to practice a trade (...) in different regions (and) the very unreliable assessments of examination panels' (Brucy, 1998, p.63), ruling out the possibility of a single, national certification. A further fear was that assessment methods would call into question the quality of the training given by the employer: 'an employer whose apprentices suffered too many failures would be showing the world that he was unable to train workers' (idem). 'At this level,

the certificate fulfilled a dual function: it proved and it graded (...) supporters of certification were in one or other camp' (idem). Thus, 'traditional economic sectors and workers' trade unions were from the outset hostile to the development of technical education and this continued right up to the Second World War' (Céreq, 1998, p.39). This highlights the power struggles and ideological disputes about the aim of education and training and certification. Manual apprenticeship schools were nevertheless set up in 1880/81 and were assimilated with the public complementary primary education schools (under the responsibility of the Minister of Trade) which offered vocational education courses (Brucy, 1998) and were responsible for 'popularising' the CAP. Prior to the post-war period, however, making it compulsory for apprentices (but not as yet employers) to attend vocational courses as well did not have a great deal of impact. In Spain, the technical institutes set up in 1925 also certified apprentices but, until the mid-1970s, most manual workers continued to receive training that was not certified (Roure, 1998). In Belgium, state technical and vocational education was not organised until the end of the First World War. At the same time (1921), the main political parties launched their *Ecoles Ouvrières Supérieures* (Higher Workers' Schools) (the socialist Belgian Workers' Party) and the Central School for Christian Workers at Héverlee, which later became the Cardijn Institute (Alaluf and Vanheerswynghels, 1998), one of whose tasks was to train workers, partly for union functions. 'By the turn of the (nineteenth) century Germany already had an established system of vocational schooling to complement the training undergone at the workplace' (Schmidt, 1998, p.21), which externalised theoretical education, whereas well before that date the 'guilds (had) laid down detailed rules to govern apprenticeship, including some concerning the training to be provided' (idem, p.21). There had therefore been some schooling of apprentices. In Britain, 'it was not until towards the end of the nineteenth century, for example with the passing of a Technical Education Act in 1889, that organisations like the City and Guilds of London Institute were able to make arrangements for technical education and its certification, working with local coun-

cils' (Young and Leney, 1998, p.52). Certification was left to the initiative of a whole series of Examining Boards for which it was a business, but which attempted to develop alongside the professions.

As most of the examples illustrating the preceding developments show, certification is far from being no more than the consecration of a training route or the process by which a skill acquired elsewhere is recognised. Certification is one of the tools that our governments have used to regulate their education and training systems. The recent example of the national qualifications system in the United Kingdom offers further proof of this: the development of National Vocational Qualifications (NVQs) has been grafted onto the existing systems that it was attempting to call into question, like the stranglehold of teachers, and educators in general, over certification and training. For many, the new qualifications have remained empty shells – i.e. with no candidates – but their mere existence and the vigour with which the government has tried to push them forward have led to major changes in the structure and content of the supply of training in the United Kingdom. 'So it became an article of faith that awarding enough vocational certificates would somehow transform the nature of the UK economy' (Wolf, 1997, p.39). This has nevertheless brought about a far-reaching reform of the British system and made the state responsible in a field from which it had up till then been largely absent. This intervention had become necessary, as Hilary Steedman (1996, p.16) stresses: 'The fact that low-level qualifications go together with mediocre quality helps to explain why enterprises settle for standardised mass production, encouraged by the low-level qualifications of their labour force, and why there is little chance of better qualifications equating with high quality unless training infrastructure is modified at a national level'. While the reform was keen at the outset to keep its distance from theoretical and general education, recent developments seem to commit the system to the same path as that taken by other countries at different times in their past. The developments illustrated above also highlight the permanent tension between two conceptions of cer-

tification and vocational training: specialised knowledge geared towards employment and immediate activity or broader knowledge with a better theoretical basis and including aspects of general culture. This tension is also to be found in subsequent developments within, among others, continuing training.

### ***2.1.2 Plural state, enterprises and national reference frameworks***

In most of the countries in which it has been most heavily involved, the state – as well as the other players who have tried to extend the academic or theoretical and classroom basis of vocational training (and to make it compulsory) – have encountered resistance. For the state, this resistance has not just been external but internal as well. In most cases, the conflict has been between ministries working with the production system (trade, industry, employment, labour) and ministries involved in ‘mass’ education (public education, education). In general, the measures introduced have tried to some extent to break the traditional supremacy of enterprises over the construction and recognition of qualifications, with the result that enterprises have been unable spontaneously to support reforms. In a relatively paradoxical way, however, bearing in mind their different histories, the five national systems have looked for and managed to establish, at different times, a common reference framework for national certification placed under a single authority.

In France, in the nineteenth and at the beginning of the twentieth century, diplomas were created under the authority of the powerful Technical Education Division of the Ministry of Trade (which had several names during that period). They were administered, however, especially the CAP, during the initial years of its launch, by the Departments. The stated objective was to bring certification and training as close as possible to the needs of local employers. From 1880 onwards, teachers were heavily involved in the construction of these certifications, although they were for a long time in a minority on examination panels. Little by little, reforms changed the panorama of national diplomas, strengthening the Jacobin management of vocational certifica-

tion, but also the numbers of teachers involved. The standard was single and national. Under laws passed in 1942/3 only state institutions (those of the Ministry of Trade) were entitled to award national diplomas. As these various developments took place, responsibility was increasingly passed to the state with the Ministry of Education (or its equivalent at that time) taking up this responsibility rather than the Ministry of Trade and Industry. The Fouchet reform of 1963 gave the Ministry of Education responsibility for vocational and general education (Brucy, 1998). This is still the situation today. In Germany, the introduction of free trade at the beginning of the nineteenth century, which marked the end of the supremacy of the guilds, was the turning point in the system’s development. Thereafter, various commercial codes sought to regulate the conditions under which apprenticeship was given. The ‘1897 Trade Regulation Code granted autonomy to the chambers of crafts in matters relating to apprenticeship. In 1925, the first formal regulatory instruments were passed on vocational training in the industrial sector. From the 1930s at the latest, these instruments have contained descriptions of occupational profiles, rules for the conduct of examinations and directives on the award of final certificates’ (Schmidt, 1998, p.21). Since 1964, the dual system has been the basic reference for the certification of vocational training. Its certification and training standards are laid down by trade at national level. The similar timings of these French and German developments are interesting to note, as are those of Spain and Belgium. In Spain, the 1970 General Education Law (LGE) integrated vocational training into the education system (Roure, 1998), with a single certification that was overhauled in 1994 to become the ‘Títulos profesionales’. Rationalisation also took place in Belgium (Wallonia) and it was by 1970 at the latest that all general and vocational education, apart from that for small enterprises, was placed under the authority of the Ministry of Education with a single certification. Similar processes came much later in Britain. A national curriculum for compulsory education and a new qualification structure, the National Vocational Qualifications, were introduced towards the end of the 1980s and the

beginning of the 1990s. The system was unified in 1997 with the creation of the Qualifications and Curriculum Authority (QCA), placed under the authority of a single ministry in charge of both education and employment. Although processes similar to those of the other countries started much later, Britain has taken its institutional and organisational changes much further.

Paradoxically, at the same time, in some of the countries where centralisation had been achieved much earlier, certification systems are now diversifying. The compromises of the past, resulting from power struggles and negotiations, are being shaken up. In most cases this has been caused by the tension that underpins the various conceptions of certification: this tension necessarily brings up the notion of types of certification said to be closer to immediate occupational activity. This can be seen in France and Spain where the state itself is playing a part in this diversification by introducing particular kinds of certification for adult jobseekers or employees: Ministry of Labour qualifications in France, *Certificados de Profesionalidad* in Spain. Based largely on the principles used to construct the British NVQs, these certifications use other methods of assessment (see below). Pressures for new negotiations are therefore increasing.

Analysts are still needed, however, for the recent history of certification. Other developments also need to be studied more closely. At the beginning of the 1970s, in Germany, the largest national lifelong learning association (the *Volkshochschulverband*) launched a whole programme to design certification for the training that it offered (Tiegens et al, 1974). Apart from modern language certificates, however, this programme was not followed up.

In another connection, enterprises, or rather industries, are trying to formalise qualifications that they are manifestly prepared to certify. In France, for instance, the industries are constructing their own certificates of vocational qualification (CQPs) and using them to certify their employees' continuing training. In Germany, at the initiative of employ-

ers, post-Abitur (the upper secondary certificate, leading to higher education) certified training schemes started to appear for young people at the beginning of the 1970s. 'In addition to the continuing establishment of vocational schools, other forms of dual training course are currently being developed in the higher education sector in Germany. They lie somewhere between traditional training in the dual system and study at a (specialised) higher education institution' (Krekel et al, 1997, p.281). The existence of these 'intermediate' qualifications, which are not in fact intermediate, is undoubtedly calling into question the architecture of certification and the award of jobs in enterprise.

Some of the past ways in which our present systems have developed are being echoed by current concerns about the management of our systems. They may help us to define and possibly to resolve current problems in different ways.

## 2.2 Recent trends

The increasing autonomy of the certification system has been bolstered by relatively recent dynamics that have given the 'credential' an increasingly important intrinsic quality with respect to a labour market marked by a growing mobility and that point to the need to diversify the ways in which this credential can be obtained, thereby helping to detach it from the training system.

### 2.2.1 What is a 'credential effect'?

The work of economists makes it possible to pinpoint a credential market, irrespective of the training conditions in which these credentials have been acquired. Various surveys of the integration and mobilisation of the labour force confirm that those who possess a credential have an advantage over those who do not – even when their specialism, length of training and occupational experience are the same.

#### 2.2.1.1 A credential market

Economists have highlighted the existence of a 'credential effect'. The signal theory (Spence) and the filter theory (Arrow, 1973)



provide a basis for this. While works based on the theories of human capital evaluated the return from the training investment on the basis of the number of years that people had devoted to this training, these two authors showed that the possession of a credential had a specific effect, acting as a signal on the labour market and for society in general. There is therefore a 'market of "credential acts", i.e. certificates and diplomas linked to formal education' (Béduwé et al, 1998, p.5). According to Vinokur (1995, p.152) the originality of a credential economy lies in the following: 'all the analyses surveyed here assume that the education system (or the education services market) and the production system (or the labour market) are independent, the former (...) producing the skilled work purchased by the latter. These economic analyses diverge: on the one hand, about the relative weight accorded to the two functions of the education system, i.e. educating and certifying and, on the other hand, about the competitive or non-competitive nature of labour markets (and therefore education services). The human capital theory, constructed in the United States at the beginning of the 1960s, masks the certification function of the education system and focuses only on the function of imparting knowledge or production practices, and assumes the labour market to be competitive. Qualifications have historically been taken into account in economic analysis as a result of the rejection of both of these hypotheses:

- the main function of the education system is to certify, i.e. to "filter". By awarding diplomas, it demonstrates the existing production abilities of workers and thus supplies the information needed to make a competitive labour market transparent;
- the function of the education system is to educate and certify, but the markets are not competitive; the diploma is a "barrier to entry" into jobs'.

In this context, the author points to the hypothesis of a reversal of values in which the vocational training system would be steered by a system of certification that would be completely detached from it. Irrespective of

this hypothesis, the interest of this approach lies in the fact that it proposes a rereading of the various works analysing the relationship between training and employment by asking whether certification has a specific effect that cannot be confused with that of training.

### *2.2.1.2 What are the benefits of credentials?*

The statistical data available at European level corroborate the existence of a 'credential effect'. In France, data on the occupational integration of young people demonstrate the link between the possession of a diploma and transition to employment (Martinelli et al, 1999). In Germany, unemployment seems to be most widespread among people whose vocational abilities have not been certified (Buttler and Tessaring 1995; Möbus and Verdier, eds., 1997). Comparing the results from different countries is problematic, however, bearing in mind the problems raised by different nomenclatures and the lack of comparability of the procedures that they cover (Duru-Bellat et al, 1997). The establishment of surveys along the lines of the 'Labour Force Survey' (Murray and Steedman, 1998; Kirsch, 1999) is therefore a major step forward since such surveys provide a more accurate picture. It would therefore seem, all things being equal, that people who possess qualifications have an advantage over people who do not possess them (Scherer, 1999). This variable needs, however, to be heavily weighted by considerations relating to hierarchies of specialisms and training levels, on the one hand, and to the possession and length of job experience, on the other hand, using ratios about which little is known and which vary greatly depending on the ways in which the labour market functions.

### *2.2.2 Changing labour markets*

The role that certification plays in the labour market can be tackled from two angles. The calling into question of the distinctions traditionally drawn between different forms of labour market generally related to particular national situations provide a first angle. The nature of the contract of employment, and in particular its incompleteness, provides a sec-

ond angle. In both cases, certification becomes more important:

- it makes it possible to signal, using a formal code comprehensible to both job-seekers and job providers, the qualities of people who are increasingly mobile in increasing numbers of enterprises, which is a very important factor as regards the free movement of workers in Europe (Bjørnåvold and Sellin, 1997). This signalling concern is especially great as this mobility may, much more so than in the past, take the form of breaks in employment due to contractions of internal and professional markets (Ministry of State for Women's Rights and Vocational Training, 1999);
- it becomes a reference that is more stable than those previously represented by task or job descriptions which, because of the need to adapt to rapid changes in production constraints, are increasingly variable.

#### 2.2.2.1 *Calling the traditional models into question*

Vinokur (1995) stresses that the theory of human capital masks the function of certification in that it assumes that people are fully and completely informed about the labour supply and demand and in that 'the quality of work is a direct function of the cost of education and therefore, for a given educational technology, of its duration' (Vinokur, 1995, p.153). Marsden (1989) notes, as regards this model, that there are in effect situations of incomplete information corresponding to three modes of operation of the labour market: professional market, internal market and casual market. This raises questions about the nature and function of certification as regards each of these markets:

- in a professional market, certification is important and strongly controlled by members of the profession, 'professional markets have a number of key features. The first is the establishment of quality standards concerning the combination of the skills acquired and the level achieved by those trained for a given situation. The second is that the content of jobs is fairly

uniform from one enterprise to another. These two characteristics ensure that qualifications are transferable, which is a key characteristic of professional markets. An employer recruiting someone from a market of this kind wants to know about a worker's training, the level that they have achieved and their occupational experience' (Marsden, 1989, p.223);

- certification acts as an entry filter in an internal market, and is then subject to individual forms of recognition based on non-standard signals or on training specific to an enterprise;
- an official certification, rather than non-standard signals, is of particular value in a casual market (Stoeffler-Kern and Tchibozo 1999), bearing in mind that 'casual markets operate with little regulation because of the low level of investment in training that is required and the fact that jobs lack specific technical features' (Marsden, 1989, p.232).

In the light of the most recent works, thinking is also moving in two directions:

1. the first is a result of acknowledged changes in national markets (Hancké, 1998; Guergoat, Marchand et al, 1999). Whereas the main feature of the French market was the importance of the internal market and main feature of the British model was the importance of the professional market, both are tending to be deregulated (Bertrand, 1997), or even to be delegalised (Supiot, 1994). At the same time, the German system is retaining, with increasing difficulty, the characteristics of a professional market and is seeing increasing numbers of people continuing their education and a growing gap between the field of the certified qualification and jobs held, while the social reality of the 'Berufsprinzip' is in doubt (Beicht et al, 1997). 'We consider that the risks with which the dual system will be faced in the future lie less in its inability to react to short-term or demographic developments than in the gradual withdrawal from the dual system, on the one hand, of a propor-

tion of enterprises which see more efficient and less expensive ways of covering their future qualification needs and/or, on the other hand, of seekers of training who consider that training options other than those within enterprise offer them better job and career prospects' (Koch, 1998, p.45);

2. more detailed analysis of the forms taken by labour force mobility and turnover makes it necessary, moreover, to introduce the notion of employment systems: 'theoretical work on the notion of employment systems provides an alternative conception of the movement of the labour force which appears to be structured by different modes of management forming part of a societally constituted space. In this context, analysis of the role of enterprises in the integration process makes it necessary to study the relationships between the ways in which young people and beginners are mobilised, on the one hand, and the ways in which the labour force is managed and mobility is institutionalised within integration schemes, on the other hand' (Moncel, 1999, p.250). This then highlights past developments, sectoral and enterprise approaches and local forms of labour force management in which certification assumes different distinctive values, whose importance varies, which have more meaning with respect to the production system than the education system and involve different balances between officially validated certification and more internally generated forms of recognition linked to experience.

#### *2.2.2.2 Incompleteness of the contract of employment and increased uncertainty*

'The incompleteness of the contract of employment, more generally called "radical uncertainty" or "qualitative uncertainty", reflects the idea that labour power cannot be assimilated with goods whose properties are completely specified. This means that the contract of employment does not cover the delivery of work as a product, but the provision of labour power. The specific nature of the employment relationship is that it includes two separate operations: the signature of the contract – the

exchange – and the provision of labour power following the exchange...The incompleteness of the contract of employment makes it necessary to introduce rules to assess individual behaviour and to define the methods of the exchange' (Reynaud, 1988, pp.158-159).

In this context, certification specifies labour power, the use to which it can be put by the employer and the expectations that the employee may have of it, in keeping with one of the rules discussed above. The use of this rule has been studied, in particular from the point of view of its mobilisation in agreements intended to provide a framework for relationships between the social partners in the sectors (Jobert and Tallard, 1997; Aventur and Möbus, 1999).

As a supplement to this current usage, it is interesting to note, following Supiot (1994), that this rule is rooted in different traditions that can be related to the different philosophies of certification:

- a German tradition which considers the employment relationship as a 'situation of personal belonging to a community (p.18)...Thus, the personal element of the employment relationship is integrated into the definition of the employment contract through the notion of personal subordination which thus differs from the French notion of legal subordination. This idea of personal subordination is linked to notions such as the duty of loyalty of the employee and, its counterpart, the duty of care of the employer' (p.29). In this context, the possession of a qualification provides proof of identity of belonging to a group;
- the situation in the Latin countries has more to do with the romanist tradition and 'labour law in these countries has been dominated by the predominant role of the public power in regulating the employment relationship'. The contract of employment 'triggers the application of a systematic set of provisions, irrespective of the will of the parties to this contract' (Supiot, 1994, p.30). The reference to qualifications in collective agreements discussed above falls into this context;

- the situation in Britain is also shaped by the romanist tradition, but ‘derives its legal force from the notion of the contract of services, set out in common law, which gives the provisions of collective agreements a legally binding force... This incorporation is not linked to an explicit reference to the collective agreement by the individual contract’ (Supiot, 1994, p.29). The qualification is thus perceived from a functional point of view, attesting that individuals are able to perform in the ways that are expected of them.

Current labour market changes, in particular the increased stress on worker mobility, point to the fact that certification is increasingly being called upon to provide this function, as it is replacing internal forms of job allocation or occupational advancement that were based on the existence of a relatively permanent labour collective within a stable labour organisation in the enterprise. This is clearly stated in an OECD report (Bertrand and Durand-Drouhin, eds., 1996): ‘The ideal system of vocational certification is one which identifies, for the employer, the individual corresponding to the job on offer. If school or practical education has already provided the skills needed to carry out a particular type of work, the employer is able to save valuable resources which would otherwise have had to be channelled into this training; the new employee is more productive, which the employer recognises by paying him a bonus (wage differential)’ (Steedman, 1996, p.32), or ‘the interest of certification lies in the fact that it forms a credible reference that can be trusted by all the players concerned, in a given area of mobility’ (Campinos-Dubernet, 1996, p.124).

### 2.2.3 New qualification requirements

In a context of increased mobility the new forms of labour organisation made the use of traditional references to situate individuals more difficult, since an identified job characterised by a relatively stable content of activity can no longer be seen as a predominant model (Besucco-Bertin et al, 1998). There has been a reversal of values that has emphasised workers’ initiative and autonomy, whereas in

the past workers were required to apply the prescriptions that had been specified to them as strictly as possible. These new conceptions are leading to new ways of expressing the quality of work and of assessing this work, with respect to which the notion of competences is often used. The traditional methods of certification, represented by the diploma for the European Commission, are therefore raising questions as they give out signals that are not geared to the requirements of the current production system that mobilises new forms of knowledge that are acquired by different rules.

For the European Commission (1995), these new requirements are a result of three major upheavals that society has had to face: the information society, internationalisation and scientific and technical knowledge. Bertrand (1997), reviewing the analyses conducted from this point of view, proposes the following summary:

‘It is generally accepted that these developments have had the following impact:

- less job security and a less certain correspondence between job skills and workers’ qualifications;
- the need for a periodic updating of knowledge and skills, as the qualifications acquired from initial education may not be enough to support career development throughout life;
- the need for a higher standard of general education which should in particular enable a broader understanding of the professional environment and greater adaptability;
- a new emphasis on a set of skills that are not technical: relational abilities, communication and team-working, problem-solving, autonomy, etc.’ (Bertrand, 1997, p.94).

This problem goes beyond Europe, and the same kind of concerns can be seen in the United States: ‘the Departments of Labor and Education have intensified their commitment to the development of a national system of

voluntary skill standard and certification. Most recently, the Administration introduced and the Congress passed the "Goals 2000: Educate America Act". This act underscores the need to strengthen the connection between education and employment, specifically through the establishment of a National Skills Standard Board. This Board would ensure a framework for the development and implementation of a national system of voluntary partnerships which have the full and balanced participation of business, industry, labour, educators, and other key groups.

For decades, America has held the competitive advantage in the world marketplace on the basis of superior mass production. Now, we find ourselves in a new economic environment where this track record is no longer sufficient to ensure our continued success. Today, there is increased emphasis on quality, variety, timelines, customization, and convenience. Furthermore, with the increased mobility of capital and technology, it is easy to replicate the factors of production anywhere in the world, with one exception – workforce skills. The skills, adaptability, creativity and know-how of American workers must be the foundation for our continued competitiveness. Our problem lies in the lack of connection between the skills needed in the workplace and the skills imparted through education and training. We are further hindered by the limited range of nationally recognised credentials; these are usually reserved for the college educated with few options for the 75 percent of Americans who do not obtain a four-year degree.' (United States Department of Labor, Employment and Training Administration).

A set of new qualities through which working situations can be analysed and individuals assessed is therefore emerging (Mandon and Sulzer, 1999). 'Adaptability, mobility and flexibility are becoming the key professional values. The economy needed a key concept to cover this situation: competences seemed more relevant than qualifications' (Bellier, 1998).

This explains why two extremely widely used terms (Commissariat général du plan, 1978; Ropé and Tanguy, 1994) – used in a relatively

indiscriminate way in everyday language or according to complex codes in academic discourse – have been crystallised in opposing systems of representation (Colardyn, 1996), corresponding to different ideological and political options.

Taking account of these new competences raises questions about the ways in which they can be acquired and recognised, an area in which the traditional certification models are felt to be inadequate. 'In most European systems, diplomas are designed with a view to filtering out at the top the elite which will lead administration and companies, researchers and teaching staff. In certain countries, they are even the quasi-absolute reference points for assessing competence, which makes it a powerful incentive to pursue long-term studies and to take one's chance in very selective courses. Moreover, a worker's occupational status is in many countries defined by the diploma held. This link between qualification and status, however logical it may be, accentuates the internal lack of flexibility of the labour market... This is not, of course, to say that the paper qualification is not a valid route... But in parallel with this, we need to make the best use of skills and abilities irrespective of how they were obtained and to enhance everyone's potential by catering more closely for the needs of the individual, business and industry. What is needed is a more open and flexible approach. Such an approach should also encourage lifelong learning by allowing for and encouraging a continuing process of skill acquisition' (European Commission, 1995, pp.33-34).

#### **2.2.4 Different forms of knowledge**

Taylorist forms of organisation and the principles of rational organisation of work assumed that occupational knowledge would not exist in the long-term as it would have to be transformed into applied theoretical knowledge. The transformation of forms of production rationalisation (Kirsch and Peyrard, 1991) have called this view into question. The result has been to open up three types of thinking about the nature and acquisition of knowledge that constantly raise the question

of the assessment and recognition of this knowledge:

1. the first involves characterising the different forms of knowledge brought into play by the performance of a job;
2. the second raises questions about the different conditions under which this knowledge can be acquired and recognised;
3. the third considers that we need to move away from the model according to which there is only existing exogenous pre-existing knowledge, to take account of new knowledge, constructed in situations, generally in a collective way.

Various works claiming to be rooted in the theories of knowledge developed by Habermas, in particular his critique of scientism, have helped to break away from the view of a single form of knowledge. They offer various typologies of knowledge in general and of knowledge mobilised by jobs in particular. Bjørnåvold (1997, pp.62-63), taking up the proposal of Kvale (1993), therefore proposes three kinds of knowledge:

- a) dogmatic knowledge, derived from God or from a divine authority, whose validation is based on forms of revelation that lie outside our sphere;
- b) objective knowledge, derived from nature, which may be assessed by objectively-based methods (multiple-choice tests, for instance);
- c) prescriptive knowledge, created and defined by society, whose assessment makes it necessary to judge the 'cognitive process' and not the 'objective cognitive product'.

To the extent that certification is a social construct (Tanguy, 1991), it seems normal to take account of the proportion of prescriptive knowledge contained in professional knowledge. In some ways, this dimension was recognised in the traditional education system, since it imparted, alongside objective elements of technical mastery, cognitive and be-

havioural abilities with a more social bent, such as punctuality, obedience and basic communication skills. It is the nature, however, of the abilities passed on in this way that has changed.

Several proposals of fields of knowledge that may be assessed and certified have therefore been put forward. The French system thus differentiates between knowledge, know-how and know-how-to-be (Pinel, 1998) whereas the European Commission differentiates between:

- basic knowledge – languages, reading and writing, arithmetic, etc. – considered as 'the foundation on which individual employability is built' (European Commission, 1995, p.31);
- technical knowledge which 'is knowledge which permits clear identification with an occupation... Within this framework of knowledge, certain "key skills" are central to a number of different occupations and (are) therefore essential in order to be able to change jobs' (p.32);
- social aptitudes which 'concern inter-personal skills, i.e. behaviour at work and a whole range of skills corresponding to the level of responsibility held, such as the ability to cooperate and work as part of a team, creativeness and the quest for quality' (p.32).

With respect to this first type of proposal considering the diversity of knowledge, thinking that focuses more particularly on tacit knowledge, that Bjørnåvold (1997) and Lam (1998) attach to Polanyi's work on the organisation of learning, introduces two new elements:

1. the first consists in approaching the acquisition of knowledge as a contextual practice. 'The key characteristic of knowledge acquisition as a contextual activity is one of defining a process that we call 'legitimate peripheral participation''. In using this term, we would like to draw attention to the fact that the learner is inevitably part of a community of practitioners and

that the mastery of skills and knowledge requires newcomers to commit themselves to full participation in the socio-cultural practices of a community...An individual's intentions from the point of view of learning represent an undertaking and the meaning of learning is configured by the process that leads to full participation in the socio-cultural practice' (Lave and Wenger, quoted by Bjørnåvold, 1997, pp.66-67);

2. the second distinguishes learning as the incorporation of existing knowledge from learning as the creation of new knowledge that Lam (1998, pp.4-5) presents as follows: 'Our analysis focuses, in particular, on the education and training system, and the types of labour markets and careers as key societal institutions in shaping the patterns of work organisation and the knowledge base of the firm. The education and training system contributes to the social construction of "knowledge", and determines the extent to which this is used as a basis of qualification, work status and job boundaries. As such, it shapes the relative status and importance of different types of knowledge, and the nature of their interaction within organisations. The types of labour market and careers determine the locus of learning, the incentives for developing different types of knowledge, and define the boundary and social framework within which individual learning interacts with collective learning'.

In the same spirit, Benarrosh (1999) criticises the notion of skill transfer based on the idea that skills acquired for a given occupation can be re-used in an identical way in a different occupation. On the basis of a study of retraining of unskilled workers, she notes that skills change as a result of the need to tackle the problems entailed in the new job.

This acknowledgement that permanent knowledge creation is necessary can also be linked to the acknowledgement of a transformation of production methods for goods and services, and more particularly these latter, since they increasingly elude a principle of

predetermination and are part and parcel of a model of 'co-construction' by seekers and users (Reboud, ed., 1997).

## 2.3 Current issues

### 2.3.1 Certification and exclusion

Certification excludes! This is one of the leit-motifs of the detractors of national certification systems. History would tend to prove, however, its role in social advancement. Certification made it possible for the middle and working classes to occupy occupational and social positions from which they had up to then been excluded. People are now saying that the 'credential effect' on the contrary entails exclusion. What are the major changes that could have reversed its previous function in such a total way? The controversy seems to lie in that duality that shaped the construction of certification systems in the past: immediate proximity to employment or wider, more theoretical and more encompassing knowledge?

Since they are based on forms of recognition that are said to be academic, some people have felt that diplomas had more to do with social selection and exclusion than with the signalling of people's occupational capacities: 'an essential process of social selection of those possessing productive abilities rather than proof of skills acquired' (Arrow, 1973, p.193, quoted by Vinokur, 1995, p.155), diplomas 'will be judged not as such, with respect to the human capital that they are supposed to reflect, but as a "container" allowing a degree of selectivity and comparability of young people who have successfully passed the training course' (Dupray, 1999, p.141). In this context, the traditional certification systems are more likely to make social stratifications more rigid than to enable individuals to have the socially and economically useful skills that they possess endorsed. The European Commission (1995) seems to reflect this point of view when it writes that: '...society "locks out" in this way much talent which is frequently unconventional but innovatory and that it therefore produces an elite which is not truly representative of the available human resource potential' (p.33).

This places two models in opposition (Bellier, 1997):

1. certification based on selective and elitist approaches, the most tangible manifestation of which is the reference to academic knowledge, that helps to strengthen and increase social segmentation;
2. certification intended to highlight and identify individuals' aptitudes, thereby helping them to achieve a recognition from which they are currently excluded and promoting their integration by enabling, at a collective level, a fairer and more efficient use of human resources.

Two main types of proposal are being put forward in this respect:

1. the first are intended to adapt existing systems and propose various forms of individualisation of these systems based on modularisation (Sellin, 1994) and recognition of prior experiential learning, but continue to respect existing socially recognised standards;
2. the second propose alternative systems calling into question established standards in a more or less fundamental way:
  - conversion of the norm, an example of which is the accreditation system proposed by the European Commission;
  - limited application of the norm, i.e. the establishment of certifications valid in restricted areas such as an industry, an enterprise or a geographically limited area;
  - abolition of the norm. The skill review approach in France reflects this trend, since this review was introduced as a way of finding a kind of signalling that makes it possible to meet the market's immediate needs. In practice, it seems more appropriate in this case to speak of a shift of the norm from the respect of objectives to the respect of procedures, leading to the proliferation of bodies responsible for defining formulation cri-

teria, implementing practical methods and following up individual strategies moving along these lines.

Some of these methods are not exclusive, with the result that it is possible to find a whole range of combinations that can reconcile very different perspectives. Some references 'structure combinations of skills significant with respect to jobs that are much more contextualised than those that have been used to draw up the qualification criteria. Even though they contain elements common to certifications attesting to a "qualification", their combination applies to more restricted spaces and is based on immediate practicability. This information is particularly useful for employees or jobseekers whose experience has never been certified. For some people, this is a first step towards qualification' (Charraud, 1999, p.5).

This seems to be pointing the way towards an ideal model enabling people to build up their own certification routes by using the different existing schemes which would also offer modular principles of equivalence with one another in order to promote procedures of accumulation and progressive access to certification.

While the intention is praiseworthy, some limits need nevertheless to be outlined. First, there is a need for a full and complete information model, as discussed above, and the ability of people who are not socially well integrated to 'surf' the certification network raises particular doubts. Second, systems could well have a cumulative effect likely to reinforce the obstacle of gaining a credential presents: for instance, in France, industry certification seems to be used in some cases as a second filter for the holders of diplomas in the corresponding specialism. There is therefore a major risk of problems that make it necessary to set up supervisory bodies and methods. Similarly, in the dual system, there is a hierarchy of specialisms that is reflected by the initial school education level that is required to gain entry into them: bank training is reserved for holders of the Abitur, whereas construction training schemes have much more modest recruitment criteria.



More fundamentally, the views put forward are somewhat paradoxical since they require both a signal able to resolve uncertainty, and therefore to select individuals, while refusing to exclude them. In this sense, bringing the signal closer to actual work and combating its academic drift would modify the rules of exclusion, but would not alter their principle. Similarly, any temptation to lower the norm is an error as it would help to downgrade the qualification. It would, however, be desirable to promote everyone's right to assess themselves and gain access to credentials, making it necessary to set up information networks that are not well-developed at present. To return to the question raised at the beginning of this analysis, it seems that there has been a reversal of the causes by which certification is accused of generating exclusion, while the exclusion mechanism is primary and finds a way of manifesting itself through certification.

### **2.3.2 Legitimacy and legibility**

When detached from training, and therefore from standardised curricula and knowledge, certification cannot be based a priori anymore on references that are prescriptive and potentially universal at a time *t*, as are subject knowledge attesting to the possession of skills and enabling individuals to be matched to jobs at a general level.

In face to face interactions, for instance between an employee and his direct superior, skills are in some ways 'immediately' legible but are then valid only between those interacting or their counterparts. The generalisation of this kind of recognition is not self-evident. According to Eymard-Duvernay and Marchal (1997, p.45), it requires implicit 'skill agreements' which underpin empirical assessment systems and may take the form of:

- negotiated qualifications linked to the mutual acquaintance and interpersonal networks of a particular profession;
- standardised qualifications whose macro-social efficiency supposes the existence of validation methods whose legitimacy and scope are proportional to their general nature.

In this way, the qualification attested by a certificate is not 'negotiable' as it is assumed to be shared by all those possessing the same certificate. This register of 'standardised qualification' is less geared to adjustment and is criticised because it has the effect of making the labour market more inflexible. If the legibility of competences may be a factor of flexibility, their larger-scale legitimacy makes the acceptance of standards unavoidable.

It is thus possible to put forward the hypothesis of a tension between legibility and legitimacy, as one decreases when the other increases. This is suggested by Jens Bjørnåvold (1997), quoting Habermas, when he speaks of the opposition between barter and monetary economy as the 'decontextualisation' of information on what is being traded. This is also, more empirically, the principle of the 'market versus network' (Eymard-Duvernay and Marchal, 1997, p.36). Some segments of the labour market thus operate on a prescriptive basis in terms of the recognition of skills that necessarily have to be attested by a diploma (senior managers, civil servants, etc.) while some professional markets, such as the photographers' market, assess candidates more by interpersonal recommendation and the presentation of previous work (press book). In one case, competences, of a generic and transposable nature, are perceived to be linked to certification and in the other case, competences, of a specific and empirically attested nature, are linked to individual characteristics. In other words, the methods by which an individual's skills can be recognised are not independent of the ways in which these skills themselves are defined.

The recognition of skills through certification is also a recognition of the ability of certification to guarantee and define the skills possessed. The 'competition between signals' is also a competition between 'what is being signalled', i.e. between different forms of skill definition. While the diploma is seen in France as guaranteeing general competences (subject knowledge that is assumed to be transposable, the archetype of which is the general baccalaureate) and, as a corollary, the ability of people to adapt a certain range of situations, it is also criticised for its inability

to guarantee that workers can be set to work immediately (see below). Certifying skills in a working situation may seem a possible way of remedying this, but the stress is nowadays being placed on the adaptation of employees to change and on its corollary, employability. The resultant tension between immediate efficacy and potential adaptability means that the stress is being placed in a somewhat contradictory way on the contextualisation (specific nature) of competences and their transverse nature (general nature). In the case of the British NVQs, this tension is particularly evident from the proximity of very specific skills (whose method of attribution is linked to a real or simulated work situation) and very generic skills that are assumed to be employable in all circumstances (the 'core skills', for instance communication).

If these skills, whether general or specific, can be readily attested within an enterprise through performance in a work situation, certifying them to provide them with a wider recognition assumes that they can be identified, described and validated in a way that is both precise and general enough. The question of identifying individual skills becomes particularly acute if there is an attempt to move away from existing and collectively recognised references. This leads to complex problems, on the one hand in defining skills and describing the activities in which they are constructed and manifested, and, on the other hand in transposing these elements into assessment procedures. These questions will be examined below.

### 3. Specifying standards

The main argument for the autonomy of certification systems is the overly strong academic constraint that their close proximity with the education system imposes on them. As far as we are aware, this has not led to any stated and militant desire to abolish all certification systems. It is even possible to interpret the fact that NVQs have been successful in places where qualifications lacked structure (Aventur, Möbus, eds., 1999) or, in France, 'the professional fields in which alternative forms of certification have been most

developed are those in which employers control a training scheme specific to the industry' (Merle, 1997), as a desire to create or strengthen forms of legitimacy where there had previously been no or little such legitimacy. As Colardyn (1996, p.213) notes: 'one question concerns the apparent contradiction between the recommendation of a deregulation of collective bargaining and the need for a national strategy to define standards and systems for recognising qualifications and skills'.

The aim of criticisms of certification is not therefore to abolish it, but to make it more legitimate by bringing it closer to actual work in order to remedy the problems of generalisation, standardisation (Bjørnåvold, 1997; Campinos-Dubernet, 1998) and ritualisation reflected by the bureaucratisation of recruitment procedures, censured by Dore (1997), over the last quarter of a century. This need to return to the reality of work is put forward both as regards the definition of the occupational objective of credentials and the forms of assessment through which they are awarded. This is not a new criticism, and the historical data may well show that it is congenial in the introduction of certification systems.

In the case of French diplomas, two kinds of criticisms are traditionally levelled:

- a) the objective of these diplomas is not in keeping with the typical content of occupations, or the jobs for which they are intended, as the content of general academic teaching given in the educational establishment is too heavy;
- b) they are assessed in school examinations or artificial situations having only a remote link with the actual conditions under which an occupation is performed.

This is the starting point of the questions examined below, where priority will initially be given to an approach in terms of content and process. This makes it necessary to return to the relationships between the certification system, the production system and the training system. In the production system, it is

necessary to tackle the question of the description of work activities and to identify the performance standards specifying the occupational aim to which the certification should attest. In the training system, it is necessary to define training standards that specify the knowledge (in the most general sense of the term, including experience, knowledge, practices, competences, etc.) needed to perform the activity described.

### 3.1 Occupations and performance standards

The main focus here is external validity, and therefore the relevance of the relationship between the qualification and the production system: in many cases this latter relationship has been strongly questioned, often in a very negative way, the most common criticism being the lack of satisfaction expressed by enterprises with the 'products' with which it is supplied by the education system.

These questions need to be refined as the congruence of this relationship is shaped in various ways. It is for this reason, even in Germany where employers are directly involved in defining the objectives of training and then in putting them into practice in the dual system – and where, therefore, the problem of congruence should be less acute – that questions can be raised about the degree to which training should be 'wide-ranging' and the degree to which it should be 'theoretical'. In this context, the relationship between credentials and the production system will be examined from three points of view:

- a) domains of competences with reference to nomenclatures of training specialisms and occupations;
- b) fields of competences with reference to occupational standards;
- c) levels of competences in the context of a cognitive approach.

#### 3.1.1 Domains of competences

This is the most general level in which the main fields of occupations are defined and a

fully coherent relationship between training and the production system at this level would correspond to a complete coverage of the classifications of training fields and classifications of trades and occupations.

In order to develop an international classification for fields of initial vocational education and training, Andersson and Olsson (1996) conducted a very detailed comparative study of the classifications of training fields used by the EU Member States and some other countries. They discovered major differences between the different systems, the aspects of which that are most relevant from our point of view are examined below:

- 'there seem to be two main ways to classify programmes into fields, by subject content or by intended occupation(s)' (p.10). The French situation offers a good illustration of the first method: 'the technico-professional specialities are grouped together more in relation to the knowledges transmitted than in relation to the sociological or sectorial closeness between jobs for which the training may be conducted' (Annexes, p.9). The United Kingdom is also fairly close as 'SUPERCLASS II was designed to classify the subjects of all UK courses and learning opportunities, both academic and vocational' (Annexes, p.21). Germany offers an illustration of the second method: 'ultimately all classifications of vocational education and training (...) are derived from the Basic Classification of Occupations' (Annexes, p.8) ;
- 'some classifications of fields of study look like sector-oriented' (p.10). Spain can perhaps be included in this category but in practice the classifications used by the Ministry of Labour and the Ministry of Education 'are not really classifications of fields of study, but rather classifications of occupation (job) families. Each family groups together programmes leading to jobs having certain closeness, especially in terms of sector activity or technical system' (Annexes, p.7). It should be noted that the Spanish system has changed since the work of Andersson and Olsson, but retains a concern for coherence: the second voca-

tional training plan drawn up in 1997 for implementation in 1998 includes 'the creation of the National Vocational Qualifications System (which) should help correctly and permanently to identify existing qualifications and make it possible to update the supply of vocational training and set up schemes for the validation and equivalence of different methods of vocational training' (Roure, 1998, p.28; Manzanares Núñez, 1998).

The Spanish and German classifications seem to be those where the gap between training and the production system is smallest. The question is then one of finding out whether, at this level of analysis of domains of skills, the maximum reduction of this gap is an objective to be pursued. In this respect, Andersson and Olsson (1996) stress two points that may well indicate the contrary:

- 'it is difficult to use directly a classification of sectors or branches to classify fields of study: there are in each sector many occupations which exist also in other sectors (secretary, clerk, etc.). A sector-oriented classification aggregates in each broad field the programmes aiming at the typical occupations of a sector. The definition of these typical occupations is however very implicit and ambiguous. Where, in this sense, is the borderline of the category "maritime and fishing activities"? And which is the common point, in terms of vocational training, between aquaculture and sea transport?' (p.10).
- in order to formulate their proposed international classification of fields of training, Andersson and Olsson (1996) note that 'although occupation is a very important aspect for the fields of training, it must be remembered that fields of training (education) and International Standard Classification of Occupations (ISCO) are two different things' (p.3). They give a number of reasons why ISCO is not the most relevant choice for their objective: 'there is not always a straight link between training, or diplomas, and occupations...; there are many training programs which aim at

broad sets of occupations or to transversal functions (maintenance for example) ...; the classifications of occupations are based on sociological closeness between occupations... Thus, even if many training programmes correspond to specific sets of occupations, it is not a good choice to use the same principle to aggregate them as in a classification of occupations. It is more relevant to build a hierarchical classification in which the aggregates are based on "knowledge closeness" ' (p.4).

It therefore seems that a complete congruence between training specialisms and the production system, which would be reflected by a match between the classification of training fields and the classification of trades and occupations, is not desirable at this level of analysis of domains of skills. This leaves, however, the question of the use to which a classification of fields of study drawn up in this way can be put. In this respect, the main aim of the classification proposed by Andersson and Olsson is statistical, in the context of setting up databases containing information on initial vocational training (the study was carried out under a contract with Cedefop/Eurostat). To what use can it be put from the point of view of constructing new training programmes and developing existing programmes? We do not have enough information to answer this question, but simply note that in France the nomenclature of training specialisms is used to classify vocational education diplomas, but has nothing to do with the CPC (Commissions Professionnelles Consultatives – Advisory Professional Committees) which are bodies within which diplomas are constructed and overhauled and which tend rather to follow a sectoral approach.

### **3.1.2 Fields of competences**

Within each domain of competences, it is possible to identify fields of competences which are more or less coherent sets of occupational activities and tasks that help to define trades, occupations, qualifications, jobs, occupational profiles, functions, missions, occupational targets and, obviously, competences, both in the production system (in terms of demands and

needs) and in the education system (in terms of objectives).

A first discrepancy between a diploma's target and the production system in this respect may lie in the fact that the list of tasks and activities for the same trade (or occupation, qualification, etc.) differs in the two systems. Veneau (1997) provides a good example: through a detailed comparison of the occupational standards of a diploma (the vocational baccalaureate in 'mechanical automation') with the work actually performed in enterprise by holders of this diploma, the author highlights considerable discrepancies, not only from the point of view of the weighting of activities, but also from the point of view of the inclusion of some of these activities in the list: in other words, the qualification seems to include training in activities that are not actually performed in enterprise. One of the main reasons for this lies in the fact that the occupational standards are drawn up from an assessment of work activities by people who are not very aware of what actually happens in enterprise: not just people in the education system, but also industry employers' representatives serving on the CPCs and more broadly all those experts carrying out forward studies of trades and qualifications.

This is borne out by a second analysis by Veneau, on the standards of a Certificat de Qualification Professionnelle (CQP – vocational qualification certificate) for a machining operator-setter in heavy engineering. Veneau demonstrates that this qualification reflects the current industrial situation much more closely than the vocational baccalaureate: 'In heavy engineering, the CQP scheme is shaped by enterprise demand. The standards for these certificates are drawn up by enterprises and reflect their needs (...) various staff from operational departments (workshop supervisors, technical directors, etc.) in enterprise are involved. CQP standards are therefore drawn up directly from existing working situations. The drafting of standards does not therefore distort the reality of production to any great extent (by confusing types of activity, for instance). The more the people involved in formulating standards are removed from production situations, the more

these distortions are likely to come into play (...) (Veneau, 1997, p.170).

It should be stressed, however, that the discrepancy between the activities taught and the occupational activities expected by enterprises is not systematic and account needs to be taken here of the type of enterprise concerned and the training specialism. Campinos (1998) notes, for instance, from investigations conducted among thirty-eight small and medium-sized industrial enterprises, that the training supply in electrical engineering and electronics is well-matched: 'there seems to be a genuine satisfaction (among the SMEs surveyed) with the supply of training in the three levels in question (...) The knowledge imparted is in keeping with the various manufacturing activities, tests, controls, studies and methods on which newcomers are employed' (p.6). Eckert and Veneau (1999, p.3) make the same kind of observation in a study on training in 'electrical engineering' (electrical technology, electronics and industrial computing), when they identify various cases in which the 'basic trade is associated with a training specialism. The fact that the training specialism is in keeping with the basic trade can be explained by the fact that a reference common to both has been taken into account: the technical field'.

The way in which the standard is drawn up is also important and, from this point of view, genuine *in situ* analysis of work, involving 'work experts' and 'education experts', may make the description of occupational activities in standards, and their reflection in the content of training, easier and more relevant. The work of Liaroutzos (1997) on the administrative service sector illustrates this well.

It would therefore seem that the identity of the people involved in formulating standards and the actual way in which this formulation is carried out are key factors in making these standards congruent with actual work activities. From this point of view, the 'consensus model' typical of Germany, in which agreement between the social partners, among other things on the content of training, is essential, seems more propitious than the French 'consultative model' in which the edu-

cation system is primarily responsible for steering and supervising the system. This comparison has already received a great deal of attention (see, among others, the most recent works of Möbus and Verdier, 1997, Béret et al., 1997), and we shall take it up here only to highlight two recurring questions concerning, on the one hand, how specialised, and, on the other hand, how theoretical diplomas should be.

### 3.1.2.1 *How specialised?*

Whether training should be broad or narrow is a major discussion topic in Germany, with the trade unions arguing for a field of competences that is broader than employers would like. The fact that most training takes place in enterprise in the dual system might well mean that training is limited to the specific activities of enterprise but, as a counterpart, the training profile and outline plan make some kind of generalisation necessary as they are drawn up so that they can be put into practice in a wide range of enterprises. While a compromise is always found, it should also be stressed that this tends to be at the cost of the concrete nature of the activities listed in this training profile and outline plan. In other words, the necessary generalisation seems rather to take the form of an abstraction. In this respect, the abilities and knowledge listed in the training profile and outline plan for industrial mechanical engineers, a technical processing option, in Germany, do not seem in practice to be more concrete than those set out in the occupational profile and diploma standard of the vocational baccalaureate in maintenance of automated mechanical systems in France – irrespective of the proximity of these two diplomas (Möbus, Verdier, eds., 1997, Annexes 1 and 2). This may point to the fact that the degree of extension of an occupation cannot be tackled solely from the point of view of fields of competences, i.e. by extending the list of activities in the standard, which in most cases involves making them more detailed by adopting more abstract formulations since, if too much effort is made to break an action down into more elementary actions, the end result is to lose any concrete content and meaning (Savoyant, 1999). The extension of the activ-

ity has more to do with the range of situations that the individual can handle in a given field of competences and can be perceived more in terms of the knowledge required to perform a range of actions than via a simple list of these actions. In other words, the extension of the activity refers to the level of competences required.

These cannot be assessed solely by observing performance, and it is for this reason that an activity cannot be reduced solely to its operational aspects: account needs to be taken of the ‘how’ of the activity, i.e. the cognitive processes that underpin it. It is also from this point of view that it seems pertinent to tackle another aspect of the extension of an activity that is becoming increasingly important in work, i.e. the ‘action competences’ involving ‘the ability to plan, implement and supervise independently’ (Koch, 1997, p.38). Very clearly, these abilities are not competences or activities that can be added to other occupational activities in a standard; their effect is more to modify the level of competence of these activities.

### 3.1.2.2 *Theory and practice*

The criticism most commonly made by enterprises is that training is too theoretical. The question is then one of finding out what this criticism really means and in this respect it has to be said that the distinction between theory and practice on which it is based has more to do with common sense than with any kind of scientific approach. Theory is not seen here as a foundation and validation of practice, making it possible to understand the ‘why’ of the actions that one performs, but merely as describing what is to be done (Savoyant, 1996) and is reflected in day-to-day language by formulae such as: ‘more easily said than done’. In other words, excessive theory is predominantly a lack of ‘practical’ expertise gained from actual working situations. This point of view obviously has some foundation, and nobody can dispute the existence of experience-based knowledge that can be gained only from actual working situations. The problem is that, quite naturally, if theory and practice are differentiated in this way, the end result is to differentiate places

of training: theory in the classroom, practice in enterprise. It is difficult to articulate these two worlds in these circumstances and supplementing a list of occupational activities with a list of 'theoretical' knowledge is not enough to ensure this articulation in a satisfactory way. We must be clearly aware that activity takes place in the classroom and in the enterprise and that there is theory and practice in both cases. Analysing activity solely in terms of performance does not make it possible to address this question.

### 3.1.3 Competence levels

Competence levels give an idea of the degree of mastery of an occupational activity by an individual. In this respect, the relationship between diplomas and the production system cannot be reduced to a simple comparison of the skill levels required by enterprise and covered by the diploma since this would merely involve approaching an activity in terms of performance, specifically by placing these skill levels on a practical footing in performance lists. To go beyond performance alone, account has to be taken of the processes that underlie it and the conditions under which such processes are developed.

We shall therefore approach this question through a cognitive approach to alternance and more specifically to the conditions and content of the articulation between schools and enterprise. This is a vast issue and is a direct part of research into the construction of knowledge and competences in a working situation, with the result that it cannot be examined in an overall way here. Reference can nevertheless be made to the contribution of Dybowski and Dehnbostel to this report, and to the work of the European Work Process Knowledge network, recently involved in the TSER Work process knowledge in technological and organisational development programme. We shall merely look briefly here at some theoretical aspects of a cognitive approach to alternance.

'Taking a cognitive approach means giving a central role to the activity of the individual and, in the case of learning by alternance, to the activity of the learner, in both a classroom and

a working situation' (Savoyant, 1996). The dissociation and specialisation of places of learning ('theory' at school and 'practice' in enterprise) express a discrepancy which is reflected, in overall terms, by the lack of practical ability, criticised by enterprises, of people leaving the education system. This discrepancy can be analysed from two points of view:

1. a first aspect is well-illustrated by formulae of the type 'it is one thing to know how to do something and another thing actually to do it'. This discrepancy is normal and largely unavoidable, and merely highlights the fact that there are experience-based competences that can be acquired only in an actual working situation;
2. the knowledge acquired at school is not the base knowledge of work activity. When put in this way, this notion makes it useless to seek any articulation between school and work. The most common situation is rather that the knowledge taught at school does not cover all the base knowledge called into play by work. The main reason for this is that this base knowledge cannot be reduced to subject knowledge and is formed largely by perceptions and concepts that are closely linked to this work. When formulated through and for this work, it is difficult (and in some cases impossible) to place this base knowledge on an explicit and objective footing in the form of external knowledge, which would be a prerequisite for it to be imparted and validated outside the actual working situation. This is a key question in alternance and, in this respect, occupational teaching approaches seem particularly relevant in identifying and formalising this base occupational knowledge (Vergnaud, 1992; Pastré et al, 1995). Analysis of actual work in terms of conceptualisations and representations specific to each field of activity that it involves occupies a key place here and thus makes it possible to go beyond the boundaries of identification by standards systems that is too often exclusively based on an analysis of prescribed tasks. Moreover, this more objective approach should also help to ensure a common reference for school teachers and enterprise trainers or mentors.

If we fully accept the idea that the activity of the learner is as essential at school as it is in enterprise, the question is not one of applying the 'theoretical' knowledge learnt at school to the work situation but one of articulating the activity of appropriating knowledge at school with production work in enterprise. 'From this point of view, if the acquisition of knowledge involves only listening and learning by heart (by the learner), the only activity in which it can be directly used is the activity of speaking and restituting this knowledge. (...). If it is appropriated solely in this way, knowledge remains "formal"' (Savoyant, 1996, p.2) and is therefore difficult to put into practice at work as it remains external to this work instead of being integrated into it. The aim is therefore for the teacher to encourage 'good' activity by the learner. While it seems of little use to make this activity coincide directly with actual work (since that would be on-the-job training), it nevertheless seems necessary for it to be sufficiently representative of this work.

### 3.2 Assessment: standards in action

We mentioned above that the signalling effect of paper qualifications was being called into question as the training that leads to them is often felt to be out of kilter with labour market needs. This type of criticism is common in France (Tanguy, ed., 1986) and probably in Spain too, where, in the case of vocational options, 'enterprises' perceptions have always been marked by mistrust and misinformation' (Muñoz, 1997, p.50). In France, employers' representatives consider that the 'diploma makes it possible to certify, at a given moment, the existence of some individual resources, in particular knowledge, but not the practical application of occupational skills exercised in real working situations throughout the vocational course' (CNPF, 1998, pp.68-69), a point of view that is obviously not shared by educational institutions. This is part and parcel of an ongoing debate on the nature of competences and, more recently, on their methods of validation.

The validation of learning involving individuals, employers and the education system is

crucial to these questions. The following analysis will focus on these schemes and on the certifications to which they lead as these seem to be good indicators of the links or tensions between certification, training, competences and occupational performance. What the validation of learning says about competences depends on the ways in which assessment systems are designed and put into practice.

#### 3.2.1 The design of learning validation schemes

The ways in which learning validation schemes are designed defines the framework that will be most in keeping with the target objectives. The schemes examined below offer exemption from all or part of a training course leading to an existing qualification, or award a specific certification to endorse the value of experience. The same assessment criteria will not be used in both cases. The standard used in the first case will be the standard of the qualification. In the second case, it will in principle be the job description, i.e. a performance standard. In practice, the divide is less clear cut. After comparing learning validation schemes with other qualifications, we shall then examine assessment criteria.

##### 3.2.1.1 Validation of learning and conventional certification systems

We initially located learning validation schemes with respect to the conventional pairing of education + certification placed on a formal footing through work under the European ADAPT programme by the Délégation académique à la formation continue of Strasbourg (Abisse, 1997). The following schemes were examined:

- the German Externenprüfung;
- the Spanish Certificado de Profesionalidad, awarded by the Ministry of Labour and Social Security;
- the French Validation des Acquis Professionnels (VAP), organised by the Ministry of Education;



- the French Certificat de Compétences Professionnelles (CCP), awarded by the Ministry of Employment and Solidarity and organised by AFPA (national association for adult vocational training) which it runs;
- the British Accreditation of Prior Learning (APL), which is not always clearly differentiated from the NVQs to which it may lead (Scottish Qualifications Authority, 1997);
- the NVQs which are not, properly speaking, a learning validation scheme but which, as they themselves contain no compulsory training element, are tending to become a compulsory point of reference in this area. They have also provided inspiration for the Spanish and French Ministries of Employment.

We shall not look at Belgium where thinking about these questions has been underway for several years in the French Community where 'there is no global and concerted mechanism for coordinating and recognising the skills acquired from continuing vocational training schemes (...) (the Community does not have) a rational public system of vocational qualification covering the whole of the field. The only system of certification that has social recognition throughout the French Community is that run by the education system' (Conseil de l'Éducation et de la Formation, 1999). This situation can perhaps be explained by the fact that it is more the reputation of the school than certification that provides a signal on the labour market.

The French VAP and the British NVQs are the best documented of all the schemes examined here. They are the outcome of vocational training systems that oppose formal education and apprenticeship. The NVQs are rooted in experience and while training elements are part and parcel of the VAP, it does not make it possible to obtain the diploma as a whole.

The learning validation scheme closest to the certification systems in use in its country is the German Externenprüfung under which exemption from all or part of the training leading to national examinations can be re-

quested. The Spanish Certificado de Profesionalidad, which validates skills listed in a national list, is the furthest removed. It is nevertheless close to the NVQs, like the French CCPs which validate skills acquired solely from experience. The differences between these schemes have not been fundamentally shaped, therefore, by their national connections. Differences within the same country are also shaped by an institutional factor: the separation, in some cases controversial, of responsibilities for the validation of occupational learning between the Ministries of Education and Employment, as in Spain and France. This separation has been shaped by different attitudes and links, the Ministry of Education covering schools and the Ministry of Employment covering enterprises (see point 2.1.2). In France, therefore, the VAP, under which exemption from some of the units making up a diploma can be obtained, is supervised by the Ministry of Education, while the CCPs, focusing on occupational experience, are administered by the Ministry of Employment and Solidarity. This dialectic between school and employment brings up the key question that is at the heart of the problems of validating learning: that of the complex relationships between doing and knowing in what Yves Clot (1999) calls the unfathomable skill.

### 3.2.1.2 Reference profiles and standards

In all the countries examined here, the state is the guarantor of the validity, reliability, equity, objectivity and therefore of the legitimacy of assessment procedures. Assessment standards are among those rules that have to be approved by the state. If they were not, the reliability of the national assessment system would be diminished. Solar (1995, p.82) indirectly stresses the need for common criteria in respect of skill portfolios, 'a method that involves many people in the assessment procedure (each assessing knowledge) according to their own framework. This means that something that was intended to be objective is not'. In other words, in an assessment, the various points of view must be expressed on the basis of previously defined common criteria, otherwise diversity makes it impossible to reach a consensus.

Employers are involved everywhere in constructing vocational training schemes and in formulating assessment standards. France is among those countries where employers are most clearly calling into question the diploma by giving themselves the sole right to construct skills. Carrying out an assessment according to criteria that they have themselves determined would give employers better control over the other forms of recognition, i.e. grading and pay. It is not just the diploma, however, but the whole regulatory function of the state, that is being contested. British employers are also criticising a system in which they are, however, one of the principal players: 'many employers (...) expressed continuing concerns about the incoherence of the wider vocational qualification structure, the plethora of traditional vocational qualifications, the burden of assessment in NVQs, some lack of reliability and consistency in assessment (...)' (DfEE, 1999, p.38). Here again, it is the state's functions of organisation and control that are being questioned.

It is undoubtedly much easier to contest paper qualifications nowadays. For some years, major French enterprises have been using skills as a tool for managing human resources. In this respect, they have carried out analyses of work in order to develop directories or profiles of skills that can be used for training purposes. The need to write up work procedures for accreditation under the ISO9000 quality assurance standards has also played a part in developing the practice of activity or skill profiles specific to a particular enterprise. This is not without a link with the validation of knowledge gained from experience. 'Writing up working procedures consists in extracting and articulating action skills which, although socialised and potentially possible to place on a "formal" footing, have up until now remained tacit (...) This involves redefining and rationalising skills acquired from experience (...) The operation of discovery and formalisation provides a kind of validation of action skills' (Campinos-Dubernet and Marquette, 1998).

For all these reasons, tools for identifying skills that use a wide range of methods are proliferating (Penso-Latouche, ed., 1998).

This proliferation would seem to suggest, and caution is needed here, that this is an easy matter. As these profiles are by their nature closer to real work than any profile drawn up outside the enterprise, an artificial convergence resulting from disparate assessments could lead to the notion that the training given by the education system, and therefore paper qualifications, are not in keeping with the skills actually being sought.

The national standards drawn up to validate learning may be similar to those used to validate training courses or may be formulated specifically to validate learning from experience. The Externenprüfung and the VAP fall within the first case and the NVQs and the Certificado de Profesionalidad fall within the second case. The CCP certification profiles are in an intermediate position. AFPA attempted initially to use the Répertoire opérationnel des métiers et emplois (Operational directory of trades and occupations) of the National Employment Agency. It had to supplement it from the analyses of work and reference profiles that it draws up when setting up training schemes (Roman, 1998). Consequently, the performance standards drawn up to assess formal learning from training courses are very evident in the assessment of informal learning. It seems to be the case that, as the validation of learning is a recent development, specific methods are under construction and use has initially been made of existing, reputedly reliable, tools.

This pragmatic choice may not necessarily be the best way of meeting the objectives being sought. 'The context of the validation of occupational learning mobilises experience from the point of view of its "school" assessment and this mobilisation is not the same as the mobilisation of experience for the action of work itself. Skills will not be organised in the same way in both cases' (Clot, 1999, p.31) The questioning of diplomas by French employers then highlights a basic problem: are the criteria and methods used for assessment inappropriate because they are too heavily marked by the school world? Reciprocally, the abandonment of the initial principles of the CCP experiment, based on very short (one-page) job descriptions drawn up for the pur-

poses of placing jobseekers, shows that making do with the 'employment' dimension is no more relevant for the purposes of validating learning. It is highly likely that any job description drawn up for purposes other than the validation of learning would not have been appropriate either. Are the ideal standards to be found somewhere between the two? The British, who were not impeded by school criteria, have tried to find the perfect assessment standard. Several authors (Green et al., 1999; Eraut, 1996; Wolf, 1996) have stressed that this led them to an ever greater precision that is now causing the government to demand that they back-pedal (DfEE, 1999). Wolf stresses that this deviation is inherent in the type of approach used: 'The more serious and rigorous the attempts to specify the domain being assessed, the narrower and narrower the domain itself becomes, without, in fact, becoming transparent' (1996, p.55).

The issue of precision harks back to the issue of the general and the specific raised by transverse skills, key or core skills and qualifications covering a very extensive occupational field that may in some cases concern several sectors of activity. In France, the reference profiles for such diplomas are generally geared to local situations, i.e. 'contextualised' for the purposes of training and assessment in work situations (Kirsch, 1989). The reference is nevertheless still the national profile. The overall process entails a whole range of translation operations. If learning is validated from an analysis of written or oral discourse, a further translation will be necessary to establish a link between the description of the activity proposed by the candidate and the assessment standard prescribed by the qualification.

Standards are constructed or adjusted by an iterative process that feeds on prior experience. The question is one of ascertaining whether this iterative process causes a loss of sight of the initial objectives, i.e. in this case an assessment based on skills. One of the paradoxes of a skill is that it is contextualised but is perceived as a predictor of employability. If the context is overly reduced, is it still possible to talk about a skill and, even more so, about employability? What va-

lidity do standards based on an excessive fragmentation of the description of an activity have? 'by stating that someone has "acquired a skill", it is assumed that he could and would use it in any appropriate context, but the nature and extent of the indices required to support this statement are still problematic' (CERI, 1998, pp.81-82).

It would seem that the aim of the desire to certify and to draw up criteria or standards for this purpose is to reduce the overall uncertainties in which we live. 'We are latching onto the notion of skills to cover a new labour market situation, in which qualifications no longer guarantee jobs. This aspect of the new world order cannot be disregarded: skills are to qualifications as employability is to employment. Certainties (qualifications, jobs) are tending to become hypotheses (skills, employability)' (Bellier, 1998).

### ***3.2.2 The use of standards in assessment***

It would seem from the above that standards are the means that the state uses to reduce the uncertainty surrounding the award of the qualifications that it accredits. The practical methods of implementation of standards, i.e. assessment methods, are shaped by this rule. None of this would be of any importance without the people responsible for evaluating candidates seeking accreditation of their learning.

#### ***3.2.2.1 Assessment methods***

A standard is put into practice through assessment methods and is subject to its own test of validity. Depending on the scheme, assessment may take the form of an examination based on a dossier or a portfolio of evidence or competences, during an assessment in an actual or simulated working situation, may entail an interview or may combine several of these elements. The only assessment methods that completely disregard conventional examination formulae are the CCP in France and the APL and NVQs in the United Kingdom.

Not all forms of assessment are equivalent. 'APL is necessarily a highly individualised

process and, for quality control purposes, requires the amassing of comprehensive evidence that can be checked and validated. Many candidates do not have evidence of this sort readily to hand and many find that they can only cover parts of an award. It is often as easy, or cheaper, to retest such candidates from scratch, or enrol them on a course. The only area where, in England, the approach seems to succeed and be cost-efficient is with office skills' (Green et al, 1999). Ultimately, even when the rules are the same for everyone, they are not necessarily equitable.

Leaving aside cases in which certification entails an examination or a test in a working situation, candidates for validation have to draw up a portfolio or a dossier in which they describe the activities through which they have gained the skills that they wish to have validated. They are generally able to obtain assistance with this. In addition to practical advice and drafting aids, part of the process of assistance for candidates is to help them to place their descriptions on an objective footing, and to distance themselves from their experience as 'the skills that the person uses are not "ready-made" for the purposes of explanation. Our investigative work is not intended to locate them as invariant learning that can be validated only through analysis' (Clot, p.31). This maieutic approach tends to be very instructive for candidates who are ultimately responsible for finding the link between knowing and doing as 'the knowledge mobilised in a working situation, i.e. day-to-day concepts, given meaning by occupational experience, is not the same as the knowledge acquired from training, i.e. scientific concepts. Finding a link between these two spheres of knowledge is a conquest in which the person's activity plays a key role' (Clot, p.15). It is also true that this relationship can be forged only through joint work by the candidate and the person helping him or her to draw up a dossier. Joint analysis of the candidate's activities makes it possible to infer that, despite the one-off nature of the assessment, the skills observed can be transferred to other situations.

When validation is based on assessments in working situations, candidates cannot use the

same process of formulation as when assessment is based on a dossier or portfolio. It is then the choice of the assessment situation that should offer them the best possibility of demonstrating their skills. Assessors preparing for a situation of this type are in much the same case as trainers trying to discern formative working situations. In both cases, there are two approaches: 'the educational learning approach, of an analytical type, which involves breaking down the complex into simple and elementary units, and the occupational activity or cognitive approach, of an integrating type, which involves combining multiple skills and is reflected by activities that can to some extent be isolated as subsets of the qualification' (Lechaux and Barkatolah, 1994, p.106).

### 3.2.2.2 Assessors

All the above points to the important part that the people who put learning validation schemes into practice play in making them functional. The composition of assessment panels is the point at which these systems are closest to conventional systems. This closeness probably has a lot to do with a concern for acceptability and credibility (Bjørnåvold, 1997), as conventional systems still have considerable social legitimacy, whereas learning validation schemes find it difficult to become rooted. The Externenprüfung, established after the First World War, involves some 30 000 people per annum in comparison with the dual system which trains some 1 600 000, with almost 600 000 examinations p.a. (BMBF, 1998). The Certificado de Profesionalidad is finding it difficult to leave the experimental stage. In France, the VAP panels examined 2550 dossiers in 1997 (DESCO, 1997) whereas 715 560 students sat the same technological and vocational education diplomas (DPD, 1998). The second experiment with the CCP is to involve 1000 people, and the first involved 200. It is difficult to estimate the population involved in the United Kingdom's APL as the statistics do not always differentiate it from the NVQs which, in turn, illustrate how difficult it is for new systems to put down roots and gain acceptance. There are currently 840 NVQs, whereas there are 1800 other vocational certificates complying

with the standards approved by the Qualification and Curriculum Authority and 17 000 which do not or only to some extent comply with these standards (DfEE, 1999). The government is currently taking action drastically to reduce the number of Vocational Qualifications not accredited by the QCA.

The fact that teachers are in the majority, as in the case of the French VAP where ratios of this kind were from the outset laid down in the legislation, may show that more importance is being attached to knowledge than to expertise and that qualifications are still firmly rooted in the school sphere. If this is the case, there is a risk that education standards will have the upper hand over performance standards. Before looking at this hypothesis, however, it should be noted that few categories are eligible for assessment tasks. Since knowledge needs to be related to experience, it is logical that panels contain both teachers and practitioners. Teachers have traditionally been assessors and still have considerable legitimacy even though they are using the knowledge that they have acquired in academic disciplines in the occupational field. Here again, the transfer of skills can be explained by the fact that appropriate ways of conducting spot assessments of occupational performance have yet to be found: good mentors are not made in a day.

Potential tensions of this kind make it necessary to look at the skills of panel members. A competent practitioner does not necessarily possess the skills of an assessor. In France and the United Kingdom, the people involved in the learning validation process receive special training. As they gain experience of validating learning, the risks of academic or professional imperialism are reduced as everyone becomes aware of their own limits. A representative of the Ministry of Education, who has had this kind of experience in France, stresses that 'paradoxically, a maths teacher is not the best person to assess the maths abilities of a candidate who is a bus driver: the practitioner is much more aware than the teacher of the conditions under which the job is performed and what skills, including maths, are actually involved in the job' (Bernard, 1997, p.46).

At this stage, we should like to put forward the hypothesis that validation decisions cannot be based entirely on the strict application of standards. This does not mean, however, that the prior constructions and tools developed for assessment are of no use. We have discussed the structuring role of standards and predetermined assessment criteria when assessing a skills portfolio. Although at a different level, work to analyse these application portfolios or dossiers for learning validation is just as essential, as a member of an assessment panel stresses: 'the dossier is less the foundation on which we base our judgment than a document from which we extract information useful for conducting the subsequent interview with the candidate. If we did not have this dossier, the candidate would not be ready for the interview and we ourselves would find it much more difficult to conduct this interview. The interview is often, however, the determining factor' (Bernard, 1997, p.46). Blindly applying a standard under the pretext of equal treatment is not therefore possible. 'It is impossible to judge the abilities of adults who have been working or have worked for a number of years in an occupation without taking account of the human density of these candidates (...) The interview makes it possible to find out why a candidate is requesting this rather than another exemption (...) In every case, this clearly raises the problem of the link between the skills required to obtain the diploma and those required for the practice of the occupation for which the diploma is needed. The panel cannot therefore disregard the issue of the candidate's motives (...) if candidates need a diploma for career reasons (...) should they be exempted from the maths test that they would not pass when we, as practitioners, know that the corresponding skills will genuinely be of no use to them?' (Bernard, 1997, p.47). As a guarantor of the validity and reliability of procedures, the panel also needs to be a guarantor of their equity.

#### 4. Conclusion

It seems important to stress three points following this analysis:

- a) certification is giving rise to a debate about occupational knowledge and the conditions under which it is generated that is calling traditional attitudes into question;
- b) the increasing autonomy of certification is also being reflected by its diversification. Assuming that there is a single and federating dynamic shaped by the proximity of production systems, and therefore the proximity of the skills needed, would be untrue. Any dogmatism in this respect is dangerous; placing an eminently social practice, that is trusted because of the high-quality expertise of those who organise and implement it, on an excessively technical footing would be just as dangerous;
- c) decisions taken in this field have major moral and civil repercussions.

#### **4.1 Certification and recognition of occupational knowledge**

As the preceding analysis has shown, the increasing autonomy of certification systems does not mean that they are independent from training. Justified criticisms of overly academic approaches have in some cases meant that practice, assumed to be enlightening, has been exalted, which does not seem any less suspect. The real question is how occupational knowledge, whose nature goes beyond technical mastery, can be identified, passed on and assessed, making it necessary to break away from the traditional divides between theoretical and practical knowledge and general and applied knowledge. It would seem, moreover, that this knowledge is to some extent being generated and passed on within organisations, which raises two questions:

- internal recognition of this knowledge;
- recognition of the ability of organisations to foster such knowledge creation and transmission.

Internal recognition of knowledge involves 'negotiated skills' in the sense of Eymard-Duvernét and Marchal (1997). This raises the problem of the particular signal of such recognition. Some enterprises use existing quali-

fications (Feutrie and Verdier, 1993) and others are setting up their own certification systems (Périsse, 1998). Choices depend on the ways in which enterprises manage human resources. They are wondering whether paper qualifications can be adapted for this purpose and, although this is not self-evident, it can be politically encouraged. They are also raising questions about the limits of these qualifications and other forms of certification for the recognition of locally generated skills. In other words, not everything is necessarily certifiable and maybe it is better to accept uncertainty than to set up systems that are too sophisticated or too restrictive.

The ability of these organisations to foster knowledge creation and transmission is central to debates on the learning society, but it is striking to note that there are already some prejudices. To our knowledge, nobody anywhere seems to be taking account of the fact that places of training are also organisations, with a collective life, or of the fact that the people who attend these places are increasingly often adults, even in initial vocational training. Bjørnåvold's (1997) logic of 'legitimate peripheral participation' (quoting Lave and Wenger, 1991) applies equally to them.

#### **4.2 Diversification of certification**

Just as they are becoming more independent, certification systems are also diversifying; the risk is then that they become less legible and may mean that steps need to be taken to make them compatible. It seems difficult to accept, however, that all knowledge can be certified in the same way. This is often the position that is nevertheless defended in the name of individual equality and the transparency of systems.

Different types of assessment can be pinpointed, however, depending on the type of knowledge in question:

- the assessment of objectively-based knowledge is very compatible with more or less automatic forms of accreditation which opens up considerable scope for the development of self-assessment and teaching innovations using the new information and communication technologies;

- ❑ the assessment of social skills requires recognition by 'expert peers' and raises the question of building up a stock of expertise in formulating standards and assessment practices. Ministries need, for instance, to be able to formulate qualification policies providing a framework for their training activities. Moreover, and in the light of the French case, while some people deplore the lack of participation of employers' and workers' trade union representatives on panels and juries, it is just as possible to highlight the high-quality involvement of these participants, despite the lack of preparation that they receive and the lack of recognition that they gain;
- ❑ setting up organisations generating knowledge has more to do with the respect of standards that promote this genesis of knowledge that can be validated by formulae along the lines of industrial standardisation.

At present, the greatest danger is undoubtedly that of dogmatism which suppresses differences because they cannot be tolerated. Flawed doctrine is nevertheless almost as dangerous. The first step in making systems compatible may well lie in demarcating their domains and in respecting their missions than in attempts to harmonise their methods and outcomes.

From the point of view, however, of closer links between certification systems at a European level, it is striking to note the lack of interest in trades that are increasingly less national: the transport trades come to mind, although trades in banking and informatics and higher education jobs could also be mentioned.

### 4.3 A question of citizenship

The certification market is prosperous and expanding. This is leading to practices of a commercial type, sometimes involving public services or states. Current developments seem to be underpinned by attempts to impose formulae in which finance is more important than the lack of substance of scientific and technical arguments. In the social sphere, as in biology, it is dangerous to try

out anything and everything, relying on a kind of transcendental Darwinism to ensure that the best solution for the community wins out over other solutions. Setting up national 'committees of experts', coordinated at European level, might help to curb this type of problem.

## Summary

The theme of the certification of occupational abilities has occupied its own space in discussions of vocational training since the beginning of the 1990s. Before then, little attention seems to have been paid to this issue: certification was seen as a natural and logical stage of a process of education that it both completed and sanctioned.

This report looks first at the issue of the increasing autonomy of certification systems, and the various ways in which this is taking place in different countries, focusing in particular on the reorganisation of links between education and training and certification.

This increasing autonomy has highlighted the question of skill identification. This has been reflected by a need to rethink performance and assessment standards, an issue that is examined in Part 2.

The current systems in Germany, Belgium, Spain, France and the United Kingdom, which show interesting differences in this field, provided a basis for our work.

### Certification systems: genesis and increasing autonomy

Judging by historical data, specific mention of certification seems to have been relatively late and piecemeal. Is this because certification has gained importance only in recent years, or, even though it was already playing a role, because it was long seen as a dependent element of the vocational training system? The importance that modern societies attach to assessment tends to bear out this second hypothesis. The few references to certification in historical works show, moreover, a trend towards a gradual appropriation of schemes

by the state, reflecting the state's growing involvement in the education of individuals, starting with higher-level qualifications and moving on to lower-level qualifications. This trend did not, however, follow a harmonious course and encountered opposition from some protagonists, in particular as regards the lower occupational levels. In addition, referring merely to the state is not enough as the state could – and can – intervene through bodies linked to the production system or the education system, depending on policy options linked to one or other sphere, and thereby give certification different objectives. The state is plural. In these circumstances, therefore, it seems logical that occupational certification, despite a common historic dynamic, takes different forms, even within the same country, and is not moving in the direction of transnational harmonisation.

The report then goes on to look at the contemporary developments that are tending to make certification increasingly independent from training: the special nature of a 'qualification' effect, which is becoming increasingly important in a labour market marked by growing mobility and far-reaching change, is thus examined. Certification is being mobilised particularly as changes in production systems are making the ability of employees to carry out the tasks with which they are entrusted less and less certain. New qualification requirements and different forms of knowledge in return raise the question of defining new assessment criteria and standards. Part 1 ends with an examination of two of the questions currently being raised about certification: the link between certification and exclusion and the problem of reconciling legitimacy and legibility.

### **Standards and assessment**

The report goes on to address the new methodological problems being raised by certification's increasing autonomy from training, looking in particular at the ways in which standards are drawn up and put into practice in assessment procedures. This makes it necessary to return to the relationships between the certification system, the production system and the training system. In the pro-

duction system, it is necessary to tackle the question of the description of work activities and to identify the performance standards specifying the occupational aim to which the certification should attest. In the training system, it is necessary to define training standards that specify the knowledge (in the most general sense of the term, including experience, knowledge, practices, competences, etc.) needed to perform the activity described. The report then looks at the relationship between qualifications, certification and the production system from three points of view: domains of skills with reference to nomenclatures of training and employment specialisms, fields of skills through job reference profiles and levels of skills using a cognitive approach.

Assessment issues are examined from the point of view of procedures for the validation of informal learning which offer a good illustration of the links or tensions between certification, training, skills and occupational performance. The issue is examined from the point of view of the design and use of the various countries' existing schemes and in particular the standards that underpin them. There are two trends: schemes that offer exemption from all or part of a training course leading to an existing qualification or schemes that award a specific certification to endorse the value of experience. The same assessment criteria are not used in both cases. The standard used in the first case will be the standard of the qualification. In the second case, it will in principle be the job description, i.e. a performance standard. In practice, the divide is less clear-cut.

The report then looks at the formulation of assessment criteria, their links with existing systems, the methods by which they can be put into practice and at assessors themselves. It would seem that standards are the means that the state uses to reduce the uncertainty surrounding the award of the qualifications that it accredits. The practical methods of implementation of standards, i.e. assessment methods, are shaped by this rule. The report puts forward the hypothesis, however, that validation decisions cannot be based solely on the strict application of standards. This does not mean, however, that the prior construc-



tions and tools developed for assessment are of no use. Standards play a structuring role as they provide a reference system common

to the various people responsible for assessment, who are guarantors of the validity, reliability and equity of procedures.

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# The changing institutional and political role of non-formal learning: European trends

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***Abstract***

*This contribution discusses the theoretical basis and main European initiatives in the area of identification, assessment and recognition of non-formal learning. Over the past few years most EU Member States have emphasised the crucial role of learning that takes place outside of and in addition to formal education and training. This emphasis has been followed by an increasing number of political and practical initiatives, gradually moving the issue from the stage of pure experimentation to early implementation. The task is challenging because developments in a number of settings, at European, national, sectoral and enterprise levels have to be considered. The interplay between these settings has not yet been extensively explored; the challenge is to see whether there is a common core to be extracted from this wide range of initial experience.*

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## 1. Introduction

This contribution aims at providing an overview on some of the main European tendencies in the area of identification, assessment and recognition of non-formal learning.<sup>1</sup> This is a difficult yet challenging task. The task is *difficult* because the rate of change and innovation, in terms of methodologies, institutions and policies, is very high. During the past few years most Member States of the EU have emphasised the crucial role of learning that takes place outside of and in addition to, formal education and training. This emphasis has led to an increasing number of political and practical initiatives, gradually shifting the issue from the stage of pure experimentation to that of early implementation. The task is *challenging* because of developments in a number of settings at European, national, sectoral and enterprise levels. The interplay between these levels has not been focused upon very much and the challenge is to see whether there is a common core of experience to be extracted from this heterogeneous body of experimentation.

In the White Paper on 'Teaching and learning' presented by the European Commission at the end of 1995, the idea of a common European approach in the area of identification, assessment and recognition of non-formal learning was presented. Consisting of a 'personal skills card' and operating within the framework of a 'European skills accreditation system', the ambition of this proposal was to develop an instrument making it possible to broaden the range of skills utilised by individuals, enterprises and in society at large. This ambition of creating one single instrument has not been fulfilled. Notwithstanding a high number of pilot projects focusing on technological and organisational issues at stake (in the Leonardo da Vinci, Socrates and Adapt programmes), neither the 'personal

skills card' nor the 'European skills accreditation system' have been transformed into actual tools operating at European level. The main developmental thrust can be observed at national, and to a growing extent, at sectoral and enterprise levels. This may be looked upon as a reflection of the need to tailor methodological and institutional solutions to specific needs and users. The needs of an enterprise may differ entirely from those of national education and/or labour authorities and individual needs may differ from those of branches and sectors. This leaves us with a paradox. Assessment methodologies are developed to make non-formal competences more visible and make it easier to transfer them from one context to another. The development of a high number of national/sectoral and enterprise-based methodologies tailored to specific and limited needs may contradict the general objective of increased transparency and transferability. This paradox cannot be fully solved at national, sectoral or enterprise levels. Whether it is possible to find European solutions (through some form of common framework linking otherwise separate initiatives together), is an open question.

This contribution is divided into four parts. The first part treats basic theoretical issues linked to the character of non-formal learning and the political implications of setting up systems in this area. The second, and by far the largest part, outlines initiatives and developments in Member States. The third part presents and discusses initiatives at EU level, concentrating on the message of the White Paper on 'Teaching and learning' (European Commission 1995) and on experiences from the Leonardo da Vinci programme. Concluding remarks are presented in the fourth and last part.

## 2. Theoretical pretext <sup>2</sup>

Identification, assessment and recognition of non-formal learning is very much a practical

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<sup>1</sup> The term non-formal learning encompasses informal learning which can be described as unplanned learning in work situations and elsewhere, but also includes planned and explicit approaches to learning introduced in work organisations and elsewhere, not recognised within the formal education and training system.

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<sup>2</sup> This chapter is a direct continuation of the contribution to the 1998 research report on the issue of non-formal learning. While the 1998 contribution focused on basic methodological and institu-

issue. Methodologies have to be simple and inexpensive and they have to be based on a clear notion of how technical, institutional and political responsibilities are to be shared. This requires a profound understanding of non-formal learning. By highlighting some of the theoretical aspects involved, we hope to be able to clarify some of the practical challenges faced.

## 2.1 The contextual and tacit character of non-formal learning

To develop methodologies actually able to capture the learning that takes place outside formal education and training institutions in a valid and reliable way, some basic characteristics of learning need to be explored. Firstly, learning is *contextual* in its character. When taking place in social and material settings, knowledge and competences are very much the result of participation in ‘communities of practice’ (Lave and Wenger 1991). Frequently, learning has been conceived as a process by which the learner ‘internalises’ knowledge, whether ‘discovered’, ‘transmitted’ or ‘experienced’ in interaction with others. But learning cannot be reduced to passive reception of ‘pieces’ of knowledge. This focus on internalisation establishes a sharp division between inside and outside, and suggests that learning is exclusively something happening inside the brain in some cerebral process, and takes the individual as a non-problematic unit of analysis. Accordingly, learning is reduced to a process of absorption, a matter of transmission and assimilation. The alternative approach formulated by Lave and Wenger provides a potentially better basis for understanding and identifying various aspects of learning and knowledge-formation. This shift in perspective implicates a focus not only on the relational (the role of the individual

within a social group) but also the negotiated, the concerned and the engaged nature of learning (the communicative character of learning). The individual learner is not gaining a discrete body of abstract knowledge that he or she will reapply in later contexts. Instead, he or she acquires the skill to perform by actually engaging in an ongoing process of learning. Learning is thus not only reproduction, but also reformulation and renewal of knowledge and competences. As Engeström (1993, 1994) has underlined, facing a new situation or an unexpected problem, a learner cannot rely only on the established basis of competences, but must try to find new solutions and develop alternative practices. This corresponds to Herbert Simon (1973) who points out that ill structured problems are more common than well structured problems in organisations. The successful learner must not only be able to reproduce competences already existing in a community of practice, but must also be able to question and improve these practices. Following Engeström’s ‘expansive’ learning model we can identify a number of elements that should be reflected in assessment methodologies:

- ❑ the ability to question established facts;
- ❑ the ability to define and clarify problems;
- ❑ the ability to cooperate and find possible solutions; and,
- ❑ the ability to formulate and implement solutions.

These are important aspects of competent behaviour in a work setting. *The ability to learn* is thus emphasised as the most important quality, even more important than the specific bits and pieces of knowledge and experience being learned. Returning to the issue of developing assessment methodologies, this points to the need for balance between the attention given to learning abilities and factual competences. Learning how to learn, including learning how to approach unexpected problems, are key elements to be addressed by any methodology in the attempt to capture non-formal learning.

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tional challenges confronting the development and implementation of methodologies for assessment and recognition of non-formal learning, this year’s contribution tries to sum up the initiatives actually taken in the EU Members States. As the basic methodological and institutional challenges are important to understanding the practical initiatives, the first part of the contribution sums up the main points made in 1998.

Second, competences are partly *tacit* (Polanyi 1967) in their character. This means that it is difficult to verbalise and delimit the single steps or rules intrinsic to a certain competence. In some cases, people are not even aware of being in possession of a competence. This is an element of high relevance to the task of assessing non-formal learning, and has to be reflected by the methodologies. Most of us know how to ride a bicycle but we face great difficulties when trying to formulate the specific rules intrinsic to this competence. The 'know-how' in question has been acquired through practice and painful experience. An experienced carpenter knows how to use a tool in ways that escape verbalisation. Normally we take this know-how so much for granted that we do not appreciate the extent to which it pervades our activities. This is perhaps most apparent in situations where this know-how deserts us, when our intuitive and non-reflective attitude towards these activities for some reason or another is interrupted. An important part of what we include in the term non-formal learning belongs to this area of implicit know-how. An experienced worker facing a new situation or a new problem will normally, without giving it much thought, be able to make use of his or her accumulated reservoir of abstract knowledge and concrete experiences. To transform tacit, implicit and intuitive knowledge into officially stamped elements of knowledge is difficult and full of risks. Difficult because we enter an area partly evading descriptions, full of risks because we might end up with misconstructions of the know-how we intend to capture. In addition, whether the tacit know-how can be captured in formal descriptions is also a question of economic and practical feasibility: how much time and resources should be spent on assessing each individual?

Thus, the quality of assessments relies on a number of factors. Methodologies have to reflect and balance the individual and contextual as well as the tacit and implicit character of non-formal learning. Testing within a formal education and training setting is normally judged according to the criteria of reliability (consistency) and validity. These criteria are just as important within the setting of non-formal learning but in many ways even

more difficult to achieve than in the setting of formal education and training. The question of validity is crucial as methodologies have to be able to capture the variety and heterogeneity of learning paths and learning results. Surrounded by constraints imposed by limited time and resources, methodologies must be able to combine the need for standardisation and simplification with an open attitude towards the non-standard and what is specific to an individual or a group. Proper 'measurement' implies openness for the richness and complexity of learning; maps should be drawn according to the terrain, the terrain should not be described to fit the map. To find the balance between optimal validity (to pursue perfect validity implies endless assessments), necessary standardisation and simplification, is the basic challenge. The question of reliability (and consistency), is also of crucial importance. Users must be confident that results can be compared and that unfair variations in assessment practices have been avoided as far as possible. A situation where candidates are treated differently due to unclear procedures and varying interpretations of procedures by assessors, risks a threat to the legitimacy of the system.

Generally speaking, the challenge of assessing non-formal learning consists of capturing, on a piece of paper, learning results specific to individuals and contexts. This has to be done within a procedural setting aiming at standardisation and simplification (due to limited resources and legitimate demands for consistency). This balance of seemingly opposing principles is what makes the task a challenge for policy-makers, researchers and practitioners.

## **2.2 The need for legitimacy and social acceptance**

The future role of systems for the assessment and recognition of non-formal learning cannot be limited to a question of methodological quality. While being important, reliable and valid methodologies are not sufficient to make individuals, enterprises and/or educational institutions trust and accept assessments. A number of political and institutional preconditions have to be met to attribute some ac-

tual value to the assessments in question. This can be done partly through political decisions securing the legal basis for initiatives but should be supplemented by a process where questions of 'ownership' and 'control' as well as 'usefulness' must be clarified. In this way, assessments of non-formal learning would be judged according to technical and instrumental criteria (reliability and validity), as well as normative criteria (legality and legitimacy). The acceptance of assessments of non-formal learning is not only a matter of their legal status but also of their legitimate status. As with ordinary certificates from the formal education and training system, the function of assessments of non-formal learning may be compared with money. Parsons has defined money as:

'...a code, providing certain information from holder to receiver. Money is valid in a certain set of standard situations, it must be based on a generalised value, accepted not only in a legal sense, but also on a popular basis, and it must be measurable'.

If we apply this perspective to assessments of non-formal learning several parallels appear. As with money, assessments can be understood as a code, providing information from holder to receiver. An individual applying for a job using assessments exemplifies this. Information is not enough, it must be presented in a specific code to be acceptable. As with money, assessments are valid in a predefined set of standard situations, e.g. in the labour market, within the hierarchy of an enterprise or in the system of education and training. Like money, assessments must also be based on some form of generalised legal and legitimate value. The competences in question must be accepted as potentially valid/useful outside their narrow context of origin. Only actual use can prove whether such a generalised value will actually be attributed to assessments of non-formal learning. Nobody can guarantee that the relative value of formal versus non-formal learning can be changed through the introduction of methodologies and systems for the assessment of non-formal learning. The strong links between formal education and social bargaining processes (which influence the setting of wages and ac-

cess to jobs), illustrate the complexity involved in attributing generalised value to assessments of non-formal learning. Finally, as with money, assessments must be able to 'measure'. This means that both the quantitative (time, volume) and qualitative (content, profile) aspects of learning must be captured in as valid and reliable a way as possible.

Accordingly, assessments must be able to store information, measure the learning in question and signal the value attributed to it in the broader setting of the labour market, the education and training system and society in general. Unlike money, assessments cannot operate on the basis of a one-dimensional and quantified code, rather, they have to use written texts to capture the complexity of individually-held competences. The metaphor of money highlights the challenges facing this new 'currency'. First, interpreting assessments as a code transforming a complicated set of information (about learning) into a standardised and simplified language, points to the methodological paradoxes already discussed. If standardisation and simplification become too radical, the information value is reduced in such a way that the overall benefit is threatened. In this respect the difference between money and assessments is made clear. If the contextual, individual and tacit characters of non-formal learning are lost during the 'measurement process', the information value is reduced in a way which threatens the legitimacy of the exercise. The strength of money lies in its ability to simplify and standardise what would otherwise be a complicated process of barter and exchange. The weakness of assessments of non-formal learning may very well lie in the same need to simplify and standardise. Furthermore, the legitimacy and value of assessments will be defined through their actual use. Theoretically, these standard situations arise when individuals try to enter the labour market, or access certain levels of the education and training system or improve their position in the internal job-hierarchy of an enterprise.

Questions of legitimacy and acceptance rely partly on political and legal actions by the State or some other authority. The setting up



and 'design' of institutions and political processes are thus of equal importance to the methodological considerations outlined above. In other words, a perfect methodology is of no value if not working in tune within legitimate institutional and political settings. It would be naïve to think that institutional design can provide a complete solution, it would however be equally naïve to overlook the potential importance of such an approach. The following criteria need to be considered when constructing the institutional basis for the new methodologies:

- relevant participants must be heard;
- relevant information must be delivered;
- different interests should be balanced.

Acceptance implies a shared and balanced ownership between representatives of the formal education and training system and representatives of enterprises and trade unions. So far, the institutional and political aspects of assessing non-formal learning have been left untouched to a large extent. This may be due to the fragmentary status and novelty of initiatives in this area. The issue has been looked upon as not very controversial, something everybody can agree on. In a situation where methodologies and systems for the identification, assessment and recognition of non-formal learning mature, covering larger groups of the population, this may change. Such a situation could increase the general value of competences acquired outside formal education and training institutions and affect collective bargaining, both in terms of setting wages and access to jobs.

### **3. European trends: Developments at national level**

In 1994, according to Eurostat (1997), almost 25% of the entire European population was enrolled in some form of education and training (all levels included). The growth of specialised and institutionalised training is one of the most distinct characteristics of European societies today. Against this background, growing interest in learning taking

place outside the formal education and training domain may seem paradoxical. In a situation where national education and training systems face overcapacity and where highly educated people face unemployment, the sense in putting resources into systems of 'assessment and recognition of informal and non-formal learning' may seem questionable. This is, however, what is happening. During the past decade, a majority of EU Member States, together with countries outside the EU, have initiated work to establish methodologies and institutions facilitating identification, assessment and recognition of learning taking place outside formal education and training institutions. Pioneered by France (the Law on *Bilan de competence* of 1985 and the Law of 1992 on the 'Validation of skills acquired by work experience'), attention on these issues has been strengthened year by year. The purpose of this report is to provide an updated picture as well as an interpretation of this trend.<sup>3</sup>

From the outset, it is possible to conclude that no common European approach currently exists. The fact that initiatives have been taken at different points in time and within the context of different systems of education and training leaves us with a heterogeneous mix of national and sectoral approaches. What is important is that most initiatives seem to focus on the same challenges. Firstly, the reorientation of formal (especially vocational) education and training, from strictly input-oriented to output-oriented systems is important to understand activities. In countries like the UK and Finland, it is emphasised that what matters are the competences, not how you have acquired them. By accepting alternative pathways to learning, in addition to the ones provided within formal schemes, the question of assessment becomes a central one. Secondly, the growing emphasis on lifelong

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<sup>3</sup> Our presentation is based on material gathered within the framework of the Cedefop project on 'Identification, assessment and recognition of non-formal learning', initiated in 1997. A total of 15 studies have been commissioned to research institutions in 14 countries, and this report represents a first attempt to bring together the results of this work.

learning implies a stronger focus on the link between different forms of learning in different areas at different stages of life. While the formal system is still very much focused on initial education and training, a lifelong learning system has to face the challenge of linking a variety of formal and non-formal learning areas. This is necessary to meet the individual need for continuous and varied renewal of knowledge and the enterprise's need for a broad array of knowledge and competences – a sort of knowledge reservoir to face the unexpected. Also in this context, the question of identification, assessment and recognition is crucial. Competences have to be made visible if they are to be fully integrated into such a broader strategy for knowledge reproduction and renewal.

More or less explicitly, these two challenges are emphasised in all the countries studied. In some countries, methodologies for the identification, assessment and recognition of non-formal learning are looked upon as necessary tools to open up these new pathways. But the issue should not be limited to how to modernise and vitalise existing systems for education and training, the methodological and institutional experimentation may also be looked upon as a reflection of basic changes in our understanding of learning and competences. Closely related to the unprecedented growth in formal education and training (see above), a growing scepticism towards the output of the formal system can be detected. It is questioned whether a harmonised system of mass education is able to serve the needs of societies becoming increasingly complex, both in the technological and organisational sense. Traditionally, formal education and training systems were important vehicles not only for the reproduction and renewal of competences, but also for the selection for jobs and positions. In a situation where many European countries combine mass education with mass unemployment, the role of education as a selection mechanism becomes more problematic. On the one hand, we can observe inflationary trends as the amount of education and training needed to compete on the labour market increases. On the other hand, 'more of the same' is not necessarily what is asked by a labour market facing rapid

changes and growing uncertainty. As long as the challenge is to select individuals with the most relevant competences, formal education and training systems may increasingly appear as insufficient and the need to utilise other sources becomes more urgent.

The initial focus of our work on this issue was a methodological one (Cedefop, Bjørnåvold, 1997): is it possible to measure learning taking place outside formal education and training in a reliable and valid way? The introduction of methodologies in this area can only be understood within a broader social and political context as a response to changing conceptions of education and training. This defines our main perspective when trying to overview developments in the EU/EEA context.

The European situation will be presented by looking at five country clusters. Even though countries within each cluster may differ somewhat in their methodological and institutional approaches and choices, geographical nearness as well as institutional closeness seem to motivate mutual learning. The overview presented in this chapter is limited in the sense that it basically focuses on initiatives at public level. As will be documented in later chapters, important additional initiatives have been taken at enterprise and branch levels, partly on an autonomous basis and partly supported by European programmes such as Leonardo da Vinci and Adapt.

We start by discussing the role of assessment and recognition of non-formal learning in Germany and Austria. Two basic questions define the scope of this presentation: why have so few initiatives been taken in these countries, and how does the dual system of vocational education and training influence work and initiatives in this field. In the second cluster, the approaches of the Mediterranean countries Greece, Spain, Italy and Portugal are discussed. These are countries where, due to weak vocational education and training traditions and systems, non-formal learning has played, and still plays, a crucial role. In a situation where formal education and training is generally being strengthened, the role

of non-formal learning is challenged and changed. In the third cluster of countries, Finland, Norway<sup>4</sup>, Sweden and Denmark, we ask the question whether a Nordic model can be identified. The Nordic countries enjoy a long tradition of mutual learning in the area of education and training; whether this applies to assessment and recognition of non-formal learning is another question. In the fourth cluster of countries, United Kingdom, Ireland, and the Netherlands, we reflect on experiences within, as well as the influence of, the UK NVQ system (National Vocational Qualifications). The NVQ system has received much attention, not least from abroad. As a high-profile system emphasising modularisation and output, the NVQ system has, in spite of domestic criticism, become an important reference point in the international debate. Ireland and the Netherlands can be looked upon as countries where this influence has been strong, especially in the field of assessment and recognition of non-formal learning. The fifth and last cluster, France and Belgium, is defined on the basis of geographical nearness rather than a common approach towards non-formal learning. As already indicated, the topic of non-formal learning has moved into the forefront of the French debate on education and training during the past decade. Both in legal and practical terms, the French experience is important. In Belgium the issue of non-formal learning has only recently been introduced to the political agenda. In the Flemish part of the country, cooperation with the Netherlands has been initiated but it is still too early to say in which direction this country will move.

Due to differences between countries, the scope of the presentations as well as the level of detail varies somewhat. We attempt to cover three aspects. First, what is the role of non-formal learning within the existing political-institutional context? Second, is it possible to identify methodological and/or institutional initiatives in this area, established on a permanent basis? Third, is it possible to identify experiments, for example, projects

aimed at the development of methodologies or institutions for the assessment and recognition of non-formal learning?

### **3.1 Non-formal learning in the context of the dual system: Germany and Austria**

In Germany and Austria the issue of non-formal learning is a new and unresolved one. Five years ago it was hardly discussed. Today, a debate on the role of non-formal learning is gradually evolving. A number of experimental projects (in particular focusing on the needs of the unemployed, people reentering the labour market, etc.), have also been initiated, testing various approaches to assessment. The longer-term political-institutional consequences of this debate and experimentation are difficult to predict. We think, however, that these two countries, despite their reluctance, are interesting 'learning cases', illustrating the possibilities and potential as well as obstacles and problems in this area.

#### **3.1.1 Germany**

A number of factors explain why the issue of non-formal learning has so far played a limited role in Germany:

- direct demand for the assessment of non-formal learning has been low. The formal system of education and training is extensive and has for a long time covered substantial proportions of each age group. There is a very strong education and training fundament, reducing the number of people likely to ask for recognition of non-formally based competences;
- the education and training system is highly focused on initial education and training. Within the vocational field, the status of the dual system has been and still is very high. There is no tradition to follow other pathways to learning, especially outside the formal system;
- the fact that the dual system is based on a combination of school and work-based learning implies that the experiential part of learning is somehow included in the of-

<sup>4</sup> Norway has been included as the only non-member of the European Union in this study.

ficial model, reducing the need to assess non-formal learning acquired outside the formal system;

- the formal education and training system is based on *Berufsprofilen* (occupational profiles), representing a clearly defined set of qualifications/competences. Each *Berufsprofil* indicates what should be learned, how it should be learned and where this should take place. The profiles, which can be looked upon as the 'benchmark' of the system, can to a certain degree be seen as 'input-oriented'. By defining the 'correct' pathway to a certain qualification, they also exclude other pathways, for example (partly) based on non-formal learning;
- the concept of *Beruf* (occupation), following a successful completion of formal education and training, does not only specify a certain training approach, but is also linked to a certain wage level and a set of rules defining rights and responsibilities. This implies that the formal system is not only about knowledge and competences, but also a mechanism for defining the distribution of rights and returns. Consequently it is a way of defining the implicit value of different kinds of learning.

All together, these factors contribute to the high value attributed to formal certificates from the formal system. Enterprises and branches have also been reluctant to consider other learning pathways because of high unemployment rates. The topic of non-formal learning has been (and still is), looked upon with indifference. This indifference also seems to be linked to the high complexity of the existing system, alternatives are difficult to conceive in a situation where all steps are planned and described in detail and where professional status as well as wage level depends on following these steps. But as indicated, a change of attitude is taking place, and a growing awareness of non-formal learning can be explained through the following elements:

- the existing education and training system is accused of being too focused on initial

training. The rigidity and inflexibility following this bias makes the system badly animated to support continuous training/retraining. The inclusion of non-formal learning has been introduced as a necessity to balance the current and exclusive focus on initial training;

- the development of the CVT system has not followed the highly structured and formalised model of initial training and education. On the contrary, this 'sector' is heterogeneous and subject to limited public or tripartite coordination. The link to the initial training system is weak and rather arbitrary. This state of affairs has underlined the importance of alternative pathways to learning; the fact that the need for competences cannot be entirely planned in advance, flexible learning models are prerequisites for successful learning;
- the lack of complementarity in initial and continuous training/education systems stresses the need for 'bridging' solutions which can utilise the growing CVT system in a more systematic way and link these elements to the existing initial training 'colossus'. Assessment methodologies, and institutions able to provide valid and reliable assessments of a wide range of competences from formal as well as non-formal sources, are essential if this bridging function is to be developed and established.

Increased flexibility through modularisation has been introduced as a key approach in this context. The main argument is that such a modularisation would link initial and continuing education and training in a better way. Candidates could enter and reenter education and training according to their own needs and assessment and testing would be limited to the modules in a more output-oriented way, leading to alternative paths to learning. Regine Görner, representative of DGB, stated in January 1999:

*'Das Prüfungswesen wird sich entsprechend verändern müssen. Teilqualifikationen sind jeweils im Berufsbildungsprozess zu zertifizieren.'*

*Die Abschlussprüfung wird dadurch erheblich entschlackt, sogar überflüssig.*<sup>5</sup>

This statement emphasises the need for a more flexible education and training approach where different levels and learning pathways can be linked together in a better way. The German case is important to understand the general context of non-formal learning. The starting point is not the methodologies, nor the questions of reliability and validity of measuring and assessing learning, but rather how overall change in education and training needs can be reflected within existing education and training approaches. The dual system was not intended to be a lifelong learning instrument, but an initial training instrument. In a situation where retraining and renewal of competences is emphasised, the weaknesses of this (in other respects very efficient), model appears. The questions are: how to open up the existing model; how to link to CVT, how to allow for a greater variety of pathways to the same qualifications and competences. Such a shift demands systems for assessment and recognition of non-formal as well as formal learning.

Notwithstanding reluctance to embrace initiatives supporting assessment and recognition of non-formal learning, we find elements in the German system linked to this idea. These arrangements illustrate that the issue of non-formal learning has been considered but within a limited scope and framework. The *Externenprüfung* (examination of external students) is perhaps the most important single element 'bridging' non-formal and formal learning and is a permanent element of the dual system. This test provides experienced workers with the right to take part in the final craft examination (*Abschlussprüfung*) together with those having followed the ordinary route through the dual system. Although important, the *Externenprüfung* only provides access to a test, it does not provide any independent or particular methodology aimed at the identification

and assessment of the specific experiences. In this respect, the *Externenprüfung* is designed according to the content, principles and structure of the formal pathway. To put it another way, the competences acquired outside the formal system, irrespective of how different they are from those produced in the formal system, have to be presented and restructured (by the candidate) according to the principles of the formal system. This does not reduce the importance of the *Externenprüfung* as approximately 5% of all examinations within the German dual system are based on it annually.

In a number of experimental projects the needs of specific groups (unemployed, women trying to reenter employment, drop-outs from the formal system, etc.) were focused upon. A common objective shared by the majority of these projects is to improve access for these groups to continuing vocational education and training, and in some cases make it possible for them to reenter the initial training system. The project *Bildungspass-Qualifizierungspass* of 1974 is an exception. Working on the basis of more general objectives the *Bildungspass* can be described as a portfolio-approach trying to 'paint', via description and documentation, a broader picture of the competences held by an employee. Together with formal education and training the idea was to include a documentation of experience and practice thus giving a more complete picture of the person in question. The *Bildungspass* never became a success, and was eventually abandoned. Descriptions of single projects can be found elsewhere (Cedefop 1998a), and it should be emphasised that projects brought to our attention were initiated and financed by public institutions at regional, national or European levels. The last category of projects, notably through the Leonardo da Vinci and Adapt programmes have become increasingly important in this area. This is a phenomenon not limited to Germany, but can be found in most other countries covered (see Chapter 4).

### 3.1.2 Austria

The topic of assessment and recognition of non-formal has not received very much atten-

<sup>5</sup> The system of examinations will change. Partial qualifications will be individually certified and entered into a passport for vocational education and training. This will gradually make the final examinations less important, even superfluous.

tion in Austria and few practical initiatives can be identified. However, as in Germany, the issue is receiving growing attention. So far, the role of prior and non-formal learning has for the most part been touched upon in debates linked to the question of modularisation of education and training. While basically non-existent in initial education and training, modularisation has, to a limited degree, been introduced in continuing vocational training. These programmes (for example those organised by the *Berufsförderungs-institut* (BFI) and the *Wirtschaftsförderungs-institut* (WIFI)) have highlighted the need for alternative practices in the area of assessment and recognition of qualifications and competences. Following the trend observed in most European countries, this debate is closely linked to the overarching question of whether the existing system for education and training will be able to meet the requirements for a more 'flexible' system operating across traditional boundaries and levels. OECD commented on the Austrian education and training system in the following way (1995:84):

'In Austria, the idea that there is a time for acquiring knowledge and skills, if possible by obtaining formal qualifications, and a time for using this knowledge professionally, does not yet seem to be out of date.'

This statement reflects some basic characteristics of the Austrian approach to vocational education and training. Elements which explain why the debate on non-formal learning has been a marginal one until now also indicate a future role for methodologies and systems for the assessment and recognition of non-formal learning. These characteristics can be summarised in the following way:

- initial vocational education and training holds a very strong position. Still based to a large extent on the dual system (40% of each cohort still entering), the Austrian system can be described as highly specialised and formalised. Based on a complex legal and administrative body, the content of each occupational profile (*Beruf*) is prescribed in detail. Prescriptions also cover assessment and testing procedures as well

as regulations concerning link/transfer to other occupational profiles and levels;

- the strong specialisation effect has resulted in rather narrow occupational profiles (currently, if all forms of education and training are included, approximately 700 profiles can be identified);
- the system is hierarchical in its character. No system of 'credit points' exists, meaning that a partially completed training at one level is not recognised. Continuation has to take place from the lower level;
- to a certain extent and due to the specialised nature of the system, 'career lock-ins' can be observed. A move from one career path to another, either in a horizontal or vertical fashion, is complicated;
- in contrast to initial vocational education and training, continuing vocational education and training has not been subject to much political attention and is far less regulated. The 'system' is characterised through competition between private actors and uncoordinated actions from a number of public bodies.

Following these points, the Austrian system for vocational education and training can be described as very advanced in terms of initial education and training. The dual system clearly supports a close interlink between formal schooling and work-based learning. Potentially this creates a strong foundation for the linking of formal and non-formal competences at later stages in life; the importance of work-based learning is clearly understood and appreciated. This potential has yet to be fully released. The lack of bridging mechanisms between initial and continuing vocational education makes any horizontal or vertical move between occupations and/or educational levels complicated. In short, systems for the recognition of partial qualifications or competences have not been developed very much. The only exception to this was the introduction of the *Berufsreifeprüfung* in 1997. Candidates from the dual system can, by passing this test/assessment, be given access to higher education. The test focuses on

general subjects like mathematics, English and German. Non-formal learning in the sense used here is not a part of this test.

On the basis of the above situation representatives of the social partners and various institutions dealing with continuing education and training were asked to comment on the future prospects of systems for assessment and recognition of non-formal learning (Cedefop 1999a: op.cit.). This small survey reflects the main points made above but offers some interesting clues on future developments. The employers' representative expressed the clearest yet pessimistic view. According to him, competences acquired outside the formal system and not integrated into a formally recognised certificate will hardly be accepted. He concluded by saying:

'We are, I'm sorry to say, big formalists and take as our point of departure that anything not certified is not formally learned, and thus does not exist.'

The same attitude was expressed by others with several having difficulty seeing any positive role for such a system. The high quality and legitimacy of the initial training system was mentioned as a reason why recognition of partial and non-formal competences would be difficult to introduce in the Austrian context. This view was not, however, fully shared by the representatives of the employees, emphasising the potentially positive role of such systems for individuals applying for jobs. In general, recognition of non-formal learning is looked upon as a factor that can strengthen the position of the employee.

The general impression created by the interviews in Austria is one of reluctance: methodologies for the assessment of competences are partly looked upon as an Anglo-Saxon invention reflecting a situation where a relatively large part of the population has no proper vocational qualification basis. This, it was commented, is not the case in Austria where a completely different education and training approach has dominated for decades. However, almost all commentators are aware of the need for more flexible continuing vocational education and training. The need for a

certain modularisation and thus new approaches to assessment and recognition seems to be partly accepted but clearly limited to the area of continuing vocational education and training.

To conclude, Austria can be described as one of the EU Member States where we find the most clearly expressed scepticism towards introducing methodologies and systems in this area. The paradoxes identified within the initial vocational education and training system, as well as between initial and continuing education and training, may lead to a stronger debate and to practical experimentation. For the time being, it is difficult to predict in which direction Austrian developments will go.

### **3.1.3 Conclusions**

As seen, the German and Austrian approaches to the question of identification, assessment and recognition of non-formal learning are closely linked. It is interesting to note that the two countries where work-based learning has been most systematically integrated into education and training (through the dual system) have so far been very reluctant to embrace this new trend. On the one hand this reflects success; the dual system is generally viewed as successful both in terms of pedagogy (the combination of formal and experiential learning) and capacity (high proportions of the cohorts covered). The need for new assessment methodologies is not acknowledged. The success of the dual system may further be seen as the source from where increasing attention to assessment and recognition of non-formal learning springs. Focusing mainly on young people however, and the reproduction of knowledge and competences, the existing system is only partly able to meet the increasing demand for renewal of knowledge and competences among adults. The need for a more open education and training system where better and less complicated links between occupations and levels of education are opened up, cannot be met exclusively by the dual system. This is the context of the ongoing and growing debate on non-formal learning within the two countries.

### **3.2 Non-formal learning in the Mediterranean context: Greece, Italy, Spain and Portugal**

There are certain common features linking the Mediterranean countries of Greece, Italy, Spain and Portugal in the area of identification, assessment and recognition of non-formal learning. Compared to northern Europe, these countries (or at least certain regions of these countries), have a much weaker tradition in the area of vocational education and training. Only recently, over the past decade or so, have initiatives been taken to remedy this.

First, the relative weakness of vocational education and training is paralleled by the strength of academic and theoretically based education. Even though academic education in these countries no longer represents any guarantee of employment, high income or high status, the value attributed to formal certificates in general, and academic certificates in particular, is still substantial. In Greece, 70% of all youths prefer academic education to vocational education (Cedefop 1999a), despite a serious mismatch between the output of higher education institutions and the labour market demand. Secondly, the relative weakness of the formal vocational education and training system has established non-formal learning (in particular through work experience), as the domineering form of (vocational) competence reproduction and renewal. This means, and is probably of specific importance in Greece, the southern regions of Italy, and the less developed areas of Spain and Portugal, that a vast reservoir of non-formal, experienced-based competences exists. If this reservoir is going to be 'tapped', and if it is going to be renewed (quantitatively and qualitatively), it is necessary to identify and assess its strengths and weaknesses. The quality of competences based on non-formal learning cannot and should not be taken for granted. Proper systems for identification and assessment could be one way to face this quality problem, and if necessary, point to the supplementary actions needed to improve quality and be entitled to recognition. Perhaps more than is the case in northern Europe, this illustrates the need for iden-

tification and assessment of non-formal learning. Although building on relative weak traditions in the field of vocational education and training, and facing a deep-rooted underrating of vocational competences in general, and non-formal vocational competences in particular, a growing willingness towards change can be observed. Throughout the past decade, all four countries have been reforming their vocational education and training systems and specifically Spain and Italy are now entering the decisive stages of these reforms. The consequences in terms of methodologies and systems for the 'identification, assessment and recognition of non-formal learning', are important, and probably of relevance to countries outside the Mediterranean area. The four countries, despite their common challenges, have treated the methodological and institutional aspects in different ways and with varying commitment and intensity.

#### **3.2.1 Greece**

Greece may be described as the country within the EU where the role of non-formal learning is most dominant (competing with Portugal in this respect to a certain extent). The General Confederation of Greek Workers estimates that only 30% of the Greek workforce has some type of formal professional qualification<sup>6</sup>. This means that a significant part of vocational competences in Greece has been and is still being reproduced and renewed outside formal institutions. Nevertheless, few initiatives have been taken to identify and assess these competences. In 1994, the Organisation for Education and Vocational Training (OEEK), set up a working group to study the 'accreditation of (non-formal) vocational training of adults'. This work, which represents the most practical initiative in Greece so far, has put forward proposals for the creation of a system for the evaluation of experience, the assessment of gaps in knowledge, and a procedure securing the access to appropriate assessment

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<sup>6</sup> Research in SMEs shows that 66% of these enterprises do not have a specialised technician; 13% of SME owners had a technical school degree; 49% completed 3 years of secondary school; 59% would not feel they had any particular need for vocational training.



and recognition. While focusing on the aspect of experience the emphasis of the group was put more on the question of equivalence between different parts of the formal system. Some paths are officially recognised, others are not; many individuals face a lack of consistency and are unable to build on prior training in non-recognised parts of the training system. Pilot studies of a sample of (four) professions were important aspects of the OEEK initiative. In these professions, individuals were assessed and tested, illustrating how formal and non-formal learning is mixed and combined. Thus far, these experiences have not been integrated into the Greek system on a permanent basis.

There is however an ongoing political dialogue on these questions and the Ministerial Council is supervising a dialogue between the relevant bodies (Ministry of Labour and Employment, OEEK, EKEPIS, and OAED). A main concern is the creation of a national and comprehensive system of qualification profiles and standards which is presently lacking. The future system is being tested through pilot projects in different sectors, partly using the UK NVQ system as their example. The aim is to develop job profiles (and training packages reflecting these) which will make it possible to specify the content and level to be met by a candidate. Job profiles will be established at different levels, specifying required competences for each specific profession and specialisation both at entry and advanced levels. Profiles will be established with the participation of sectoral bodies and the social partners. For example, in the case of the hotel sector, job descriptions will be developed with the involvement of the respective unions of hotel employees and the national sectoral body (in this case, the national tourism board). This will provide the framework for a national system on which assessment and recognition can be based and where prior formal as well as non-formal learning can be taken into account. The plan is to open this system up to everybody, the emphasis being on the content and level of competences, not on where and how they have been acquired.

Details on how these competences will be 'tested' have not yet (autumn of 1999) been

released. It is possible that the assessment and testing approach applied within the IEK (Instituta Epangelmatikis Katartisis)<sup>7</sup> might be considered. This approach is based on a combination of theoretical and practical testing by 'tripartite' committees. Although elements from the IEK system might be used within a future system, it will not be possible to build on the system as such. Operating on a post secondary level, assessment is directly linked to the completion of a course and is thus closed for individuals having followed other learning routes. Some doubt has also been cast on the quality of the assessment procedure: while the inclusion of social partner representatives in the committees can be looked upon as positive, they have not received any particular training, making it difficult to harmonise assessment practices.

The investigation done by Cedefop (1999a) illustrates that broad support exists for the introduction of methodologies and institutional arrangements to assist in this area. There is a certain reluctance among unions of regulated degree-holding professions and among university degrees, and this is partly linked to the question of wages and protected rights challenged by new forms of recognition. It is interesting to note that the scepticism identified in the Austrian context is not so clearly expressed among the Greek players in this field. Contrary to the Austrian situation, the Greek vocational education and training system, initial as well as continuing, is, relatively speaking, much weaker; the need for recognition of partial competences, formal and non-formal is seen as more relevant.

### **3.2.2 Italy**

The Italian education and training system and in particular vocational and continuing training is currently undergoing a remarkable process of reform. Based on agreements between the government and the social partners (Cedefop, 1999b, p.10), the outline of a more comprehensive and national Italian system can be detected. This is particularly clear in the law on 'promotion of employment'

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<sup>7</sup> Vocational training institutes.

(Cedefop, 1999b, p.11), in which the basic principles of a (vocational) lifelong learning system is described. The 1996-97 law introduces the principle that competences can be certified irrespective of the way in which they were acquired. Competences acquired through work should be assessed and potentially recognised in the same way as competences acquired through formal training institutions. This is a system where 'the partial achievements of individuals in their own life paths can be assessed and recognised. The new law thus adopts a combination of measures: a modular system of training; a system of training credits; and tailored assessment and certification procedures. The aim is to integrate and interconnect the various systems (initial vocational education and training and continuing vocational training) and achieve 'a personalisation' of learning routes. Though still at an early stage of implementation, certain tensions have already occurred. As it is obvious that procedures and methodologies for the assessment and recognition of competences (in general), will be of crucial importance, the development of these easily turn into a 'battlefield' of different interests. Observers (Cedefop 1999b) point to the predominance of academic content and curricula in the assessment procedures; making it difficult to treat the non-formal learning elements (e.g. from the workplace), in a fair and valid way. Two main instruments/tools have been developed. An 'individual training record book' has been introduced (can be combined with formal attestations/certificates to form a portfolio), as well as 'skills audits', introduced according to different models in the various regions. Observers (Cedefop op.cit.) also indicate that these approaches are seriously hampered for the time being by lack of clear-cut definitions/regulations of the tools in question, and furthermore, the lack of a system of national standards to promote consistent and comparable practices. While being the most important obstacle to reliable and valid assessments, the lack of a national standard is not the only obstacle to be dealt with. Lack of resources limit the feasibility of the approach; a problem that can be linked to the low social esteem associated with this field of education and training. The tripartite basis of the current Italian reforms may prove

important to move from political decisions to actual institutionalised practices. The dominance of academic values and the lack of a proper set of standards may cause delays in this implementation process.

In a recent study (ISFOL 1998), Italian managers have been asked what they look upon as the most crucial elements for managing competences and developing continuing training. This study, it turns out, is closely linked to the question of non-formal learning and how to develop methodologies and institutions in this area. The investigation focuses to a large degree on how to measure competences in such a way that they can be managed and utilised in the best possible way. Some of the points made were:

- ❑ who should assess the competences acquired by individual workers and how. This already happens in many enterprises but based on internal and not easily transferable standards. Some employers fear that more visible competences would lead to the loss of core competences in the enterprise. Hence, a common framework balancing the interests of the individuals and the enterprises is requested;
- ❑ firm public control over systems for the assessment of competences is seen as necessary. The aim should be to uphold standards and to secure proper representation of the social partners. If the rules and procedures are clear, a strategy towards the recognition of non-formal learning is seen as feasible and useful;
- ❑ systems for the recognition of non-formal learning should be linked up to general standards open to comparisons. Standards should not be too specific due to the need to take into account the context of the learning in question and the wide variety of learning paths and learning forms involved;
- ❑ there is a great deal of goodwill and readiness to try out procedures and instruments to promote visibility and transparency of competences. As indicated earlier, this must be done within a common publicly-

controlled framework. This interest is linked to the question of flexibility of the education and training system as such, emphasising that the opening up for transfer of competences between education and work and between different levels of education is a crucial objective which has to be met;

- the idea of a portfolio in the sense of recognition of 'experience credits' is looked upon as a potentially promising way to go.

This study clearly indicates that there is a shared conviction among Italian managers that work-based learning is important and that these competences should be made more visible and attributed equivalent value to qualifications and competences acquired in formal settings.

### 3.2.3 Spain

The Italian reform movement in the area of vocational and continuing education and training is paralleled, albeit in an even more comprehensive way, by Spain. Since 1990, three important legal/political initiatives have been taken. A law on 'the general regulation of the education system' was introduced by the Ministry of Education in 1990, and two interlinked 'national vocational training programmes' (I and II), were introduced by the Ministry of Labour in 1993 and 1997. The purpose of all these initiatives, which are linked, is to integrate the different subsystems of training and different forms of acquisition of competences (i.e. combine 'regulated, occupational, continuing training and work experience' with each other). This bridging effort is clearly based on an output-oriented, competence-based view of vocational training education. It can also be said to aim at a life-long learning system. Until now, the role of non-formal learning has been weak in the Spanish formal system. Confined to the level of enterprises, the transfer of non-formally based competences has been difficult. The restructuring of the education and training system, however, implies that this may change. Two initiatives are of particular interest in this context. First, the integrated service plans for employment (SIPE), estab-

lish procedures for the competence assessment of the unemployed. Using a combination of 'occupational interviews' (to identify the vocational and competence profile of the individual) and 'occupational qualification tests', this procedure aims to improve the basis of guidance and improve the self-understanding of the individual's own strengths and limitations. The procedure does not, however, lead to any formal recognition. Second, certificates of occupational proficiency represent an effort to certify non-formal learning. Set up in 1995 (see Cedefop, 2000), the system currently covers 185 vocational titles in 22 sectors/areas. A certificate of occupational proficiency can be obtained through two main pathways. The 'training pathway' is the dominant one, whereas the 'work experience pathway' is of minor importance. The Ministry of Labour, responsible for the scheme, has identified the following aims:

- identify the characteristics of vocational competence and thus objectify accreditation;
- integrate vocational training in a system which will guarantee the acquisition of vocational competences;
- increase the minimum training content of workers;
- give certification national validity;
- accredit, through work experience, the qualifications of workers who do not have a formal title.

The practical testing will be conducted by an assessment committee of seven provincial or sectoral based external observers. Cedefop (2000) suggests that the developmental work within this field is biased through the over-emphasising of the formal training path. Although the legal base ascribes the same value to formal and non-formal routes, there is an impression that those attempting to be certified on the basis of experience face a growing number of obstacles. Currently, the establishment of methodologies and arrangements to assess and recognise non-formal learning in Spain depends on the parallel development

of 'national systems for qualifications', a reference point which could provide a better basis for integration and interconnection of the various forms of competence acquisition. This system or standard was foreseen in the first 'national vocational training programme' of 1993, and has been under development since then. The 'National Institute of Qualifications' established in 1999, will support this system and is seen as being of vital importance in future.

In addition to the elements mentioned, collective bargaining is increasingly used as an instrument for the regulation of the occupational classification system. Collective bargaining at sectoral level has led to some progress in the area of occupational classification. Agreement on general classifications, thus doing away with purely company-specific reference frameworks, has made it possible to start work on procedures where workers can be assessed and paid according to these categories. In the chemical and construction sectors some progress has been made. Though still not very widely used, a professional skills card has been introduced in the construction sector. The trade union organisations responsible for issuing these cards are already complaining about the practical problems faced.

### **3.2.4 Portugal**

Like Greece, Italy and Spain, the economic role of non-formal learning is important in key sectors of the Portuguese economy. In a recently published article, Carneiro (1998) compares two Portuguese industrial sectors: the shoe industry and electronic-component industry. The latter is new in the Portuguese context and consists of employees with a relatively high level of formal education and training. Shoe production, on the other hand, is based on a very low level of formal education and training and is described as a sector reproducing and renewing itself through 'on-the-job learning', or non-formal learning in our context. Carneiro uses the success story of the Portuguese shoe industry, in which the ability to renew and grow has been very strong, to emphasise the huge potential of non-formal learning. The conclusion is that

this form of learning and the resulting competences is a resource that has to be exploited in a more conscious and systematic way in future.

An overall strategy for the systematic utilisation of these competences is still under development. Within the domain of the Ministry of Labour and Welfare and the Ministry of Education, arrangements have been introduced during recent years to make it possible for individuals lacking formal qualifications to have their actual competences assessed.

Based on agreements between the social partners and the government (for details, see Cedefop 1999j), the Ministry of Labour and Social Welfare has put into place a vocational qualification system which in principle is open to competences acquired outside formal education and training institutions. These general agreements, which can be looked upon as efforts to link education and training policies to broader economic and social policy, resulted in three laws on vocational education (401/91, 405/91 and 95/92). The foundation of the vocational training system (SNCP) was laid through these laws, the aim being to establish 'the conditions for effective attainment of vocational certification'. Commissions at national (the Standing Committee on Certification, CPC) and sectoral levels (CTE) coordinate the actual implementation of the system. The social partners are represented in both these committees. The Institute of Employment and Vocational training provides technical and professional support for this process. These bodies are responsible for the development and issue of vocational profiles defining the scope, content and level of a specific qualification. A certificate (CAP) can be achieved either through traditional school-based vocational training, through recognition of qualifications acquired in other systems (equivalence) or through assessment and recognition of vocational experience.

The last possibility and of particular interest is based on a regulatory decree (68/94) and puts forward the general conditions for issuing a certificate. A procedure containing three main steps is indicated. This procedure is still being tested with the main elements being:

- 'application procedure and the prior identification of skills': at this stage, the vocational file of the candidate is studied. The aim is to establish an overview of the work history of the candidate, including details of formal and non-formal training and learning. Immediate training needs should also be identified. The candidate should provide relevant proof of training and work experience according to the demands set by the certification system. Following this 'paper-based' stage, a stage of assisted self-assessment is foreseen. Specialists supplied by the social partners (we do not have documentation on how this is going to be solved in practical terms) will explain the activities and the competences required by the vocational profile. It is expected that this will identify the match or the mismatch between the competences held by the candidate and the requirements set forth by the profiles. Guidance will be a crucial element of this stage;
- 'assessment': it is stated that assessments can take different forms, the main elements being a formal analysis of the CV drawn up in stage one, the second being a technical interview and the third consisting of tests drawn up in accordance with the certification manual. The technical team (three members) who check the files carry out the interview and supervise the practical tests and may include members of the social partners ('where required');
- 'certification': this is the formal act of issuing a vocational aptitude certificate proving that the holder has the competences needed to carry out the relevant job.

Following the standards set by the job profiles, a vocational certification manual instructs on how to proceed in each specific job area. In this way, an opening up of the system occurs where the importance of vocational learning outside the formal education and training system in work or elsewhere is acknowledged. Practical experience is limited however. In a few cases (trainers of vocational training, hairdressing and beauty services,

taxi drivers, occupational health safety services and engineers) processes of assessment and recognition of experientially-based competences have begun or will begin in the near future (2000). For example, engineers can from 1999 onwards have their vocational experience assessed through the procedure referred to above.

Within the area of responsibility of the Ministry of Education two main forms of assessment/recognition of non-formal learning can be identified. First, assessment and recognition of informal 'school type of learning' can be granted for purely vocational purposes. This means part-recognition can be granted to enable candidates to improve their job situation either through internal promotion or change of career. This recognition is not sufficient, however, to grant access to further education or studies. Second, assessment and recognition can take place to pave the way for recurrent education, at primary or secondary level. At both levels, candidates are interviewed and tested. If it is concluded that an applicant already has knowledge of some units of one or more subjects, equivalence will be granted and he or she will be placed at an appropriate level. Following a successful assessment/recognition procedure, candidates follow individual paths, at their own pace, and ask to be assessed when they feel ready for it. A substantial number of individuals have taken advantage of this possibility. In 1997-98, more than 10 000 were assessed for fourth grade primary school, 8 500 for sixth grade and 41 000 for ninth grade. Half of this group of almost 60 000 were more than 20 years of age. At secondary level, 35 000 were assessed during 1997-98. The vocational experiences of candidates are not covered by this arrangement. School subjects define the focus of the assessment. Competences not covered by the school curricula will not be treated in any explicit way. The assessments should not consider where knowledge has been acquired, but if it has been acquired.

In addition to the assessment and recognition efforts covered by the systems mentioned above (under the responsibility of the Ministry of Labour and Welfare and the Ministry of Education), a number of initiatives have

been taken outside these structured systems. The plan is gradually to integrate these autonomous initiatives into the overall framework of the national vocational certification system. CTSs (sectoral commissions) have recently been set up in a number of sectors to prepare integration into the certification system. Examples of groups covered by these initiatives are transport workers, journalists, civil aviation employees, low-voltage electricity workers, merchant seamen and hotel/restaurant and tourism workers. Common to all these groups is that they are covered by sector-internal procedures for recognition of work experience. In the case of transport workers, for example, the General Directory on Road Transportation has issued a 'professional card' to workers with more than five years in a relevant position, and having passed a written test. In journalism, one to two years of experience is sufficient (length according to prior education), to give the individual a right to hold a 'professional card' as a journalist.

The Portuguese approach to identification, assessment and recognition of non-formal learning can be characterised as unfinished. A number of elements have been put into place which will eventually make it easier for individuals to make use of competences acquired outside formal education and training institutions. The national vocational certification system is clearly the most important in this setting, potentially paving the way for alternative pathways. The social partners will play a crucial role in this setting. Formally supposed to contribute in all stages of the process, from the definition of the job profiles to the actual assessment, their actual contribution.

### ***3.2.5 A Mediterranean model?***

As shown in the discussion of the southern EU Member States, the general attitude to the introduction of methodologies and systems for non-formal learning is positive. Both in the public and private realms, the usefulness of such practices is clearly expressed. The huge reservoir of non-formal learning which creates the basis for important parts of the economies in these countries needs to be made

visible. It is not only a question of making it easier to utilise this reservoir, but also a question of how to improve the quality of these competences. So long as an important part of the competence base in a society is invisible, it is practically impossible to indicate where improvements should be made. In this way methodologies for the assessment and recognition of non-formal learning can be viewed as tools in a quality campaign, encompassing not only single workers and enterprises but whole sections of the economy.

It must be noted, however, that the step from intention to implementation is a long one. These countries are more or less operating at the planning stage. Legal and political moves have been made through educational reforms of various scope but the actual introduction of assessment and recognition practices has not progressed very far. The coming years will show whether the positive intentions almost unanimously expressed in the four countries will be translated into practices which actually affect and serve individuals and enterprises.

A striking aspect common to the four Mediterranean countries is the important role played by projects and programmes financed at European level. The examples of Greece, Italy, Spain and Portugal illustrate the importance of EU initiatives and support. A high number of individuals and institutions from all countries have participated in projects and programmes focusing on questions of assessment and recognition of non-formal learning, contributing somewhat to attitudes identified within this area. To take Italy as an example, a substantial amount of experience has been gained through such projects and programmes especially since 1996-97. This 'project approach' can be described as 'bottom-up' in the sense that no centrally established direction or objective has been established. The projects in question seem to have been based on the interests and needs of those individuals and institutions involved and not on general national policies in the area. While supporting innovative practices and widening the scope of experimentation, the problem may be one of implementation and dissemination. Avoiding a detailed examination

of all projects concerned<sup>8</sup>, the majority of them focused on three main groups: women, long-term unemployed and employed at risk. In one case, young school drop-outs were covered. An impressive variety of identification and assessment methodologies and instruments were suggested/developed in these projects, essentially based on three systems:

- a) more or less structured individual discussions in which the person's own statements prevail;
- b) self-assessment of personal characteristics using ad hoc instruments;
- c) self-assessment through group exercises.

Since no system framework and no formal reference points exist, the assessment system developed for these groups are left 'on their own', with the resulting assessments receiving varying degrees of acceptance and legitimacy. The main value of these projects, it seems, is to serve as a reservoir of experiences, potentially supporting the more system-integrated assessment tools introduced on a permanent basis.

### **3.3 Non-formal learning in the Nordic context: Finland, Norway, Sweden and Denmark<sup>9</sup>**

In two of the four countries discussed in this section, Finland and Norway, the issue of non-formal learning has moved into the forefront of public education and training debates, as well as become the subject of important and far-reaching institutional experimentation and reform. In the two other countries, Sweden and Denmark, interest has so far been limited. This seems to be changing, notably in Sweden, where a number of initiatives, both from the government and social partners, have been taken during 1999. The four coun-

tries in question share important common traditions in the area of education and training. Mutual learning has been an important aspect of the development of national systems and a shared Nordic labour market has made cross-border transfer of competences a normal and accepted matter of fact. Two things in particular should be mentioned:

- education and training is highly institutionalised and formalised, covering major parts of each age group;
- education, and especially vocational education and training, is very much a tripartite matter of concern. The steering of training is based on the participation and influence of State employers as well as employees.

During the past three to four decades, however, these countries have chosen different approaches to education and training. This applies in particular to vocational education and training at upper secondary level, where today we can distinguish between four distinct models. The various institutional and organisational choices in the four countries may be linked to a different emphasis on the importance of work-based learning. Recent Finnish and Norwegian reforms very much underline the importance of work-based learning by introducing institutional changes supporting this form of learning. This emphasis has not been so clearly expressed in the Swedish context. The Danish perspective can largely be compared to that of Germany and Austria. The focus has predominantly been on initial education and training within a dual model, generally considered as sufficient to cover the aspect of learning through experience. There might be a link between these differences and current activity in the area of non-formal learning.

#### **3.3.1 Norway**

In the Norwegian system for vocational education and training, the apprenticeship element has recently been strengthened. Work experience is now an obligatory and integrated part of all courses in the vocational part of upper secondary education (since

<sup>8</sup> In 1997, 24 of the Italian Leonardo and 27 of the Italian Adapt projects covered, at least in theory, subjects of certification/recognition (Cedefop 1999b).

<sup>9</sup> Iceland, the fifth Nordic country has, for reasons of capacity, not been included in the Cedefop study.

1994). Vocational training in Norway is based on an initial (general) introduction to subjects in the form of two years of school-based education and training. After this, two years in an enterprise or institution follows, aimed at specialisation and development of competences through work experience (Cedefop 1999d). Currently, a reform of the system of continuing education and training is being introduced. Within this system, methodologies and institutions for the assessment and recognition of non-formal learning (*realkompetanse*) will be integrated. The work on this reform started in 1996 and a committee forwarded their suggestions in 1997, emphasising the importance of establishing broad-ranging methodologies and initiatives for the assessment and recognition of non-formal learning in general and not only in relation to the apprenticeship scheme. This was followed by the parliament proposing and deciding (Innst. S. nr. 78, 1998/99) on a general reform of the CVT system. The Ministry of Education and Research has been made responsible for developing a national system for identification, assessment and recognition of non-formal learning (or *realkompetanse*), in the coming two-year period. A broad range of projects has been initiated at national and regional levels in an effort to outline the requirements for a full-scale system of assessment and recognition of non-formal learning. This includes both the methodological and the institutional sides of the issue. Social partners are heavily involved in the process and *realkompetanse* has in many ways become a focal point in the Norwegian debate on education and training. In the proposal to parliament which formed the basis for formal decisions and ongoing research and experimentation it was stated that two types of 'documentation' (identification, assessment and recognition) should be developed. One, documentation should focus on the needs of work in specific occupations or branches, and two, it should focus on the link to the formal education and training systems and give individuals the possibility to apply on the basis of non-formally acquired competences. This explicit focus on the different needs to be met is interesting and not found in many other countries. It might be looked upon as a reflection of the strong social partner involve-

ment in the debate on non-formal learning in Norway. Both employers and employees have emphasised the need to develop methodologies not only following the logic of the education and training system, but also meeting the needs of employees and enterprises. Consequently, the system is supposed to cover competences acquired through different learning paths, including prior formal learning, learning through work experience, experience through the care of children and/or elders, cultural and social activities, etc. Another interesting point made in the proposal to parliament is the emphasis on legal rights. Individuals will be given the right to make formal complaints on assessment decisions (to a regional body). The formal objectives are listed as follows:

- ❑ the system should give adults the right to document their competences relative to the curricula of formal education and training (with the aim of certification);
- ❑ the system should open up for access to formal education on the basis of non-formally acquired competences (the aim of continued training);
- ❑ the system should provide the basis for exemption for parts of formal education and training courses (the aim of avoiding double work);
- ❑ the system should provide access to certain professions and occupations stating that non-formal learning is not inferior to formal learning so long as the same quality and competence level is achieved.

It is stated that the system should be autonomous and not only an 'annex' to the traditional testing procedures within formal education and training. More than in most other countries, recent reforms can be linked to a certain tradition. The right to have non-formal competences acquired outside the formal education and training system formally certified, was stated as a general right in the Norwegian Adult Education Act of 1976. However, little progress has been made when it comes to the development of procedures and institutional arrangements. The law of 1976 has



served as a symbol of intention in this direction, but not as a tool to realise this objective. The single most important form of identification, assessment and recognition of non-formal learning in Norway, is that in which a candidate may take a final examination for apprentices (crafts examination) on the basis of his/her practical work experience. This arrangement was introduced as early as 1952 in the Act concerning vocational training. In Section 20 of this Act, it is stipulated that 'the craft examination may be taken without any contract of apprenticeship by those who have not less than 25% longer general practice in the craft, than the period of apprenticeship'. During the 1970s and 1980s the utilisation of the scheme was moderate. During the 1990s this has changed and almost exploded during the period 1997-98. Approximately 14 000 candidates attended in each of those years, double for a 'normal year'. Since an average age group comprises approximately 60 000, these numbers are extremely high. Branches like construction, transport, electro-mechanical industry and health-social care dominate. The popularity of the scheme may be seen as a reflection of the relatively low level of formal training in these areas. It also reflects the general pressure towards formalising qualifications, the most important of these being wages and security of employment.

### **3.3.2 Denmark**

The Danish vocational education and training system can be described as dual in its character being very much based on an apprenticeship approach to training. This initial education and training is supplemented by a system of continuing vocational education and training and highly integrated into labour market policies. Currently, a broad reform of adult education is being discussed (*Undervisningsministeriet* 1997 and Cedefop 1999f). This reform links up with the general trends described in the Norwegian and Finnish cases, emphasising that the role of non-formal learning has to be revised to establish an education and training system linking levels and various learning paths.

Although the debate on non-formal learning has been limited in Denmark we find ele-

ments in the existing system attempting to integrate this kind of learning. The first example is the apprenticeship programme for adults (*Voksenerhvervsuddannelsen*, VEUD). This scheme makes it possible for adults to be exempted from parts of the formal initial training on the basis of prior educational or occupational experience. The relevant trade committee decides on questions of exemption. The VEUD programme operates according to an individualised approach which identifies the experience of each candidate and sets up a training plan accordingly. Assessment of prior learning is an integrated part of the VEUD scheme. For each adult apprentice an educational plan must be drawn up which gives proper credit for competences already acquired. The sectoral trade committees are responsible thereby involving the social partners.

Since 1992, approximately 6 000 adults have started training under the VEUD programme. Also, within the ordinary initial vocational education and training schemes exemption can be granted on the basis of prior work experience. If the application for exemption concerns a school subject, the school in question handles the request. If the reduction of training time is more than four weeks, the trade committee is consulted. The same is the case if the exemption concerns practical parts of the programme. Rules for the recognition of prior learning are formulated in the regulations of each single vocational subject. In the health and care programmes, which are regulated through separate legislation, the county or municipality decides on matters of exemption. Having received a recommendation from the school, practical work experience can result in part exemption. The public authority is required to take all possible competences into consideration when doing this.

It should be mentioned that the Labour Market Training Act of 1995 (see Cedefop 1999f) provides a clearer focus on the role of learning through experience at work. Following this Act, courses to assist individuals in identifying their competences were introduced aimed at subsequent training. These courses have a duration of one to three weeks and can

be characterised as a combination of assessment and vocational guidance.

An additional Danish approach, not directly linked to the schemes discussed above, should be mentioned. This is the SUM system (strategic development of employees) set up by the social partners (the Confederation of Danish Industries and the Central Organisation of Employees within Industry) in the industrial sector in the early 1990s. The aim of the system is to identify ('measure') competences within enterprises and is linked to the central agreement between the social partners that each employee shall attend CVT for at least two weeks every year. When this agreement was made, in the late 1980s, the social partners were not able to agree on the content and profile of this training component: who should decide on which courses to attend? To avoid a conflict, a toolbox (the SUM system) was created whereby enterprises were equipped to analyse and describe their own competences and competence needs. The idea was that potential conflict would be solved if discussions took place at 'grassroots level'. SUM builds on three fundamental principles:

- a) the companies themselves are the users of the methodology, no external parties (experts) are involved;
- b) the dialogue between employers and employees is the basic principle followed when using this methodology;
- c) a 'modular' approach is used so that enterprises may choose from a selection of methodological elements according to the exact needs of the individual company.

The SUM approach covers identification and assessment of competences. It does not, however, cover recognition in the sense that a link to formal qualification is established. The experiences from SUM have illustrated some of the problems likely to be encountered by such an approach. Frequently, the description of competences does not follow the suggested vocabulary making transparency and transfer difficult. It is interesting to note that neither employees nor employers have expressed clear wishes (according to the SUM

secretariat) to develop this system further so that it may link up to the formal certification systems. As stated, employees expect to stay in the enterprise and do not see the relevance of tools supporting transfer; employers are afraid of losing their most competent workers and are thus reluctant to establish transparent systems, making transfer too easy.

### **3.3.3 Finland**

The Finnish vocational education and training system is characterised as competence based (output-based) and operates according to a modularised structure. A core element of this system is that 'skills and knowledge can be demonstrated and recognised regardless of how they were acquired'. Made operational through a new law on vocational education in 1994, the competence-based qualifications system is divided into three qualification categories: an initial vocational qualification, a further vocational qualification and lastly, a specialist vocational education (Cedefop 1999e).

Competence-based qualifications are officially recognised and protected by law. Titles are regulated by the Ministry of Education in close concert with the Ministry of Labour and the social partners. Apart from the ministries and national social partner organisations, the practical work is organised in the following way. Expert groups, administered by the National Board of Education, conduct the actual preparations for 'the national guidelines', that is, the requirements/achievements of the qualification in question. Within the expert group, at least the social partners, teachers and preferably self-employed professionals, should be represented. Examination boards (250 in all) are responsible for the organisation and supervision of the tests. They approve the accomplishments of the qualifications and sign certificates. The examination board also has a supervisory status, making contracts for the organisation of tests/assessments with educational institutions (or other institutions) that have the necessary expertise. Contracts for the organisation of skill tests involve assessors of the test performance, maintenance and development of the

vocational competence of the assessors and a number of other elements. Despite the existence of national guidelines for each qualification which may be understood as the important point of reference, the actual carrying out of the assessment varies pointing to the problem of reliability and possibly validity. To 'combat' this problem, a national project (ALVAR) was initiated to ensure that the skills tests in certain occupational areas would be nationally comparable and that the requirement levels correspond to appropriate needs in working life. ALVAR gathers and trains experts for the preparation of the test task. Training for organisations conducting tests is also organised. Finally, ALVAR develops and maintains a 'test bank' to support the general search for reliable, criterion-referenced testing and assessment. The ALVAR project, financially supported by the European Social Fund, is an interesting example of quality assurance within the area of testing and assessment. The underlying perspective is that it is impossible to specify beforehand in detail, how an assessment is going to be conducted. The most sensible way of assuring reliability and hopefully validity, is to support training of assessors and networking of assessors. Although this process is still too recent to evaluate in concept, it is promising. Finally, following the work of all these institutions, groups and individuals, the actual skills test/assessment may take place if different options are provided:

- ❑ the assessment is made on the basis of a portfolio (samples of work products, project works, partial evidence, including employers' descriptions of work tasks, and competence);
- ❑ the assessment is made at his/her workplace, supplemented by written/oral interviews;
- ❑ the assessment is held at the educational institution which organises the test.

The Finnish competence-based qualification system is still in its initial phase. The number of candidates passing through seems to be increasing. In 1998, 10 000 are estimated to have passed through the system.

### 3.3.4 Sweden

The Swedish model of vocational education and training can be described as 'school based'. Though gradually becoming more open to apprenticeships, the vast majority of candidates receive their vocational training through instruction in specialised schools. Officially, one aim is to provide a certain practical-oriented training in enterprises (approximately 20% of the time), but this has proven difficult to realise (Cedefop 1999g). As indicated in the introduction to this section, Swedish initiatives in the past have been few, and more related to specific groups (immigrants, disabled, unemployed), than to the general public. The project 'immigrants as a resource', initiated in 1988, developed a testing programme for immigrants with vocational qualifications. This scheme (PTVI), was divided into practical and theoretical parts, taking between two to 12 weeks to complete. After testing, the candidate received a written description of equivalent Swedish education and training requirements. Until 1992, the National Labour Market Board was responsible for organising vocational tests for all the unemployed who wished to be tested. Since then this service has been decentralised to local employment offices resulting in a sharp decline in testing. Nowadays local offices are forced to choose when and to what extent testing should be carried out. The reasons for the decline are complex but the costs and the complexity of the testing itself are mentioned as possible explanations.

Recognising the problems caused by this situation, the Swedish Ministry of Education initiated (1998) an investigation on how to assess and recognise 'foreign' qualifications. Following this investigation, a number of recommendations were forwarded (SOU 1998:165), pointing to the need for clarifying responsibilities at national and regional levels. It was suggested that upper secondary school curricula (*Gymnasieskolans styrdokument för yrkesutbildning*) should be used as benchmarks, defining the appropriate requirements and levels to be met by candidates. The approach is output-based in the sense that no prior, formal schooling or certification is required. Not limited to the issue

of 'foreign' qualifications, the report suggests in its final chapter that a system for assessment and recognition of prior and non-formal learning should be open to all adults and not just immigrants. The ministry has decided to follow up these suggestions by initiating experimental projects in different branches and regions. The discussions following the investigation of the ministry might prove important. One of the major trade union confederations (*Tjänstmännens Centralorganisation/TCO*) responded by issuing their own report (TCO: 1999) wherein they stated that Sweden needs a system for assessment and recognition of non-formal learning. The ministerial approach is, however, judged as unsatisfactory and far too narrow. TCO suggests initiating a tripartite effort towards a Swedish system for assessment and recognition of non-formal learning, using experiences and best practices from neighbouring Nordic countries as well as from the EU in general.

### **3.3.5 A Nordic model?**

It is not possible to speak of any 'Nordic model' at least in any strict sense. Finland, Norway, Denmark and Sweden have chosen different approaches and are working according to somewhat different schedules. These differences do not change the fact that all four countries are taking practical steps, through legislation and institutional initiatives, towards strengthening the link between formal education and training and the learning taking place outside schools. Despite the fact that some elements of this strategy have existed for some time (notably the Section 20 scheme of Norway), the most important initiatives have taken place in recent years, mostly since 1994-95. The mutual learning between the countries is strong and has become even stronger over the past two to three years. The influence of Finnish and Norwegian approaches on recent Swedish documents illustrates this effect.

The rapid changes in the Nordic context contrasts the reluctance encountered in the Austrian and (partly) German contexts. Like those, the Nordic countries have developed very strong and highly structured systems for formal vocational education and training and

in Germany and Austria the apprenticeship path is an important and integrated part of these systems (most clearly expressed in Denmark and Norway, less so in Finland and especially Sweden). These similarities have not led to the same conclusions. The willingness to link non-formal learning processes into the formal system is much stronger in the Nordic setting than in the German or Austrian contexts.

The Danish report on 'Identification, assessment and recognition of non-formal learning' (Cedefop 1999f) presents some interesting reflections on the specific Nordic approach to education and training and in particular to adult education. The strong influence of the educational philosophy of Grundtvig on adult education especially in the Scandinavian countries Denmark, Norway and Sweden during the past 150 years is probably relevant for the understanding of current developments. The philosophy of Grundtvig focusing on broad and general 'popular enlightenment' through a system of 'folk high schools' has created a positive attitude towards adult education and learning. The 'folk high schools' have deliberately avoided formal testing and certification and instead focused on the learning process as a value in itself, something which is important in all layers of the population and at all stages of life. To use the language of the EU White Paper, this movement has from its early beginnings operated by looking to broaden the individual and societal competence base. This 'popular enlightenment' strategy has gradually been built into the educational systems of the Nordic countries and is currently to a great extent financed by public budgets. The notion that non-certified learning is as important as the certified variety has thus been supported and developed over a long period of time. Being one of many factors, this may offer part explanation of why the Nordic countries move faster in this area than Germany and Austria.

While Finland and Norway are currently paving the way for the institutional integration of non-formal learning as part of a general lifelong learning strategy, plans presented in Sweden and Denmark may indicate that these

two countries are moving in the same direction and that the issue of non-formal learning will become more focused in the coming years. In all four countries, however, the role of the social partners is very strong, reflecting the shared tradition of tripartite steering principles in this particular policy field.

### **3.4 The influence of the NVQs: UK, Ireland and the Netherlands**

The National Vocational Qualifications (NVQs) introduced in the UK in the late 1980s<sup>10</sup> have become a central point around which an interesting process of international learning evolves. Presenting itself as modularised and flexible, meeting the needs of the public and private realms as well as individuals and enterprises, many countries have looked towards the UK to see if this system, or rather elements of it, could be implemented into their own context. Even more experimental projects (not least within the Leonardo da Vinci programme) have used the NVQ system as a point of departure. Other countries seem to use the NVQ system as an indicator of what they want to avoid, pointing to the problems involved in too strong a modularisation. From the beginning the system had to face the challenges of accrediting a variety of learning paths, resulting in approaches like the APL and APEL (Accreditation of Prior Learning and Accreditation of Prior Experiential Learning). These developments have influenced the European development of methodologies for the identification, assessment and recognition of non-formal learning in a profound way. Covering only the UK, the Netherlands and Ireland in our 'NVQ cluster' it should be noted that the NVQ experiences have been considered in a number of other countries.

#### **3.4.1 United Kingdom**

The UK system of National Vocational Qualifications (NVQs) has, since its inception, served as the most outspoken and clear example of a competence-based, performance-related, output-oriented system of vocational

education and training. Although controversial in the UK, the NVQ system has served as an example of an alternative to the traditional, school-based model of education and training. The system is in principle open to any learning path and learning form with particular emphasis on experience-based learning at work. As stated in the presentations of the system (and repeated by those countries embracing similar thinking), it does not matter how or where you have learned, what matters is what you have learned. Such a system, if it follows its own principles, is of course open to the learning taking place outside formal education and training institutions, what we in this context have termed non-formal learning. It is no coincidence that questions of assessment and recognition have become crucial in the debate on the current status of the NVQ system and its future prospects. The UK experiences in the area of assessment of non-formal learning, which should be looked upon as an integral part of the general assessment challenge, are also highly important for the development of assessment practices and approaches in other European countries. It is, however, important to adopt a more critical approach to these experiences than what has been the case thus far. In some instances there has been a tendency to copy the NVQ system and not to reflect on its strengths and weaknesses. In the following sections, we will try to discuss some of the underlying assumptions of the NVQ system and how these have been met in reality. The four basic assumptions are (Eraut et.al.1996):

- a) a near perfect match between national standards and competences at work;
- b) because training and assessment both occur at the workplace, high validity of assessments is achieved;
- c) competences gained are transferable;
- d) detailed specifications together with trained assessors will ensure both validity and reliability.

Until now, there has been an insistent rhetoric that NVQs reflect the needs of employers and although far from perfect represent the best effort so far to merge national and com-

<sup>10</sup> In Scotland: SNVQs.

pany-specific demands. It is true that employers are represented in (the former) leading bodies and standards councils, but several weaknesses of both a practical and fundamental character have appeared. First, there are limits to what a relatively small group of employer representatives can contribute often on the basis of scarce resources and limited time. Second, the more powerful and more technically knowledgeable organisations usually represent large companies with good training records and wield the greatest influence. Smaller, less influential organisations obtain less relevant results. Third, disagreements in committees, irrespective of who is represented, are more easily resolved by inclusion than exclusion, inflating the scope of the qualifications. Generally speaking, there is a conflict of interest between national standards, first, the commitment to describing competences valid on a universal basis and, second, the commitment to create precise standards to minimise the scope for different interpretations when making assessments.

Historically, there has been a shift from narrow task analysis to broader functions analysis. This principle is oriented towards the need to create national standards describing transferable competences. Observers have noted that the introduction of functions was paralleled by detailed descriptions of every element in each function, prescribing performance criteria and the range of conditions for successful performance. The length and complexity of NVQs, currently a much criticised factor, stems from this 'dynamic'. As Wolf (1995) says, we seem to have entered a 'never ending spiral of specifications'. Researchers at the University of Sussex (Eraut cited above) have concluded on the challenges facing NVQ-based assessments: pursuing perfect reliability leads to meaningless assessment. Pursuing perfect validity leads towards assessments which cover everything relevant, but take too much time, and leave too little time left for learning. Perfect validity means endless assessment, perfect reliability means meaningless assessment.

We have intentionally undercommunicated some of the more specific methodological tools developed in the wake of the establishment of

the NVQ system. Approaches like accreditation of prior learning (APL), and accreditation of prior experiential learning (APEL), have become less visible as the NVQ system has settled. This is an understandable and fully reasonable development as all assessment approaches in the NVQ system in principle have to face the challenge of experientially-based learning, i.e., learning outside the formal school context. The experiences from APL and APEL are thus being integrated into the NVQ system. In a way, this is an example of the maturing of the system. The UK system, being one of the first to try to construct a performance-based system, linking various formal and non-formal learning paths, illustrates the dilemmas of assessing and recognising non-formal learning better than most other systems because there has been time to observe and study systematically the problems and possibilities. A major issue is the close link between standard and assessment. The formulation of standards: who takes part, how much time and resources do they have at their disposal, how do they approach the task of describing these functions, performances or outputs?

### **3.4.2 Ireland**

The Irish accreditation of prior learning (APL) approach is clearly based on the same performance-based approach to assessment as we find in the UK. This is hardly surprising, since mutual learning between these countries has been strong and remains so. The Irish experience, however, is of a more limited character than the British. FÁS, the Irish training and employment authority, has been the main promoter and initiator in this field to date. The accreditation of prior learning is integrated into the general certification framework. The following principles are emphasised: first, FÁS certifies skills and skills levels, not courses. The performance-based output-orientated perspective found in the NVQs and elsewhere is thus central to the Irish model. Second, a modular training programme is matched by modular assessment. Third, emphasis is on practical and personal skills as well as related knowledge. Fourth, industrial standards have been established through cooperation and participation with relevant interest groups. Lastly, assessment

should be criterion referenced, and each assessment should be linked to key objectives identifying the skills and knowledge to be demonstrated. However, actual experience with APL in Ireland has been limited. Since 1992, projects in retail, construction and electricity supply, have been carried out, utilising somewhat different methodological approaches. The future development of assessment and recognition of non-formal learning in Ireland is not clear. While being important, FÁS represents only one part of the Irish certification landscape and it has yet to be seen whether the establishment of Teastas, a national body intended to nationalise certification of vocational education and training programmes, will make a difference. It should also be noted that the 'project approach' of FÁS, promoting APL in time-limited projects towards limited areas/branches, does not guarantee the permanent introduction of these methodologies. It is fair to say, however, that a certain amount of experience has been gained from these APL projects, supplemented by participation in a variety of European programmes and projects.

### **3.4.3 The Netherlands**

The Dutch approach to assessment and recognition of non-formal learning can in some respects be compared to the Irish. The influence of the UK NVQ system is evident, but the general performance-based modular system has been translated into a specific Dutch variant differing from the British. The actual development of methodologies, especially those promoted by the Ministry of Education through CINOP (Cedefop 1999i), can also be characterised as limited in approach, thus far being tested in a limited number of sectors and occupational areas. As in the Irish case, important methodological experiences have been gained of interest also to other European countries. The CINOP assessment model is very well documented (Klarus 1998, Cedefop 1999h)). It is centred on a practical task to be solved and consists of three distinct stages: planning, execution and evaluation. Within these stages, different assessment methodologies are used and the aspects focused on differ from each other. In the first stage, planning, the aim is to assess the candidate's

methodological competences and his or her ability to plan the task ahead. Criterion-referenced interviews are used together with observation of work preparation. The second stage focuses on the actual execution of the task, trying to assess execution as well as reflective skills. Assessment is based on a combination of observation (of process and result) and a criterion-oriented interview. In the third stage, evaluating/adjusting, the aim is to assess the reflective skills of the candidate. The candidate is asked to reflect on the task performed, to identify alternative ways of doing it, and to indicate how the chosen approach could be transferred to other working situations. The CINOP approach is linked to and based on the already existing qualification structure (standard) for secondary vocational education. The approach is clearly integrated into the framework of the Educational and Vocational Training Act (WEB) and can thus be looked upon as an initiative to link non-formal learning to the formal system. The Dutch qualification standard is based on job and task analysis and it can also be characterised as industry driven (social partners take part at all levels in the definition of the standards). The content of the qualification is divided into three types; vocational competences, competences for further development and social and cultural competences. All relevant parties, government, social partners and representatives of the educational system, have agreed that different learning pathways should be accepted and supported. As pointed out by several observers (Cedefop 1999i), the Dutch approach to non-formal learning is more than the CINOP model. Experiments are currently being undertaken both at national and branch levels to develop methodologies and systems for the identification and assessment of non-formal learning. Initiators and target groups differ, from those seeking national official certificates or exemption from parts of the training (as in the CINOP approach), to branches and enterprises trying to identify and assess the competences held by their employees.

### **3.4.4 An NVQ model?**

Concluding our discussion of the three countries covered in this section, the overwhelm-

ing acceptance of an output-oriented, performance-based model of education and training is most striking. The general acceptance of learning outside formal education and training institutions as a valid and important pathway to competences seems to go without saying. What is questioned, however, is how such a system should be realised. The UK and the Dutch experiences illustrate some of the institutional, methodological and practical problems linked to establishing a system able to integrate non-formal learning within its framework. The challenge of developing an accepted qualification standard seems to represent the first and perhaps most serious obstacle. As long as assessments are supposed to be criterion-referenced, the quality of the standard is crucial. The UK experiences identify some of these difficulties balancing between too general and too specific descriptions and definitions of competences. The second important challenge illustrated in the UK and Dutch cases, but not reflected in our material on the Irish experience, is related to the classical assessment challenges of reliability and validity. In our material the problems have been clearly demonstrated but the answers, if they exist, not so clearly indicated. The Finns, by networking and training assessors and relevant institutions, have probably indicated one possible strategy. Concluding that qualification standards can never achieve a perfect balance between general and specific descriptions, the Finns focus on the competences of the assessors. This is probably relevant in the UK, Dutch and Irish cases as well.

### **3.5 A French model? France and Belgium<sup>11</sup>**

Like the UK NVQ system, French experiences have influenced the general European debate and development in this area. The *bilan de competence* can be described as the first effort to introduce a full-scale system for the

identification and assessment of non-formal and experiential learning. Since the introduction of the *bilan* in 1985, attention to these issues has been very strong. Belgium, in contrast to France, is still at a very early stage of development and has not yet decided on a clear strategy.

#### **3.5.1 France**

France has been characterised as an extreme case of 'certificate fixation' (Merle 1998). As in the cases of Italy and Greece (Section 3.3), a certificate not only reflects a formal level of achievement, but the qualities of a person and the rank he or she is entitled to. Mehaut (1977) points to three functions met by French certificates: first, as an internal standard of the education system; second as an external standard for the labour market; and, third, as a personal and hierarchical identifier. This 'certificate fixation' is perhaps best reflected in the system of the *grandes écoles*, but influences behaviour in other areas as well, including vocational education and training. The high value attributed to certificates in France is very much linked to the national and homogeneous character of the education and training systems. Education, including vocational education and training, has been provided within predefined, complete national routes, leaving little room for personal or institutional experimentation. Although changes have taken place during the past decade, the stability of the system has contributed to its transparency; individuals and employers are in the main familiar with the various qualifications awarded at national level.

During the past 10 to 15 years, these systems have increasingly been questioned. Stability, it is emphasised, can also be interpreted as rigidity. The homogeneity of the system may easily turn into an obstacle to the renewal of knowledge and competences with alternative forms of learning not accepted because they do not fit into the prescribed routes defined by the national systems. This criticism has been expressed in a number of contexts, gradually 'spilling over' into legal and institutional reforms aimed at a closer link between formal education and training and the learning that takes place at work. Basically,

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<sup>11</sup> Luxembourg would normally have been presented in this chapter but after consultations with representatives of the educational authorities of Luxembourg, Cedefop concluded that the level of activity in this area was too low to warrant an independent national study.



we speak of two sets of legal initiatives with somewhat different profiles and objectives. First, the 1985 law on the *bilan de compétence* permits the validation of professional competences acquired outside formal education. The initiative may come from the enterprise or from the worker him/herself. This right was strengthened through the law of December 1991 which states that employees are entitled to educational leave for the *bilan*. According to the law of 1991, the aim of the *bilan de compétence* is to assist the employee to understand his or her professional and personal competences, motivation and aptitudes to facilitate his/her professional as well as educational plans and careers. A *bilan* is divided into three phases: a preliminary phase where the motivation and needs of the employee are clarified and where the procedures/methodologies of the *bilan* are presented. Second, an investigative phase where motivation, personal and professional interests as well as competences are analysed and mapped out. Finally, the results of the analyses are presented to the candidate and used as a basis for dialogue on future training and career plans. After having concluded the process, the candidate receives a synthesis document supposed to identify clearly his or her personal and professional competences, thus helping to clarify the necessary steps to be taken to realise future plans. On average, the described process requires 19 hours. A total of 700 *centres de bilan* have been set up all over France. In 1994, these centres issued 125 000 *bilans* at an estimated cost of FFR 340 million. Three quarters of all requests were made by employees, 52% of these being women, 44% in the age group 16 to 25 and 47% in the age group 26 to 44. Almost 50% of those asking for a *bilan* indicated that *elaboration d'un projet professionnel* was their main objective, 20% *recherche d'emploi*, 21% *recherche de formation*. Only a very small percentage, 1.9%, indicated that the *bilan* was a first step taken for validation of a certificate or diploma in the formal education and training system.

Second, the law of July 1992 on the validation of skills acquired by work experience is directly linked to the national framework of diplomas and certificates, and thus recognises the legal equality between competences ac-

quired inside and outside formal education and training. This law, administered by the Ministry of Education and linked to the initial training system (leading to a *certificate d'aptitude professionnelle* (CAP) or a certain level of the *brevet de technicien supérieur* (BTS), is paralleled by a system for 'assessment of competences and skills acquired through work experience' (EVAP), developed by the Ministry of Labour. This system is linked to the certificates issued by the ministry based on continuing training. Certificates issued by the Ministries of Education and Labour are both based on specifications (standards) drawn up in agreement with the social partners in consultative committees (CPSs). Normally, the work of the CPSs has been closely linked to a specific training course but acceptance of experiential learning as a legitimate qualification pathway implies that the specifications also have to consider this aspect. Different from the *bilan de compétence*, the potential of the 1992 law has yet to be realised. Merle (cited above) is of the opinion that the system for acquiring formal qualifications through validation of skills acquired on the job '...has been slow to get under way and is far from meeting workers' expectations'. It is estimated (Colardyn 1999) that approximately 90% of the requirements for every educational diploma awarded by the Ministry of Education can be met through recognition of prior non-formal learning. This means that all diplomas are accessible via this route, but also that no diploma can be achieved entirely through assessment of non-formal learning. At some point or another, anybody wishing to have their competences assessed within this framework must acquire a diploma.

While the laws of 1985, 1991 and 1992 are important indicators of a changing attitude towards non-formal learning in France, the qualifications awarded by the *centres d'études thermiques et énergiques* (CTH) and certificates of vocational qualifications (CQP) can be seen as an alternative to the traditional certification system because they relate to (practical) skills used in firms and are less linked to following a course. So far, industries have been very cautious in creating CQPs, the number awarded annually is rarely in excess

of 4000. Originally, CQPs were designed to certify qualifications of young people who had followed a course of alternating on-the-job and off-the-job training. Today, the industries developing CQPs have given them very different functions: certification complementing the national education system, recognition leading to career advancement and a system of industry certification parallel to that of the national education system.

In many ways, France can be viewed as the country in Europe with the longest and broadest experience in the area of identification, assessment and recognition of non-formal learning. The legal base established through the laws of 1985, 1991 and 1992, indicates clearly that non-formal learning is important and that its place, relative to that of formal learning, should be clarified and strengthened. Furthermore, the practical experience gained from the system of *bilan de compétence* is important both in terms of volume/costs and methodological experiences. It is also important outside France. Non-formal learning has, more than in other European countries, become an important part of the political debate on education, training and work. The topic is integrated into the national political debate among social partners and has also become a topic covered by researchers.

Michelle Virville's proposal that national sets of qualification benchmarks should be set up within a tripartite structure to allow all validated qualifications, whatever their basis, to be formulated in a common language, can be looked upon as an example of the growing importance attributed to this topic in the French context. On the other hand, the traditionally strong position of formal certificates and diplomas indicates that non-formal learning will not automatically be trusted in the same way as formal learning. In France, as in other countries, legal recognition of non-formal learning is just a first step and general acceptance of alternative forms of learning is another matter.

### **3.5.2 Belgium**

The Belgian situation is different from that of France. According to accessible information,

the debate on these issues has only recently reached the national political agenda, and to a varying degree in the French and Flemish parts of the country. Consequently, few actual initiatives have been taken in the area of assessment and recognition of non-formal learning. This may be explained somewhat through the structure of vocational training in Belgium which takes place mainly in educational institutions and specifically in schools specialising in vocational and technical education and training. Compared with many other European countries, the Belgian system is not very strongly linked to the workplace. A very small proportion of young people take part in vocational training through apprenticeships. There might be a link between this predominantly school-oriented approach to training and the lack of focus on non-formal learning outside formal education.

An initiative has however, been taken by the *Conseil de l'éducation et de la formation* of the French community in Belgium. Their suggestion (of 1997/98) is to reform and harmonise the entire system of validation linked to vocational and professional competences, both at initial and continuing levels. A broader concept of qualifications than the existing system is emphasised and proposed. According to this proposal a qualification must be defined as the totality of those competences necessary to execute a task or those interlinked tasks necessary to have a vocation. This is what we previously characterised as a performance or output-based approach to vocational standards. Competences acquired through work experience are underlined in the proposal pointing to the potential inclusion of non-formal learning in the assessment practices of Belgian education and training. This particular proposal is not explicitly linked to French or other 'foreign' models, the change in perspective from an input to an output-based approach is, however, apparent.

The Flemish authorities are currently working on a reform of the vocational training system trying to implement a modularised, 'output-based' model. In this context, the issue of assessment and recognition of non-formal learning has been raised, and for the first time introduced on the national (Flemish) political

agenda. The Flemish work, though not very advanced, has so far leaned strongly towards the experience gained in the Netherlands. Both the Dutch system of qualification standards and the APL methodologies developed over recent years are important points of reference. The Flemish case illustrates the important role of mutual learning. To a certain extent we can observe a voluntary, uncoordinated and 'bottom up' form of harmonisation.

#### **4. European trends: Developments at EU level<sup>12</sup>**

As noted during our discussion on the various national approaches, the role of the European Union in the area of non-formal learning is interesting and important. First of all, the Commission White Paper on 'Teaching and learning: towards a learning society', has contributed in drawing attention to the issue, emphasising the importance of making competences acquired outside formal education and training institutions visible. Further, the Leonardo da Vinci and Adapt programmes have been important tools for initiating experimentation on methodological and institutional questions. These programmes, through the involvement of a high number of individual project partners, have also supported an international learning process of potentially high importance, the results of which will only be possible to detect in the long term.

In spite of the relatively high political priority given to the topic of learning at Community level, few (if any) attempts have been made to summarise efforts so far. The ambi-

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<sup>12</sup> This chapter is incomplete in the sense that only a minority of Leonardo da Vinci projects, those linked to the context of the 'automated assessment approach' are covered. During the autumn of 1999, Cedefop completed a survey and an analysis of all the 1995-97 Leonardo da Vinci projects devoted to assessment. In addition to a description of the profiles of these projects, a more detailed follow-up of the results/the implementation results from 20 projects was carried out. This material will be presented in the forthcoming synthesis report on the Cedefop project 'Identification, assessment and recognition of non-formal learning'.

tious proposals of the White Paper have, to a large extent, remained as general policy proposals without any specific or measurable influence on practical policies at EU or national levels. The programmes, of which the Leonardo da Vinci is by far the most important in this context, are difficult to overview. During the period 1995-97, the Leonardo da Vinci programme alone supported more than 100 projects working specifically on questions related to the identification, assessment and recognition of non-formal or experiential learning. This chapter represents one of the first, albeit incomplete attempts to summarise these activities.

##### **4.1 The White Paper on 'Teaching and learning: towards the learning society'**

In November 1995, the European Commission adopted the White Paper on education and training entitled 'Teaching and learning: towards the learning society'. Of the five objectives set out in the paper the first is to encourage 'the acquisition of new knowledge' and several positive effects of 'opening up (the) avenues for validating skills' (p. 35) are foreseen. It may:

- generate education and training demand from young people or adults unable or not wishing to enter either a formal system leading to paper qualifications or to undergo vocational training;
- render it possible for each individual to have partial skills recognised under a flexible and permanent system for validating knowledge units;
- identify, assess and reach common agreement on such knowledge units;
- encourage individuals to assemble their qualifications themselves, notably through accreditation of such knowledge units.

The introduction of a 'personal skills card' (PSC) is one of several methods suggested to realise this objective. A PSC providing a record of skills and knowledge should, according to the White Paper, be available to all those who want one. The card should be ap-

plied to certain fundamental areas of knowledge and even to occupational areas which apply to a number of different disciplines. The White Paper presents the PSC as a 'tool' or a 'lever' to introduce such standards in the Member States. As it is said:

'The aim is not to devise a uniform card and impose it on Europe but to contribute to the development of such tools, so as to progressively arrive at joint standards, including standards that cut across a number of occupations' (p. 34).

It is recognised that many European countries are attempting to identify 'key skills' and the best ways of acquiring, assessing and validating them. National initiatives will, though, be of limited value within a context of increased European mobility. The PSC must be understood as a core element in a European system designed to compare and disseminate validation methods and practices. While not commented upon in any detail, it is assumed that the PSC will depend on broad recognition and acceptance:

'A European accreditation system covering technical and vocational skills will be set up based on a cooperative venture involving higher education establishments, businesses, vocational sectors, local chambers of commerce and the social partners. Finally, support will be given to concluding a whole range of agreements – at company, branch and regional levels, etc. – incorporating the principle of the PSC' (p. 34).

The White Paper did not present detailed plans for the introduction of the PSC. Some details were supplied in a document prepared by DGXXII<sup>13</sup> shortly after the presentation of the White Paper (on 'European skill accreditation system'). With reference to Objective 1 in the White Paper, it states that the aim is to set up a European skill accreditation system over the course of a few years which will enable everybody to have his or her knowl-

edge and know-how validated on a PSC. This requires the identification of a number of areas of core knowledge, vocational /technical knowledge and key skills (cutting across a number of disciplines). These areas must be clearly defined and broken down into coherent basic units classified in increasing order of difficulty. This should, in the words of the author, make it possible to assess an area of knowledge from the most elementary to the highest level. It is admitted that there is no fixed list of knowledge and skills areas which could be tested at European level. However, the subject should be relatively well established (no major doctrinal controversies) and should leave very little room for national or cultural subjectivity. The following examples are given:

- ❑ *core knowledge areas*: mathematics, sciences, informatics, geography, foreign languages;
- ❑ *vocational/technical skills*: marketing, business management techniques, accounting, etc;
- ❑ *key skills*: logistics, organisational techniques, communication, decision-making abilities, risk assessment and risk management ability, negotiating skills and interpersonal skills.

The accomplishment of this accreditation task at European level should be based on the following: first, skills assessment and validation should use a range of user-friendly validation software packages linked by telematic network (Internet) to a central server which will deliver interactive tests on demand, process the result and validate skills at the level tested. Second, candidates wishing to validate their skills should be able to take these tests anywhere in Europe, and as many times as necessary in order to pass. The skills level will be registered on a PSC, which people will be able to build up at the pace and in the manner which suits them. As the system eventually gains recognition, the skills card will complement paper qualifications and become real passports to employment. The aim, it is stated, is to establish a system which all Member States can agree on, so that the PSC can

<sup>13</sup> Directorate General Education, Training, Youth. Now Directorate General for Education and Culture.

become a European tool to enable people to put their skills to use anywhere in Europe. The point is not to create a single European test (national differentiation should be acknowledged), but the methodology used should be the same throughout Europe and everyone should be able to sit all the tests in all EU languages.

The presentation of the PSC and the European skills accreditation system can be interpreted as *instrumental approaches* focusing more on the technological rather than the political challenges ahead. This is most apparent in the presentation of the European skills accreditation system where the development of 'expert systems' (software packages) and telematic networks (Internet) are presented as prerequisites for a future system and the political, institutional and social basis of methodologies are hardly elaborated at all (see also the discussion in Chapter 2).

#### **4.2 The follow up of the White Paper proposals on assessing competences**

Apart from the influence of the White Paper on the general awareness towards the issue of non-formal learning, the most direct follow up of the PSC proposal has been the setting up of an experimental framework where a total of 18 different projects (10 from the Leonardo da Vinci and eight from the Socrates programmes) are working on 'automated assessments'. These projects can be divided into three main groups. One group focuses on the testing/assessment of basic knowledge in mathematics, physics, biology, chemistry, statistics and geography. A second group focuses on needs in specific sectors, such as banking, business administration, process industry, water supply and food industry. The third group focuses on assessing cross-sectoral competences such as computer skills, written expression, languages and key skills. The main emphasis, in line with the White Paper, is to see how far computer-supported solutions can be used.

An evaluation of these was conducted by the Guildford Educational Services in 1998 (at the request of the European Commission). Of the more general conclusions, the follow-

ing points are interesting relative to the challenge of establishing a European PSC and a European Skills Accreditation System (ESAS):

- ❑ it is judged as generally difficult to develop computer-delivered tests which are valid and reliable to a number of different countries at the same time. It is difficult to agree on a common core of content appropriate to all countries, this is especially the case in vocational areas (banking is mentioned as example), but also in academic subjects like mathematics and physics this problem was encountered (curricula differ between countries);
- ❑ even where an agreed common core had been identified, the test questions had to be 'localised' (or according to Chapter 2 above, 'contextualised') to take into account the differing conditions in the various countries;
- ❑ properly functioning software is crucial, as a wide a range of users as possible should be able to access and security facilities must be developed. Current technology, especially the Internet, still poses some problems for users of the systems;
- ❑ there is a need for an administrative infrastructure supporting the tests. If assessments are going to lead to some form of official certification and/or recognition, this is a fundamental demand not covered within the current scope of the experiment;
- ❑ the legitimacy of the assessments poses a problem. They should therefore be developed on clear expressions of demand/need, be linked to some professional organisation providing a 'stamp' to the process and, if possible, linked to some accepted European standard. Finally, it is stated that users have to have confidence in the validity and the reliability of the tests/assessments, i.e. the quality of the methodologies used.

Closely linked to the setting up of an experimental framework on 'automated assessment', the Tavistock Institute was asked to

look into the US experiences on 'accreditation of competences through automated cards' (Cullen and Jones 1997) and use this as a basis for discussion on the feasibility of a European PSC and ESAS. The US experiences, in some aspects far ahead of their European counterparts, can only partly be integrated into the European context. Cullen and Jones point to fundamental sociocultural, institutional, economic and legal differences making direct transfer of US theory and practice into Europe difficult.

Thus early results from pilot projects the study evaluated are highlighting cultural differences in the ways in which skills are defined and utilised in the different locales involved. These are articulated primarily in different interpretations of the skills required to do a particular job, and in the terminology used to describe skills.

It is stated that the main obstacles are not to be found in the technological area, there would not appear to be any major technical obstacles against the development of a PSC or ESAS, neither when talking of the 'smart' card or the automated assessment software. The main challenge it is stated, is to be found in the 'sociotechnical contextualisation' of such systems, i.e. embedding the technologies within appropriate institutional and organisational frameworks. The system will stand or fail, Cullen and Jones conclude, on the putting into place of appropriate partnership between government, industry and representatives of worker organisations. Further, such partnerships should be supported by innovations in areas such as occupational classifications and accreditation/assessment networks (the Finnish example of an assessment network illustrates a national development in this direction). In conclusion, Cullen and Jones present two 'scenarios' to illustrate the different directions the PSC and the ESAS may take in the future. The first scenario is entitled 'the big bang' and envisages a comprehensive pan-European skills accreditation system. Such a system would be based on an evolving database of occupational titles, descriptors and competence definitions. It would be structured according to a content-model corresponding to the organisation of the

European workplace. This system would be a variant of the existing US O\*Net. A European competence standardisation agency, responsible for the collecting of data on various skills is envisaged in this scenario, together with a European accreditation agency, responsible for high level management of activities at national, regional and sectoral levels. The second alternative is entitled the 'evolutionary scenario' and opposes the 'top down' approach of the 'big bang' proposing instead to build on existing, national and local initiatives, to test to what extent a pan-European initiative like the ESAS can be transferred to different sociocultural settings and, finally, through the implementation of pilot projects in a limited number of sectors (to gain experience). The major advantage of the 'evolutionary scenario', it is stated, is that it is workable and that it is embedded in existing sociocultural settings.

Both the Guildford and the Tavistock (Cullen and Jones 1997) studies criticise more or less explicitly the tendency to develop assessment methodologies isolated from their sociocultural context. Of particular interest is the conclusion from Guildford on the difficulties encountered when trying to identify a 'common core' of content appropriate to all countries. The fact that this problem was encountered in academic subjects like mathematics and physics, described by the Commission in their follow up of the White Paper as 'objective areas' of knowledge, underlines the seriousness of the challenge. This does not alter the fact that both Tavistock and Guildford point to interesting and promising technological developments. The speed of these developments is increasing and the ongoing experimentation through the Leonardo da Vinci and Socrates programmes will undoubtedly bring forward useful experiences. The success of the 'computer driving licence' project, one of the 18 projects supported in this specific context, is worth noting. Supported by professional associations in several countries, this specific automated test has become more and more popular. Operating within a limited area and covering skills which can be identified in a clear and unambiguous way, this test is one of the few visible results of the visions presented in the White Paper.

### 4.3 Conclusions

No final conclusion as to the role of the EU in the area of assessment of non-formal learning can be drawn at this stage. As previously stated, the emphasis of the Commission on this topic has 'pushed' the issue at national and sectoral levels. The White Paper helped to define the issue in a clearer way and thus supported the processes at national level. The strategy of the White Paper, focusing on European standards and a European skills card to be implemented on a pan-European level, has clearly not been followed up. The high activity at national level is motivated by practical and long-term challenges at national level (the need to bridge learning areas and learning levels), not by the wish to create transparent and harmonised systems at European level. The question is more how current European activities, basically in the form of projects in the Leonardo da Vinci and other programmes, can support the practical initiatives at national, regional and sectoral levels. The 'evolutionary scenario' presented by Tavistock illustrates such a strategy.

## 5. Conclusion

Generally speaking, the focus on non-formal learning at work, in leisure activities and at home, is more a question of improving the quality of learning (by broadening the knowledge and competence base) than of increasing the capacity of learning. Having surveyed the different Member States of the EU on this issue, the basic motivation behind efforts in attempting to capture non-formal learning seems to be the hope to identify and utilise other forms of learning and knowledge than those stemming from the formal system. As indicated by the White Paper (1995), there is a need for a broader knowledge base, a need to combine the qualities of specialised teaching in education and training institutions and the qualities of experienced-based learning from actual and practical working/life situations. In this way, the growing interest and focus on non-formal learning is not so paradoxical as it may seem at first glance. Perhaps it can be viewed as a more mature way

of understanding the dynamics underlying reproduction and renewal of knowledge and competences. This view emphasises the heterogeneous character of learning. Learning cannot be standardised, rather, we should try to utilise and combine as many and as various forms of learning as possible. But as the follow up of the White Paper has shown, to formulate abstract and general objectives is one thing, to design and implement practical solutions is another.

Methodologies and institutions for the assessment of non-formal learning can be looked upon as necessary tools to build bridges between various forms of learning, from education to work and from initial education and training to continuing education and training. Although incomplete, the experimentation and planning taking place in most EU/EEA countries is an important signal of a changing perspective. Learning taking place outside formal education and training institutions is increasingly receiving attention. This means that the question of recognition of non-formal learning is located at the centre of the debate on lifelong learning and is increasingly understood as a critical question to solve if such an approach is to be realised. This does not mean that the exact role of assessment methodologies in the context of lifelong learning has been clearly defined. We still speak of general objectives at a rather high level of abstraction. A smooth interrelation between learning taking place in school and in work contexts implies a reduction of institutional barriers and an acceptance of the existence of a variety of learning needs and learning forms. A situation where the formal education and training system is given a monopoly on recognition of non-formal learning is clearly problematic. If the aim is to broaden the range of competences utilised in society in general, a shift in the balance between learning in education and work has to take place. This can take place at least partly through careful 'institutional design'. Securing broad participation in the development and definition of qualification and competence standards is probably one of the most crucial steps to be taken to increase the legitimacy of methodologies and systems (see also Chapter 2). The actual development of methodolo-

gies and institutions at national level illustrates this challenge. In the few cases where methodologies and/or institutions operate at more or less full scale, non-formal learning is treated as a subcategory to formal learning, not as a specific kind of learning potentially leading to different sorts of competences. As we have seen in France, this question has been raised and experimentation has taken place. This however is not the case in most countries for the moment.

The change from an input to an output-based approach to education and training, as demonstrated through the policy changes of several Member States of the EU, will lead to individualisation (or a 'tailoring') of competences. By accepting a greater diversity of learning contexts and learning paths, the need for control mechanisms increases. Unlike monolithic and centrally controlled education and training approaches, the need to measure and sort individuals becomes crucial, a precondition for the functioning of the overall system. The need to measure and sort is increasingly felt at many levels and in many contexts such as enterprises recruiting, pro-

moting and dismissing people and by educational institutions deciding on who is to be granted access. The loss of central control experienced when promoting more diversified education and training (which also may be termed decentralisation), is balanced by the development and introduction of new control mechanisms, controlling individuals rather than institutions. This highlights the ethical dimension of assessments. The question of methodological efficiency is not only a question of technical possibilities and limitations, it may also be a question of how far into the personal domain assessment methodologies (sorting mechanisms) should be allowed to penetrate.

Irrespective of the interpretation chosen, and it is obvious that still many more are possible, links between the formalised and non-formalised domains of learning are currently being strengthened through the introduction of methodologies and systems for the identification, assessment and recognition of non-formal learning. This trend can be observed in a majority of Member States of the EU/EEA and seems to be gaining momentum.



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# The problems raised by the changing role of trainers in a European context

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**Mara Brugia, Anne de Blignières**

**Abstract**

*The process of training and its response to changes in work and employment, and to new competence needs requires the extension of continuing training for teachers and trainers to anticipate the needs and modalities of education and training systems.*

*This paper addresses three particular dimensions of this development which influence the roles and competences of trainers: the qualifying organisation which has to develop flexibility, reactivity and adaptability of organisations and people; the acquisition of competence to prevent unemployment and marginalisation; new information and communication technologies which penetrate all activities related both to production and education and training. New profiles of trainers are emerging: trainers have to handle peripheral tasks, e.g. orientation, assessment of competences, support integration to work; and cope with new technologies as pedagogical mediators, applying and piloting multimedia training.*

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## 1. Introduction

Ongoing adaptation, as well as anticipation of needs and the methods by which education can respond to these needs, are nowadays necessary if the training process is to adjust to changes in work and employment and consequently provide for the new skills that these changes require.

Three particular dimensions of these changes, which are modifying the roles and skills of trainers, can be pinpointed from the current situation.

### 1.1 The 'skill-building organisation' factor

The purpose of the organisation of skill-building activities, perceived as a system of continuous learning, is to make the organisation and people more flexible, reactive and adaptable. In this respect, the purpose of training is help people to acquire a range of skills: the ability to intervene in complex processes, the ability to reason logically in order to put action into practice in an increasingly abstract universe, the ability to communicate with other people and to lead teams and the ability to pass on knowledge and expertise in new and unknown situations.

### 1.2 The 'skills' factor

New practices are being developed in the social field to find answers to growing unemployment and marginalisation. Their aim is to guide individuals along the path of redeployment and retraining. This kind of approach focuses chiefly on identifying and building on skills already acquired: skill reviews, vocational guidance, validation and recognition of prior learning, making more of transverse occupational skills and placing a greater emphasis on the cognitive dimension of learning.

### 1.3 The new information and communication technologies factor

Information technologies are playing an increasingly important part both in activities

linked to production and in activities linked to education and training.

*In this respect, they are forging a closer link between 'learning methods' and 'production methods'. Working situations and learning situations are tending to become closer, if not identical, from the point of view of the abilities that they mobilise.*

The use of the information technologies in training projects is nevertheless coming up against certain limits, as stressed in a report by DG XIII (European Commission 1996):

- too little is known about these technologies, their specifications, the operational uses to which they can be put and their needs from the point of view of the training environment;
- inadequate account is being taken of the critical factors connected with the introduction of open and distance learning systems;
- it is proving difficult to get to grips with the educational issues raised by the tripartite relationship between learners, trainers and technologies.

These three factors are having a direct impact on trainers and are drastically changing what has long been accepted.

The skill-building organisation factor: development of mentoring tasks that combine the logics of both work and learning and the emergence of new mixed profiles (trainer-tutor, occasional trainer).

The 'skills' factor: development of peripheral activities upstream and downstream of the training process (guidance, skills review, help in constructing personalised paths, integration assistance).

The information technologies factor: development of skills in educational and training engineering (media presentation of educational messages, design and steering of multimedia systems).

## 2. The work of the Training of Teachers Net (TTnet)

In view of the strategic role that changes in the tasks and skills of trainers plays in the question of improving their professional skills, a question that has to be seen in the context of the different Member States, Cedefop's TTnet (Training of Trainers Network) network chose to focus its work in 1998 and 1999 on three key areas:

1. Innovation as a transferable practice, a key factor in the development of training occupations (theme of a study and of the Faro workshop).
2. The tutoring function as an area of convergence within which a European concept for improving the professional skills of trainers can be formulated (theme of the Berlin workshop).
3. Changes in the occupational role of the trainer (theme common to all activities and dealt with in particular at the Faro seminar and in a study of the impact of training media on the occupational role of the trainer).

### 2.1 Innovation

The study dealing with innovation was conducted as part of TTnet's work. The purpose of this study was to provide a framework through which problems raised by experiences combining training and the new communication technologies could be analysed. Two findings shaped its approach: that of a contradiction between innovation and transfer, linked to the necessarily non-reproducible nature of innovation, and that of a contradiction between innovation in enterprise and innovation in training. Whereas innovation is a prerequisite for enterprise development, in the case of training systems it is still an isolated practice that is not integrated into the system and is not therefore able to provide it with any stimulus. The study therefore looked at work on innovation undertaken in productive organisations (enterprise sociology) to endeavour to establish the bases for an operational definition

of innovation, i.e. a definition paving the way for a dynamic understanding of innovation as a process and laying the foundations for the creation of an analysis tool.

Five complementary factors played a part in the operational definition of innovation provided by this study:

1. Innovation is a new combination of resources that is not improvised but is the result of a process entailing three key stages: destabilising change, re-organisation of parameters and production of a result – it is therefore an *organised* process.
2. Innovation is also defined by its triggering factor and its outcome – it is therefore a *targeted* process.
3. It can also be defined as creative and evolving, where the unorganised and the organised interact positively to produce new rules and new results. Innovation therefore entails both managing the stages of the process and accepting that the unknown plays a part, i.e. accepting that the process itself is creative – it is therefore an *organising* process.
4. In this respect, ongoing action at three levels is needed to manage innovation: definition of the product, definition of the process and definition of methods – it is therefore a *multi-dimensional* process.
5. In a process of this kind, the roles and positions of the various players cannot be set in stone. The process itself creates the player – it is therefore a *'self-creative'* process.

### 2.2 Tutoring

*The tutor is an employee designated by the employer to provide a person in the enterprise with workplace training. He carries out this training in addition to his usual work and remains subject to the normal production constraints.*

This definition, proposed by the Leonardo analytical study presented at the Berlin workshop, raises three questions: the extent to which enterprises are responsible for the

training process, the tutoring function itself, i.e. is it a separate occupation or part and parcel of the organisation as a whole, and lastly the cultural parameters that, by giving tutoring a role of occupational and social integration, shape how it takes place.

The results of the survey show that the way in which tutoring is organised is shaped by three main criteria:

- ❑ The value that society as a whole attaches to vocational education and training. This value is expressed through the social, personal, moral and statutory recognition of those taking part in it. It is underpinned by individuals themselves who are the creators and protagonists of this value.
- ❑ The enterprise's degree of responsibility for vocational training: Is the enterprise responsible for preparation for a diploma? Does it share this responsibility with a training centre or is it associated with this centre merely as a place of work experience during a training course?
- ❑ The way in which enterprises manage the skills that they require: do they produce them internally or buy them in from outside? If skills are produced internally, enterprises are developing a system for transmission of skills in the short and medium term and will mobilise employees to train future recruits.

Several tutoring models are emerging in the four countries studied. At one extreme, in Germany and Austria, tutoring is organised and considered as a key and regulating component of the dual system for the acquisition of a vocational qualification by young apprentices. To achieve this aim, selective and monitored access to jobs as tutors (following success in an examination), an educational content that is relatively standard throughout the country and monitoring of the work of tutors by authorities outside enterprises, act as a quality assurance system. At the other extreme, tutoring in Spain is still completely informal and is intended to provide an insight into occupational activity or to help new recruits to find their feet. Between these extremes,

France has multi-purpose tutoring whose aim is not just to help young people and adults with problems to acquire a vocational qualification but also to help them to become socially integrated.

The works of the Berlin workshop confirmed that the degree to which enterprises are responsible for the organisation of training varied from one country to another, in keeping with three separate models:

- ❑ The enterprise is responsible for training: tutoring is formally established, regulated and codified. It has to satisfy high-level needs in the area of qualifications and the planning of teaching;
- ❑ Training is shared by the enterprise and the training centre: this predominates in the case of alternance training. Tutoring is more informal and the exemplary value of practice is what counts;
- ❑ The enterprise plays a secondary role in the training process and complements the training centre: the task of tutoring is more one of guidance and encouraging.

Obviously, no model has been fully implemented. Each system reflects a predominant trend, and develops in relative stability. In France, EDF (French electricity company) provides an example, showing that after a period during which responsibility was delegated to training institutions, enterprises are now taking more responsibility for training and for skill evaluation. The recent upgrading of vocational training and new thinking that is encouraging large enterprises to consider their work organisations as learning organisations mean that France is in an intermediate position.

Overall, tutoring is a function shared by several categories of people in an enterprise, depending on its type of activity, its size and its hierarchical organisation.

It involves different levels of responsibility in the enterprise (from the tutor to the training director or the personnel director) as well as different vocational qualifications.

Tutoring work is thus distributed between different hierarchical levels in the four countries:

- The training officer (*Ausbildungsleiter* in the dual system) administers and manages tutoring in large enterprises;
- The employee designated by the employer to train trainees on a daily basis as a tutor in the strict sense of the word. Such employees have a key role to play in the educational process and in the relationship with the learner. In very small enterprises, this tutor may be the head of the enterprise who then combines all the functions mentioned above.
- Other employees who, without being expressly designated, help to train learners in a one-off way and are spontaneously asked to do so by the designated tutor.

From the point of view of the Community dimension, two conclusions can be put forward here:

- a) Prior to any study of the role of the tutor, the parameters that determine how this role is performed in a given environment must be identified (in particular parameters linked to the characteristics of the training system and to the cultural dimensions that influence how skills are organised and distributed). Any comparative study therefore requires preliminary work to be undertaken in order to understand how each work system actually operates and to look for clues to assist understanding and ensure clear terminology: the use of specific tools and glossaries may prove relevant here.
- b) Once this work has been completed, discussion of the role of the tutor makes it possible to locate common areas for investigation and cooperation, especially if these are areas about which the experts are raising questions and for which joint research into solutions may help to create a European dimension:

Changes in the role of the tutor: In a context of rapidly changing occupations and labour

organisation, to what extent should the problems raised by the creation of new occupations reshape the traditional role of the tutor?

Links between theory and practice, incorporating issues raised by the division of roles between vocational schools and enterprises and issues linked more directly to the increasing complexity of the tutor's teaching tasks: Should trainers know how to mediate, understand or devise, or all three at the same time?

Building up tutoring skills: On what foundations does the vocational expertise of tutors rest? Should priority be given to an educational or a managerial view of their task?

### 2.3 The evolving role of the trainer

The findings of the Contrat d'Etudes Prospectives (Forward Studies Contract) on training occupations in the competitive sector commissioned by the French Ministry of Labour highlight five development variables in relation to training occupations:

- a) The first variable has to do with the *optimisation of the cost-quality ratio*. It is necessary in this respect jointly to manage cost and quality parameters by introducing the notion of educational productivity. This development also reflects a new focus on the problems raised by a more instrumental view of training evaluation.
- b) The second variable has to do with the *relationship between training and work* where there is a marked trend towards a dilution of training through work and within organisations, leading to the emergence of new functions (tutoring, coaching) and the incorporation of training into occupational tasks.
- c) The third variable has to do with the *opening up of training systems*; the proliferation of places and methods of training (databases, exchange networks, resources centres) breaks up the unity of place, action and time of the training process. This highlights the drastic changes affecting trainers' profiles from the point of view of their relationship with knowledge and their re-



lationship with their audience. This variable obviously contains the seeds of a genuine 'crisis of identity'.

- d) Another change, closely linked to those affecting training systems, concerns *the more important place of the individual in training*. Financing measures for training (training cheques, time banks, etc.) and the development of accompanying measures (guidance, skills reviews, project monitoring) upstream and downstream of training schemes reflect this trend. Here again, new skills that do not really come within the conventional role of the trainer are being required.
- e) Trainees also have to be seen as a variable. In the French system, there are three main sectors: the private enterprise market, the public market and very small enterprises and professional practitioners who form a sector that is still very fragmentary but is growing.

According to the findings of the Forward Studies Contract, all these developments are likely to introduce such radical changes into training occupations that it will not be possible to speak of an occupation but rather of activities with a variable-configuration, whose structure will depend on specific situations, within four occupational families:

1. leadership of training schemes and provision of guidance services;
2. training engineering and educational engineering;
3. marketing and commerce;
4. management.

Attempting to analyse the development of training in a forward-looking context nevertheless entails risks:

- deducing the role of training systems from developments in the socio-economic context makes them dependent on a market logic. A proactive role, emphasising cultural references, should be envisaged for

training, especially in the European context. Constructing a European framework for the training of trainers boils down to including it in a plan in which social cohesion is more important than economic factors;

- At the same time, forward studies, as an interpretation of trends, should be kept as a salutary exercise that makes it possible in future to regulate more effectively a supply of training for trainers which had, up to then, developed without real anticipation or steering;
- If their findings are taken up by the professional players, forward studies then become a tool to steer the development of the profession.

To conclude, while it is undoubtedly clear, at present, that the training function will be radically changed, it is impossible to determine exactly what form these changes will take. If we are to move beyond hypotheses, we must set up instruments and a strategy. Monitoring of innovative experiments in the training field could offer help in this respect for the work of the training of trainers project

### 3. Conclusions

While the main feature of the 1980s was the increase in the quantity of the training supply, brought about by the growth of continuing vocational training markets, the new trend at the end of the 1990s was the increasing priority attached to the organisation and steering of the qualification system for trainers:

- through a *forward-looking approach* providing scenarios for the development of training (such as the Forward Studies Contract for training occupations in France);
- through the *definition of standards*, for the certification of agencies and the qualification of trainers (as in Italy, where a situation of dispersion and regional disparity has been replaced by a coherent market system);

- through the *publication of charters of trainers' activities and tasks* (such as the German guidelines of November 1998);
- lastly, through *the organisation of training for trainers through networks, partnerships and distance learning* (aim of the network set up by the Italians and of the

Autofod experiment: 'open distance self-training").

This work is taking place in two dimensions: *improving the internal coherence of actions* within the training system and *harmonising standards* from the point of view of the construction of Europe.

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## **Part two:**

# **Lifelong learning and competences: challenges and reforms**



# Lifelong learning – How the paradigm has changed in the 1990s

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**Martina Ní Cheallaigh**

**Abstract**

*Lifelong learning (LLL) is about learning throughout the life-span. In the early 1970s the concept of lifelong learning took on new importance. What has happened in the interim? Is there a paradigm change associated with more recent efforts virtually to recreate the concept?*

*The report treats important elements of today's lifelong learning strategies: the 'foundation skills' or the necessary platform on which to build one's learning throughout life, i.e. the ability to 'learn for life'; the transition from school to work and how certain types of initial training facilitate this better than others; pathways and bridges between various education and training routes which enable the individual to return to formal learning at any time in the life-span; the increasing importance of non-formal learning and how this should be linked to formal systems of accreditation and recognition; upgrading the skills of the workforce and maintaining the employability of those at risk, e.g. low skilled and older workers; increasing access to and motivation to learn, especially among disadvantaged groups; the role of the various actors – governments and public administration, enterprises, educational establishments, individuals, the use of new technologies; and new partnerships and networks. This report concentrates on that period of life from the end of lower secondary education (which corresponds in most Member States to compulsory schooling) and throughout working life.*

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## 1. Introduction

Lifelong learning (LLL) is about learning throughout the life-span. It is clear from our daily speech that this is not a new concept. We say things like: 'it's never too late to learn'; 'Man lernt immer was dazu'; 'ní thagann ciall roimh aois' (understanding doesn't come before age).

However, in the early 1970s the concept of lifelong learning took on new importance spurred on by the emergence of three similar but independent statements from the Council of Europe, UNESCO and OECD. At that time, the issues were the need to develop alternative educational approaches to the front-end loading of education and training at the initial stage of one's life, the demand for more equal distribution of education among the various social groups, general dissatisfaction with the existing education system which was not meeting the changes in the world of work which demanded more flexibility, the awareness that personal development for many people may well mean exploiting opportunities offered later in life, forging of links between education, social and labour market policies (OECD, 1975). So if they had got this far in the early 1970s, what happened since? Why in 1996, did many of the same organisations, plus the European Union see fit virtually to recreate the concept?

To decide if the paradigm change has occurred, we will begin by looking at the definition and how it has evolved. Thereafter we will treat important elements of today's lifelong learning strategies: the 'foundation skills' or the necessary platform on which to build one's learning throughout life, i.e. the ability to 'learn for life'; the transition from school to work and how certain types of initial training facilitate this better than others; pathways and bridges between various education and training routes which enable the individual to return to formal learning at any time in the life-span; the increasing importance of non-formal learning and how this should be linked to formal systems of accreditation and recognition; upgrading the skills of the workforce and maintaining the employabil-

ity of those at risk; increasing access to and motivation to learn, especially among disadvantaged groups; the role of the various actors – governments and public administration, enterprises, educational establishments, individuals; the use of new technologies; and new partnerships and networks. For the purpose of this report we are not looking at lifelong learning from the 'cradle to the grave', although we are aware that this is the acceptable scope of the concept, but we will concentrate on that period of life from the end of lower secondary education (which corresponds in most Member States to compulsory schooling) and throughout working life.

## 2. Terminology and definition<sup>1</sup>

The three pioneering texts which defined the original concept were:

1. Council of Europe, Council for Cultural Cooperation, 1971. *Permanent education: fundamentals for an integrated education policy*;
2. UNESCO [Faure et al.] 1972, *Learning to be*;
3. OECD, 1973, *Recurrent education: a strategy for lifelong learning*.

They also provided the terminology which has been used interchangeably ever since. The term lifelong learning has had no established 'common usage' and this persists today with each country taking on board elements of the concepts which suit its current predicament. *Permanent education* was the English translation of the French *éducation permanente* which was used by Lengrand in 1965 (*Education permanente*, UNESCO). However, the more usual translation became '*lifelong education*'. In 1981 Jourdan tried to distinguish between them, defining '*permanent education*' as refreshing or keeping up-to-date; '*lifelong learning*' as referring to the use of all educational programmes offered by any agency or body; '*recurrent education*' as a lifelong proc-

<sup>1</sup> A more complete description is given by Sutton, 1994, p. 3,416 ff.

ess of periodic participation in educational programmes, and ‘*continuing education*’ he referred to as rounding off the individual’s education, providing further education or retraining.

In the context of the time, all these terms and texts understood education as something systemic and institutionalised. However, they did recognise learning settings outside formal institutions, the growing diversity of learning technology and materials, and the independence of the learner. By the more utopian adherers, it was seen as a means of empowering the masses, in contrast to conventional formal education which prepared them for economic subservience and maintaining the social status quo. On the level of curriculum, there was a realisation that it would not suffice to extend traditional schooling throughout adult life, new methods were necessary, perhaps even ‘deschooling’.

As time went on, there emerged grave doubts about its ‘revolutionary zeal’ in reaching those who most needed it. The social divide remained with the less educated adults receiving inferior opportunities of second chance education. Initiatives in open and distance learning aided primarily higher education, e.g. the Open University. By the UN world conference on ‘Education for all’, Jomtien, Thailand, March 1990, particularly UNESCO had moved its focus from lifelong learning to the ‘universality and quality of initial or basic education for children and hitherto illiterate or undereducated adults’.

Summing up the development, Wain (1993) claimed that broadly speaking a ‘concept’ lifelong education had not developed its own meaning but was used by different persons to mean different things. In common usage, it had become synonymous with ‘adult education’ and those writing about it and involved in adult education exploited the currency of the newer term. This he refers to as the ‘minimalist’ view. He also described the ‘maximalist’ view shared by theorists who aim for a ‘reconceptualization of the whole of education’, their ultimate goal being a ‘learning society’, to ‘reform society itself through reforming its educational philosophy and struc-

tures and policies’. He also refers to evidence from the literature that the ‘maximalist’ view of lifelong education had not advanced much since 1979, while identification of lifelong education with adult education was widespread, even in the *International journal of lifelong education* in which he himself was writing. He concludes:

‘Were the “maximalist” view to disappear one danger is that the implications for the earlier phases of education in childhood and youth, of regarding education as a lifelong process, would be lost completely or cease to be an issue, chief among these the need to work on cultivating “educability” at these stages rather than working towards some finished product of the “educated person”’ (p. 95).

In 1994, the second edition of the *International encyclopaedia of education* still gave preference to the term ‘lifelong education’ over ‘lifelong learning’ which shows that prior to the European year of lifelong learning, 1996, the pendulum had not yet fully swung in favour of the learner and away from the process of education. However, one thing which both editions reiterated was the difficulty of carrying out research on this broad topic: ‘one is dealing with a guiding principle statement of belief, rather than a precise planning proposal, and in the nature of the approach a multitude of horizontal factors should be taken into account’ (Sutton, 1994, p.3421). This also proved a challenge in researching this paper. Available research consists of myriad work on individual aspects, each one of which could quite justifiably be considered as a lifelong learning issue.

### **3. Background and development**

In the early 1970s, the concept of lifelong learning, had two main elements: it provided for the spread of post-compulsory education over the whole lifespan of the individual and for it to be organised in a recurring way, alternating with work or leisure or even retirement.

Schütze and Istance (1987) point out that the ensuing economic and social change in the

years following the OECD's formulation of its 'strategy for lifelong learning' provided 'formidable obstacles' to its realisation. The first oil crisis occurred in 1973.

'The climate of reform that coloured the 1960s has been succeeded by one of greater caution and retrenchment – more realistic, perhaps but less conducive to radical reform. Seemingly limitless economic growth and relatively full employment have given way to prolonged labour market difficulties, consequent upon structural economic change. The 1980s are typified by financial constraints and, in many OECD countries, education now suffers a declining share of the public purse' (p. 14).

While at the same time they stressed that

'...the rapidity and nature of these social and economic changes have strengthened not weakened arguments in favour of this strategy, even if it has become more difficult to implement it' (ibid).

Lifelong learning as envisaged in the 1970s was 'typified by full-time education in alternation with full-time work and by implication under the coordinated direction of a public, decision-making authority' (ibid.). Over the next 15 years, down to the period when Schütze and Istance were writing, a number of changes had already taken place which necessitated rethinking the idea. In some countries, compulsory education was prolonged. Rising youth unemployment meant that new forms of access to education and training were developed for 16 to 19 years olds, usually corresponding to upper secondary education. The new programmes, also for the 19 to 25 age group, had an emphasis on (vocational education and training) VET, some of which contained elements of work experience. Terms like 'alternance' and 'sandwich course' became common place. In Germany, the 'dual' system had just been given new impetus in the form of the *Berufsbildungsgesetz* (BMBW, 1969), which was introduced to strengthen its legal basis and to elaborate educational goals for vocational training. The demand for education later in life was rising and there was a new demand from senior citizens or those who availed of early retirement.

Post-secondary and adult education responded by offering short and modular courses and there was an increase in non-university diplomas, some with a practical component as in the case of the national institutes of higher education in Ireland. Distance learning, part-time studies and open universities developed.

Added to this, labour market authorities took up the challenge and started to fight unemployment with initiatives such the Youth Training Scheme (YTS) in the UK and labour market training for the adult unemployed in Denmark, along with many examples of return to work programmes for women and the long-term unemployed. Enterprises also began to adapt to the changing times and working-time arrangements became more flexible.

In the meantime, the question of competitiveness and performance has come to the fore. In the early 1980s, a study was launched in Britain which examined the VET systems of her main competitors – Germany, USA and Japan – countries which saw 'education and work competence as a key to their economic success', although the correlation had never been measured (Hayes, 1984). The study also mentions the evolving idea of the learning company in the US, where some enterprises, particularly in the hi-tech industry saw a continuous need for learning and the participation of as many employees as possible. Today every company is confronted with this same need not only because of rapidly advancing technologies, but also because of the introduction of new products and processes, changes in management, work organisation and structure, and globalisation of markets, all of which accelerate the depreciation rate of skills and knowledge acquired before entry into and during working life.

The consequences of these changes are the high rates of unemployment, particularly among older workers whose skills become outdated most quickly or whose jobs are moved elsewhere, and the demand for higher level initial education and training. As a result there is now an acceptance of the importance of 'employability'- development and maintenance of workers' skills so that they

have the knowledge and ability necessary to stay in employment throughout their working life – and the empowerment of the individuals to influence their own employability by becoming independent, lifelong learners. In this context, lifelong learning must be seen as a requirement, as well as a right ‘for all’.

The emphasis is, therefore, turning to self-directed learning, with the individual taking responsibility for his/her own learning path, given the prerequisite that he/she has the necessary apparatus to take on this role. The offer of education and training has become much more complex and varied than the more or less one-way school system which existed in the late 1960s. Learning is also becoming more individualised, as jobs become more tailor-made and there is greater recognition of work-based experience and non-formal learning in diverse settings outside education institutions. Learning culture itself is changing from being *systemic*, associated with schools and curricula to being *holistic*, available in and combining many different forms and contexts. Dohmen (1998, p. 14) describes how the accents are shifting:

- ❑ from learning that is primarily externally prescribed and ordained to learning that is directed more by learners themselves;
- ❑ from orientation to generally valid, scientifically preplanned curricula to development of a wide range of different learning possibilities that can be selected and combined by learners themselves, in accordance with their own needs and prerequisites;
- ❑ from learning whose coherence is derived from systematic branches of science to learning whose contexts are developed by learners from their own question, problem and interest contexts;
- ❑ from predominantly instruction-oriented to more task-oriented and project-oriented learning;
- ❑ from primarily theoretical and verbal learning to more practical and situation-oriented learning;
- ❑ from teacher-learner interaction to interaction between learners and problem areas;
- ❑ from receptive knowledge storage to active knowledge construction and knowledge renewal;
- ❑ from learning that is primarily certificate-oriented and special-qualification-oriented to learning that provides life and problem-solving assistance and that opens up the way to greater behavioural sovereignty and life quality in daily life, work and in the world of media;
- ❑ from learning only in specific learning institutions to learning in a great variety of activity contexts and plural learning environments in which schools are only one important, component.

This is the complex background against which the lifelong learning paradigm is currently taking shape. In addition the emphasis in the terms itself has finally rested with ‘learning’ rather than ‘education’, another indication of the shift of emphasis towards the learner, i.e. the individual.

#### 4. International policies in the 1990s

The EC White Paper *Teaching and training – towards a learning society*, 1995, introduces three elements into the debate, albeit not totally new – the information society, internationalisation and the scientific and technical world – to which it attributes the cause of current social and economic ‘upheaval’. Although since the 1970s, some alternative forms of VET had been introduced, more alternating courses, more technical options in upper secondary education, apprenticeship reforms throughout the early 1990s, the problem of high unemployment was something governments could not overcome in the interim period. The growing long-term unemployment excluded the affected groups almost completely from return to work because the new employment openings were in areas which demanded specific competence which they had not been prepared for. In addi-

tion, they were being 'jettisoned' in favour of the younger generation whose higher qualifications were more vital to economic success. As a solution to this, the white paper proposes provision of broad-base knowledge and maintaining people's employability throughout life, both of which are attainable through lifelong learning strategies.

At the end of the *European year of lifelong learning*, 1996, the Council of the European union published *Council conclusions of 20 December 1996 on a strategy for lifelong learning*. In this document it sets out a framework of suggested areas which it feels need further development in lifelong learning strategies. This framework is used as the basis for Annex 1.

In 1996, 'in adopting the goal of 'lifelong learning for all', the OECD Ministers signalled a major departure from the narrower 1970s concept of recurrent education for adults. The new approach is a true 'cradle to grave' view. It encompasses all purposeful learning activity undertaken with the aim of improving knowledge, skills and competence. It gives weight to building foundations for lifelong learning as well as to remedial second chances for adults. And it recognises that not only the settings of formal education but also the less formal settings the home, the workplace, the community and society at large contribute to learning' (OECD/CERI, 1998, p. 8).

The document also states the OECD's strategy goals for lifelong learning policies:

- ❑ strengthening the foundations for learning throughout life;
- ❑ promoting better links between learning and work;
- ❑ rethinking the roles and responsibilities of partners;
- ❑ creating incentives for mobilising investment (OECD, 1996, p. 21).

Coherent policies of LLL incorporate elements of social, cultural, labour market and education policy, and can only be implemented in partnerships involving the state, social partners, business, educational institutions and

individuals. At the top level, there is evidence of some movement in this direction, leading to collaboration in the area of education and labour market policies. The OECD Education Ministers' concept received wide acceptance by other ministries, endorsed by Ministers for Labour, Social Affairs and the Ministerial Council of the OECD. Likewise the white paper of the European Commission was a coproduction of DGXXII – Education, Training and Youth and DGV – Employment, Industrial Relations and Social Affairs. The Labour Ministers of the EU have made lifelong learning a key issue in their strategy for employment and it is an important priority of the national employment actions plans (NAPs) drawn up annually by the Member States.

At the EU Council meeting in Cologne, June 1999, the European Commission and the Member States agreed on a common definition of the concept of lifelong learning for the purpose of setting lifelong learning targets: 'all purposeful learning activity, whether formal or informal, undertaken on an ongoing basis with the aim of improving knowledge, skills, and competence'. Commitment to this definition has enormous implications for policy. It brings centre stage the whole issue of recognition and accreditation of prior and informal learning.

## 5. Situation in selected countries

Looking at country perceptions of lifelong learning, OECD/CERI (1998) found most have adopted the broader 'cradle to grave' view. Nevertheless, many lifelong learning strategies are putting emphasis on filling the gaps in adult education and training, rather than providing a homogeneous new framework, as can be seen from our analysis of selected national strategy papers on lifelong learning in annex 1, which seeks to establish how far they include the recommendations of the Council of the European Union (1997). The UK, Finland and the Netherlands are embarking on an all-embracing strategy and Denmark does include in its 10-point plan (Point 3) that 'the foundation shall be laid so that young people

learn to consider education as a recurrent event'. In some of the countries examined, reforms have already taken place within the sphere of initial education and training which are in essence based on the principles of life-long learning. Norway and Sweden are a good example.

The Scandinavian countries and Japan would appear to have attained a workable lifelong learning strategy, while others are still quite far behind. Hungary (OECD/CERI, 1998) is still using lifelong learning to refer to adult learning only, while, in Italy, new legislation and agreements between the social partners are trying to overcome the absence of a system providing continuing vocational training (CVT) opportunities, in a climate where 'adult learning has low social value and is still seen as a sign of failure rather than development' (Di Francesco, 1998).

There is evidence of convergence in the Member States, the UK merged its departments for education and employment in 1995 and the new Department of Education and Employment, issued the green paper, *The learning age*, in 1998. But things may be moving too fast without enough background research on which to carry out the proposed strategies. It has been followed up with numerous initiatives in the meantime which on the whole makes it difficult to get an overall picture. In Germany, education and training have long been under the Federal Ministry of Education and it now incorporates research and technology, training is very well researched and structured with the Federal Institute of Vocational Training to support it. Nevertheless, Dohmen (1996) feels that many of the fixed structures, controls, rules and regulation in Germany, which have served other forms of education and training well, are hindering rather than helping the realisation of a lifelong learning strategy.

### 5.1 The case of Sweden

Sweden<sup>2</sup> now has a very integrated education and training system. It is interesting that the

reorganisation of VET has moved from being 'basically industry-based to being integrated in the general school system' while in many other countries the emphasis is on increasing the industry base for more work-linked training. However, this pattern has not hampered Sweden's success in promoting lifelong learning. On the contrary, the strong school-based system of *youth education* (which also covers university education) is seen as extremely important in paving the way for lifelong learning (Sohlman, 1998). Upper secondary school offers 16 national programmes, two of these – natural science and social science – focus more on university entry. About 10 weeks of the other more vocational-oriented programmes must be spent out of school, at the workplace. Each programme offers a number of opportunities from which students can choose in the second year.

At secondary level, all post-compulsory programmes, both academic and vocational, have a duration of three years and lead to higher education, if desired. For those who do not go on to university, lifelong learning begins when young people enter the labour market where learning at work begins and there are ample opportunities outside work in adult education. The KY programme for advanced vocational training at post-secondary level is a new two-year programme, closely linked to the employment market. One third of the course-time is spent at the workplace. In addition to vocational knowledge attention is given to maths, science, computer technology, economics, society, culture and language, and to personal and social skills. This KY-programme supports the development of lifelong learning in working life.

Grundtvig's residential colleges for adult education developed in Sweden for the very practical purpose of providing education for farmers and their sons (Lundgren, 1998.). These colleges have progressed and developed their social role over the years and in 1995 they numbered 135 throughout the country, 88 of which were owned by popular movements, etc. 25 000 students studied course there for one semester or more and 175 000 participated in shorter courses. The practical outlook of Grundtvig still prevails in more recent ini-

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<sup>2</sup> Data from: Abrahamsson 1999; Sohlman 1998.

tiatives that try to stop the gaps in education and skill needs. Compensatory education for adults is provided for individuals who cannot avail of learning possibilities at or outside of work, usually because of lack of basic education. On 1 July 1997, the government launched the Adult Education Initiative (AEI) as part of its strategy to halve unemployment by the year 2000. AEI, or competence lift, is a five-year programme for the unemployed and those employees who lack either completely or partially three-year upper secondary education. It will also contribute to a positive change in gender distribution of work and to adult education reform, as a whole. The municipalities are responsible for organisation, planning and implementation and can choose course organisers that meet the requirements of the target group as well as local conditions. They network closely with national employment offices and adult education councils, the social partners, etc.

To motivate and attract adults with low educational levels, the municipalities are charged with developing new forms of information and outreach activities, new counselling methods and techniques for assessment and recognition of prior learning. New organisational and pedagogical approaches are being applied as well as new technologies. Some municipalities have created local study centres equipped with the latest ICT facilities. Transition between the different levels and types of school is being made easier. An individual study and action plan has to be established for each individual. A special education grant is available for a maximum of 12 months and is equivalent to unemployment benefit.

They have found in the Swedish VET system that the introduction of new programmes and policies necessitated by rapid changes in the external environment cannot await the results of scientific investigation. 'The solution to this dilemma has been to start new investment projects on a preliminary basis and set up monitoring, reporting and evaluation procedures' (Sohlman, 1998, p.25). This holds for the AEI and KY programmes. The commission for the Adult Education Initiative was appointed by parliament to set the goals for and monitor the initiative. It also assesses the

ongoing education and in-service training needs of adults. The monitoring process includes self-evaluation by the schools and municipalities.

The interesting feature of the Swedish policy is that it is 'all embracing', integrating all groups. It also has local cooperation and organisation, it provides a service to the individual, while making the best use of existing resources and funds, i.e. municipalities, schools, employment offices, unemployment benefits, etc.

## 5.2 The case of Japan

The evidence suggests that economic factors are a strong driving forces behind the development of lifelong learning. In their first phase at least, most strategies promote:

- a) investment in the skills of the workplace to increase competitiveness;
- b) employability by helping people develop to the full potential, especially the unemployed and other disadvantaged groups to avoid their social exclusion;
- c) quality, efficiency and effectiveness in the delivery of and access to State-sponsored interventions.

While most strategies do emphasise to varying degrees, the importance of lifelong learning for citizenship, human wellbeing and the future of society (e.g. Finland), they concentrate on the more materialistic or economic issues.

Japan on the other hand has reached a higher level of development. The formal education system, even if it is accused of being an 'examination hell', has achieved high participation and success rates and provides a highly skilled workforce. A high proportion of this workforce goes on to benefit from continuing training throughout working life, provided through the patronage of the employers. Because of these facts and the strong Japanese tradition of 'improving one's cultural and educational background during one's leisure time' (Dohmen, 1996), the con-

cept of lifelong learning in Japan responds primarily to social change and the 'lifelong learning society':

'The need for a lifelong learning society reflects a number of social factors. First, to remedy the harmful effects of Japanese society's preoccupation with academic credentials, we need to create a social environment in which appropriate value is placed on learning achievements at all stages of life, regardless of whether they are accompanied by formal academic credentials. Second, the maturation of Japanese society, as evidenced by rising income levels, expanding leisure time, and the ageing of the population, is reflected in increasing demand for learning activities that contribute to spiritual enrichment and enjoyment of life. Third, people today must constantly acquire new knowledge and skills in order to keep pace with the issues affecting Japan's society and economy, including advances in science and technology, the increasing use of sophisticated information technology, internationalisation, and changes in the industrial structure.' (Monbusho, government White Paper, 1996a, Chapter 2).

The Lifelong Learning Council was established in 1990 to develop a national framework. It produced two reports *Measures to promote lifelong learning in response to social trends*, 1992, and the White Paper *Measures to improve lifelong learning opportunities in the community* (Monbusho, 1996b), which superseded the 1992 report.

Implementation is carried out at prefectural government level and many of the municipalities have drawn up their own lifelong learning promotion plans, conferences and declarations. Information is disseminated through publications such as pamphlets, media including radio and television, databases and networks. Efforts are made to share these databases and networks with organisations providing information in the field of youth culture and women's education. Emphasis is put on developing 'self-education abilities' needed to learn independently and to cope with social change.

Importance is placed on groups learning and on sharing resources with educational institutions. Higher education institutions are developing specialised courses for the general adult public and school sports facilities and classrooms are made available for public access and public lectures, etc. There is also a move to grant credit for out-of-school learning achievements and give appropriate recognition to 'volunteer activities'. This is due in part to the desire by some participants learning in the context of daily life to continue on to more formal learning and also to encourage more mature students into higher education opportunities. 'Lifelong learning' is becoming an everyday term among the Japanese population. The challenge is still how to provide the learning formats which meet people's desire to learn and provide them with the required knowledge and skills in a pleasurable way. The Ministry of Education, Science, Sports and Culture (MESSC) has been promoting the use of multimedia technology through its educational media research, development, and utilisation project. The use of multimedia eases time and distance constraints and should also 'enable the fine tuning of learning activities to suit the characteristics and wishes of individual learners'.

A number of surveys carried out by MESSC, the Prime Minister's Office and research institutes have examined who is learning what and where. The main motives for learning appear to be enjoyment, life enrichment and health, only a minority learn for work-related purposes and these learners were in their forties or under. Adults chose books, magazines, groups, and also cultural centres, and local government lectures and courses are their preferred learning methods. Colleges, universities and upper secondary extension courses didn't account for a high proportion and they tended to be used by the work-related learners. However, a survey by the Ministry of Labour in 1995 suggests that a significant number of people are involved in work-related learning activities but don't recognise them as part of lifelong learning. In 1994, 50.9% of workers underwent 'off-the-job training' and 57.0% 'self-improvement activities'. This compares with 90.5% of workers who in 1992 said they were interested in self-improvement



(survey available only in Japanese, quoted in Monbusho, 1996a).

In the context of learning in an ‘ageing society’, the white paper mentions the need for the entire nation to understand better the social factors behind the rapid ageing process – social insurance and welfare, pensions, health care, etc. It stresses the need to plan and learn about ‘the transition from employment to retirement, especially for men’.

Dohmen (1996, p. 73) detects two lifelong learning movements in Japan which are converging. The popular movement ‘based on establishing awareness and recognition of informal lifelong learning that takes place in a highly diverse cultural and recreational world... and the moves by government to develop a coherent system for promoting learning opportunities, learning aids, learning centres and support communities throughout the entire country’, incorporating everyday learning. It would seem that while most countries are struggling to open up lifelong learning and make it more non-formal, Japan is trying to tie lifelong learning into the formal system.

## 6. Youth vocational education and training

The OECD/CERI (1998) reports that the youth cohort shrank by around 3% between 1988 and 1998. But countries vary greatly. In Ireland the 18% of the population is aged between 15 and 24 years, this compares with around 12% in Belgium Denmark, Germany, Netherlands, Norway, Sweden and the UK. Despite the declines in the size of the youth cohort and strong growth in sectors that employ young people, the relative employment and earnings position of young people have tended to decline during this same period. Falling participation in employment is explained in part by students staying on longer in education or combining work and study. In most OECD countries, youth employment is highly concentrated in the services sector (OECD/CERI, 1998, p. 49). Services can give opportunities to adaptable youth with computer and language skills, and employers tend to place emphasis on personal qualities, ex-

perience and general qualities (ibid.). Therefore young people with a broad general education have excellent chances in services that are still developing vocational qualifications, such as finance, insurance or real estate. Poorly educated youth, on the other hand, risk ending up in declining industries or agriculture, or in neo-Taylorist jobs in the service sector. The ILO (1998) repeats the doubt, expressed previously by the OECD, EU and others, that initial training can suffice for the employment needs of a lifetime. Training systems are concerned about how to develop workforce skills from a lifetime perspective. It is important to get the right formula from the start because lifelong learners tend to be those with greatest educational success in early years (OECD/CERI, 1999).

### 6.1 Foundation skills

In the new paradigm, there are new demands on initial training. It no longer prepares young people for permanent jobs but rather for ‘employability’ and adaptability. It should endow them with the ability and skills to adapt to and to move with the changing jobs and working environments that they will encounter throughout their lives. In addition to preparation for a particular activity, the purpose of initial training is now to develop one’s ability to ‘learn for life’, building a range of generic, foundation skills such as learning to learn, self-organisation and self-responsibility, ICT skills, creativity, problem diagnosis and solving, team work and communication, many of which cannot be imparted in the school setting.

Jobs are changing constantly, especially, in the services, it is difficult to define an ‘occupation’ or occupational profile for the purpose of vocational training. It is predicted that 40% of the jobs that will exist in 2010 are not yet known (Longworth, 1999). Jobs are becoming more personalised, based on a collection of functions that may, for example in modern SMEs, include elements of design, production, and marketing. This personalising of work has a number of implications for training. Initial training has to be broad enough to anticipate combinations of functions that might make up an eventual job. There is a

tendency for young people to stay on longer in general academic education to gain a broader basis and the possibility of specialisation at higher education level. In VET, modular systems with strong general, social, information technology and communication skills are becoming the norm. Even in Germany where, traditionally, initial training was firmly built around preparation for a particular 'regulated occupation', there is a move towards introducing modularization as a means of making such training more flexible and allowing for elements from other occupational activity to be added (Steinke et al., 1999; Kloas, 1997).

*LifeQual* – 'Effective processes for acquisition of qualifications for lifelong learning', a project funded by the *Socrates* programme, is examining research data and studies in order to identify structures, agencies and processes effectively fostering the acquisition of qualifications (in terms of the skills, qualities and attitudes) for lifelong learning. Other *Leonardo* surveys and analyses, like the *Post-16* project and the *INTEQUAL* project looked at the different routes open to young people after the age of 16 and are developing and piloting qualifications with a dual orientation towards employment and continuing education and training in the different partner countries (see separate chapter by Lasonen and Manning).

*LifeQual* aims to build on and enhance that research by identifying the dynamic processes at play and through developing models of good practice for enhancing the efficiency of the acquisition of qualifications for lifelong learning, to inform policy development at national and international levels. The issues being studied include:

- seeking to open up progression opportunities for vocational routes which are currently blocked in relation to possibilities for access to higher education and continuing education and training;
- the way the lack of a sufficiently well-grounded technical orientation in initial education closes off a range of technical options in the eyes of many young people;

- the value of (prior) work experience to those taking vocationally oriented programmes in further and higher education, whereby the dynamic interaction of experience, reflection and learning provides a basis for continuing professional development;
- the enhanced labour market prospects of those that can offer a higher education qualification together with post-degree practical experience;
- the difficulties experienced by companies in filling posts requiring well-developed intermediate technical skills;
- the need for broad support for models of lifelong learning 'careers', built on interaction between learning for and at work and within and across different sectors of education.

So far, work has been done on the structural aspects of the education system that affect the development of lifelong learning, the relationship between the broad aims of initial vocational training and the facilitation of lifelong learning, and the value of using transferability as a focus for the acquisition of qualifications for lifelong learning

In Europe, four main initial training routes, general academic education, school-based vocational education, apprenticeship and entry to low-skilled employment are still very much in evidence, though there is some convergence taking place. We will look at developments in some of these areas next.

## 6.2 School-based vocational education

Scandinavian countries have the most integrated systems in Europe and they are continually being developed against a vision of lifelong learning. These countries have had a tradition of integrated education systems stemming from the Grundtvig's principles that promote adult learning in 'out-of-school environments'. In Norway, Finland and Sweden, the latest reforms have introduced a smaller number of broad VET programmes covering wide sectors or clusters of occupa-

tions. The purpose of these programmes is to offer all young people, who choose a vocational path through upper secondary school, a broad foundation on which to build their career and also to facilitate horizontal movement to parallel vocational courses or main stream general education. In Norway, for example, the 13 vocational programmes begin with a foundation course that covers an introduction to a number of occupations. In the following year, the student can choose from over 100 more specialised ‘advanced courses I’ that also contain some general and academic subjects. Then the student can opt for different types of specialisation through *apprenticeship* and spend two years at the workplace, first as a trainee and later contributing to the productive work of the enterprise (this model is known as the 2+2 model); or training for another year at school, *advanced course II*.

Upper secondary schools in Norway are run by county authorities and offer both academic and vocational education. This enables easier transfer between programmes and between academic and vocational streams. Students who take the vocational course in business and general studies obtain entrance qualifications for higher education. Students who have taken other vocational paths can gain access to higher education by taking a *theoretical bridging course*. The system emphasises the development of broad competences to provide a solid basis for continuing training and lifelong learning. The curriculum is based on a common platform, offering strong elements of theory, general subjects and information technologies across all programmes. The curriculum is modular and adults are allowed access to individual or combined modules to complete an upper secondary qualification as external students, as part of their continuing or labour market training.

In Denmark, the number of VET programmes (also affecting apprenticeship) available at entry will be reduced from 83 to seven, in the year 2000. Some schools are practising this policy from August 1999 on an experimental basis. Similarly in the Netherlands, upper secondary vocational education is classified along sector lines. Each sector provides training courses for several industries. These indus-

try-specific training courses lead to pre-defined national qualifications. There are 22 different sectors under the broad headings: technology, economics, services and health care, and agricultural.

Educational institutions must change radically if they are to provide an adequate framework for lifelong learning, remodelling to recreate an open education system. To play an effective role they must change in respect to:

- ❑ the needs of the individual for foundation skills such as learning to learn throughout life;
- ❑ the flexibility of their provision (with regard to type, time and place);
- ❑ their attitude to companies, what goes on there, what they need in the line of specialised training and what they provide in the way of workplace training;
- ❑ non-formal learning outside their walls and its recognition; developing certification systems based on ‘output’ which document ‘real’ competence; the role of their staff and their competence and know-how;
- ❑ the use of ICT (information and communication technology).

This is quite a long list that many traditional institutions would find daunting, and this is one of the weak spots in developing the new roles of the partners in lifelong learning. At the moment the school side would seem to be the weakest link. It has survived for centuries as the ‘venerable pillar of society’ and now it is being asked to change at a pace never known before. Longworth (1999, p. 25) quotes Bayliss who questions the use of ‘tinkering’ with a 19<sup>th</sup>-century philosophy and structure of schooling to meet the needs of the 21<sup>st</sup> century. Even in Norway, where we have seen that changes have been introduced, Nørstegård (1998, p. 13) is critical of its role. Pressure is being exerted by the ‘hidden threat’ that, if the ‘ordinary education’ and ‘training institutions’ do not change radically the way they serve lifelong learning, an Open University will be established.

### 6.3 Work-linked pathways

There are a number of reasons put forward why work-linked training, and particularly apprenticeship, provides a suitable preparation for participation in the modern workplace:

- ❑ it provides a gradual transition from school to work;
- ❑ the contract which is a keystone in apprenticeship provides a ready-made 'partnership' (employer, trainee and training provider). In its more refined and developed form, the apprenticeship system is a platform for social partnership and the national action plans for employment (NAPs) encourages such partnership in Guideline 4;
- ❑ researchers believe that it is a practical way of introducing people to 'communities of practice' i.e. a social environment in which socialisation and transfer of tacit skills can take place which are otherwise, very abstract, but essential elements of training which are not easily transmitted in the formal classroom setting. This is important at a time when initial training in general is criticised by employers for not being more relevant to labour market needs;
- ❑ work now consists of processes rather than specific tasks and the work-process knowledge that it requires can only be acquired in the workplace. Apprenticeship enables the integration of theory and practice, and of non-formal and formal learning.

The ILO *World employment report 1999*, takes up Ryan's question: is apprenticeship better? (Ryan, 1998), and concludes that although circumstances differ from country to country and youth unemployment is very sensitive to the state of the labour market, apprenticeship does enhance employment prospects for young people and this is attributable to the quality and relevance of the training given. These results are backed up by the findings of the OCED in its *Employment outlook* and *Education policy analysis* (both 1998) pointing out that not only is youth unemployment less in countries with strong apprenticeship traditions, like Germany and Denmark, but

transition is also facilitated. This relative success must be seen in the context of their highly regulated labour market system in which an effort is made to balance training places and employment opportunities. It requires strong commitment from the social partners, particularly employers, and governments to agree on the design and implementation of training courses, certificates and wage levels. It involves complex processes which are difficult to change, as can be seen from attempts to modernise the 'dual system' in Germany. (Hannan et al. discuss the impact of institutional and labour market differences in their contribution to this volume). Apprenticeship is, therefore, not readily exportable and adaptable from one country, or from one type of economy to another.

The fact that countries with a strong work-linked element in initial vocational training often experience less problems with youth access to employment is also one of the reasons why the European Union is emphasising this issue in its policies. In June 1996, the Council of the European Union asked the European Commission to undertake a study on the *Role of apprenticeship in enhancing employability and job creation* (Gelderblom, 1997). This study which was undertaken by Netherlands Economic Institute, 1997, defined apprenticeship in a broad sense which included many types of alternating vocational education and training. The report concluded that 'apprenticeship' does have an impact on reducing youth unemployment and does enhance employability<sup>3</sup>. The results of this study were incorporated into the communication from the European Commission, *Promoting apprenticeship training in Europe* (COM(97) 300). As one of five keys to more effective apprenticeship training, it stressed adding a European dimension to apprenticeship training by facilitating mobility of apprentices and recognition of training periods undertaken in other Member States.

The Commission itself acted on these points, given the significance of work-linked train-

<sup>3</sup> This study is treated in some detail in the first European research report (Tessaring 1998, pp. 128-136).

ing and the need to develop European mobility. This culminated in the Council's adoption, on 21 December 1998, of a *Decision on the promotion of European pathways for work-linked training, including apprenticeship* (1999/51/EC, OJ L 17, 22.1.1999). This decision established the Europass training, a document to record that 'the holder has completed one or more periods of work-linked training, including apprenticeship, in another Member State'. It remains to be seen if the Council decision can give a new impetus to work-linked training. If extended to national situations, it could be used to initiate a system of work placements between enterprises, which on their own could not provide suitable placements for apprentices and trainees.

### 6.3.1 Development of varied forms of work-linked training

Apprenticeship is the most structured and more established form of work-linked training, but it is by no means the sole option. It is still deeply rooted in the craft sector and perhaps for this reason, or because they do not have the highly regulated social structures it needs to function well, many countries have devised alternatives based on their existing training traditions and systems. France is perhaps the best example of a mixed system. Alongside apprenticeship (which in France, despite State support and numerous reforms, has a relatively low status and is regarded as a training route mainly for those who have failed or performed poorly in school), it has over the years developed the vocational baccalaureate (*bac pro*) for students in upper secondary school who intend to prepare for employment. The *bac pro* includes 16 to 20 weeks on-the-job training over its two-year duration. Other countries have followed this example, in the UK the *GNVQ*, in Ireland the *applied leaving certificate*, Sweden's 14 vocational-oriented programmes in upper secondary education devote 15% of students' time to *APU* (workplace training), or the Norwegian<sup>4</sup>

model. Agreement has been reached in Finland on providing periods of on-the-job training of at least six months for all upper secondary school students. Now the question is how to generate enough places to develop a 'culture' of on-the-job training.

France is the home of alternating systems or 'alternance', some of the many variations include the *contrat d'orientation* (guidance contract) for young people aged 22 and over who do not have a vocational diploma and who have not completed upper secondary, general education; the *contrat de qualification* (qualification contract) is offered to young people under 26 to supplement their initial training by job-related training to give them better possibilities of access to jobs; the *contrat d'adaptation* (adaptation contract) is aimed at young people under 26, to provide training that will help them adapt to a job or type of job. All of these involve a contract between the youth and employer. Such models and others have also been adapted in other countries. In Denmark, *TAMU* is an alternating vocational preparation programme for youth with low attainment and social problems, and the municipalities organise other schemes to combat unemployment, e.g. job-training schemes with public employers. In Portugal the *PAIJA* is a programme for the integration of young people into working life.

In the UK, *Youth Training*, delivered through a contract, offers a guarantee of up to two years training for young people not in employment (usually) or full-time education from the end of compulsory education to the age of 18. The *New Deal for Young People* (DfEE, 1997) is intended for those aged 18 to 24 who have been unemployed for six months or more and are receiving the jobseekers allowance. Following help with job search and career guidance, those who do not find an unsubsidised job have four options: a subsidised job with an employer; work in the voluntary sector; full-time education and training; work in the environmental task force. Variations of the *New Deal* have been developed for the long-term unemployed and lone mothers. Upper secondary general education creates strong competition in the UK, and the number of 16 to 19 year olds who leave school in favour of

<sup>4</sup> Norway has been described in Section 6.2 to highlight broad foundation training. It could equally be included here, or in Section 6.3.2 as a variation of apprenticeship. For a more detailed description, see Farstad, 1999.

employment is still quite high. Suggestions have been made by Layard et al. (1995) that all young people under the age of 19, who are in employment, should be employed as 'trainees', with certain obligations on the employer to release them for training.

Urged on by the stipulation in NAPs' Guideline 1 – Tackling youth unemployment – that 'every unemployed young person is offered a new start before reaching six months of unemployment, in the form of training, retraining, work practice, a job or other employability measure', similar initiatives have been developed in other Member States, in France *Trace* – pathways to jobs, and vocational *traineeships* in Belgium, Sweden and Ireland.

Other innovations exist which are practice-oriented but not alternating. In Spain, workshop schools (*escuelas taller*) and training centres (*casas de oficios*) develop practical programmes for under 25s, and the new employment workshops programme (*talleres de empleo*) were created for over 25s. Production is used as an educational instrument to initiate training in the Danish production schools. Likewise Italy has the *contratto de formazione-lavoro*, a work-training contract lasting up to two years, during which all learning takes place at work.

### 6.3.2 Apprenticeship

Although the OECD estimates that apprenticeship is still losing in popularity and there is an evident drive in some countries to have students complete upper secondary academic education, our impression from the Cedefop updates on apprenticeship systems in the EU ([www.trainingvillage.gr/etv/library/apprenticeship/app\\_main.asp](http://www.trainingvillage.gr/etv/library/apprenticeship/app_main.asp)) is that on the whole the numbers continue to rise e.g. in Germany, France, Greece, Ireland, Austria and Finland (see Annex 2). During the four year period 1994-98, the number in France increased by over 100,000. As indicated in the previous research report (Tessaring, 1998, also bmb+f, 1999a), the gradual rise in the young population in Germany has meant an increase in the numbers seeking apprenticeship places. In 1997, there was a reversal of the trend in apprenticeship uptake in the old German *Länder*, 13,200 more training contracts

(+2.3%) were concluded in 1997 than in 1996, the first increase in this part of Germany since 1984 (bmb+f, 1999a, Part 1). There will continue to be a slight increase in demand for apprenticeships in the new Federal *Länder* until 2002, and in the old Federal *Länder* until 2007, with an overall rising tendency throughout Germany until 2005 (ibid). Statistics in Austria and Germany are also boosted by the reformed or totally new training regulations (e.g. in ICT and the media) that have attracted additional young people into the dual system, as well. Denmark is experiencing a decline due to dissatisfaction among young people regarding the system and enterprise placements, lack of interest in the 'compensatory practical training' introduced in 1990 because of training place shortages in enterprise and the apprenticeship system's lack of a guaranteed right to completion. Demographic factors are also beginning to account for a drop in student numbers in Denmark.

### 6.3.3 Progression

However, in countries with a strong apprenticeship tradition the pathways often lead to a cul de sac and there are few, if any, side exits or bridges through which one can reroute one's training itinerary. Even in Germany and Austria where the apprentice can advance to the technician level of mastercraftsman, there is a realisation that the possibilities for progression need to be opened more for apprentices (who comprised 62% of students at upper-secondary level education in Germany in 1998 (bmb+f, 1999a). The efforts of the Standing Conference of Land Ministers of Education and Cultural Affairs (KMK) to address the question of access to higher education for qualified apprentices may help maintain the popularity and attractiveness of apprenticeship. In June 1998, it published two resolutions which enable the gradual progression through vocational education to higher education<sup>5</sup>.

<sup>5</sup> See *Vereinbarung über den Erwerb der Fachhochschulreife in beruflichen Bildungsgängen: Beschluss der Kultusministerkonferenz vom 5.6.1998* and *Rahmenvereinbarung über die Berufsoberschule: Beschluss der Kultusministerkonferenz vom 25.11.1976 i.d.F. vom 5.6.1998*, [www.kmk.org/beruf/rvbobsch.htm](http://www.kmk.org/beruf/rvbobsch.htm)

Austria has also introduced the *Berufsreifeprüfung*, a lateral access matriculation qualification for persons who had passed their final apprenticeship examination and for trainees who had completed technical schools including the nursing schools and schools for paramedical services. This vocational qualification is based on the corresponding law (*Berufsreifegesetz 1997*); it is a 'tailor-made' *Matura* certificate which takes the experience and knowledge acquired through prior job experience into account. It is equal in status to the *Matura*, the final examination in upper secondary education, and enables transition to a higher vocational career and access to studies at universities, higher technical colleges, etc.

As we have seen above, bridging also exists in Norway. But exams are not necessarily the best formula, a dual qualification is preferable from the outset, as exists in Sweden. The *Kollegeschule* (college school) in North Rhine-Westphalia, Germany, also provides training courses which combine general and vocational education and prepare for an occupation or for higher education studies. It does not have significant numbers of students. In the Netherlands, a progression route for secondary level apprentices to higher education exists in the form of *HBO* (higher professional education) which is a vocational-oriented form of higher education offering a bachelor-level degree. In 1999, some 7,000 students are pursuing this course as a dual programme, like an advanced apprenticeship, and students have a contract (*onderwijs-arbeidscontract*) with an employer and training institution. A separate chapter in this research report is devoted to research on dual qualification routes (see contribution by Lasonen and Manning).

The age-band for apprentices is being extended. Traditionally it was seen as a training path for young people with a practical rather than academic bent. It was often criticised for being too rigid and 'front-end loaded', and for providing no progression prospects, except in those countries where the master-craftsman status was well established. Throughout the 1990s, apprenticeship has undergone reform in most European countries and one of the trends which is emerging is

the lifting of the upper age limit for applicants in many countries. Denmark, Finland and Norway have special adult apprenticeship programmes. It is likely to prove a very suitable form of training for adults who identify more with the workforce than the school environment, such as the unemployed or the lower skilled workers who would be reluctant to return to full-time education and training. The situation of adults is also aided by the tendency in many countries to deliver a modular form of apprenticeship. The initiative in Finland tries to reduce the length of the apprenticeship by giving adults credits for their prior learning and work experience. The adult apprenticeship is then tailor-made to the profile of the individual apprentice who can take the modules and practical training necessary to fill his/her skill gaps and acquire an apprenticeship qualification.

In Norway, it is becoming an important means of documenting and recognising informal on-the-job learning. Adult apprentices must have work-experience equivalent to 125% of a normal apprenticeship period, usually five years. They do not pass an examination in general subjects but take the same theoretical and practical final examinations as apprentices. Their informal knowledge is considered to compensate for the general school subjects (languages, mathematics, social studies). The social partners were very opposed to moves to place same general skills requirements on adults, stating that this would kill their motivation to study and deprive them of a chance to obtain formal qualifications. Many enterprises are encouraging their employees to formalise their qualifications via this route, to enable them to supervise apprentices.

## 7. Continuing vocational training

### 7.1 Statistical analyses – shortcomings

It has been underlined again and again (e.g. OECD, 1996; European Commission 1995; ILO, 1998) that lifelong learning and employability can only be achieved if enterprises and individuals play their part in developing their own learning. Government strategies can only

help to create the environment in which this takes place and ensure that everyone's welfare is included. Enterprises are investing in learning in their own right. However, current statistics and surveys do not display this involvement in the best light. Attempts have been made by the OECD and Eurostat to collect harmonised data on workforce training. However, the differences in the way initial and continuing vocational training is defined and measured both at national level and in these international data collections makes it difficult to get a comprehensive picture of the situation at EU level. Moreover, they cover only formal courses which are easily measured by questionnaire surveys, etc. They do not, for example, take into consideration the extent of non-formal learning in enterprises that is an inherent part of lifelong learning. Four useful sources are worth a mention: the European labour force survey (which only surveys training over the prior four weeks); the Continuing Vocational Training Survey – CVTS – which last collected data in 1994 (Eurostat, 1997); the adult literacy survey (OECD and Statistics Canada, 1995); and the OECD/INES indicators of education systems. These statistical sources are analysed in detail in the OECD's *Employment outlook 1999*.

Much of the information on trends in levels, rates of participation and volume of continuing training, reported on in *Training for a changing society* (Tessaring 1998), were gleaned from these sources. In the meantime, no updates have become available, apart from the OECD's *Education at a glance*. One has to rely on the diverse national statistics for a more recent picture. Schütze and Istance (1987), had a similar criticism to make of them: 'The kinds of education covered in such surveys depend, among other things, upon the institutional arrangements and availability of information in different countries. Rarely are attempts made to consolidate information on adult education, adults in post-compulsory and higher education, and labour market and on-the-job training. These surveys, therefore, span only a certain range of the learning opportunities that might ideally make up a recurrent education system' (p. 25). The 1995 adult education survey (Blomqvist et al., 1999), in Finland, tried to measure the par-

ticipation of the Finnish population of working age in education and training, both work-related training and self-development studies. It includes questions on self-directed learning outside the formal education system and perceived benefits, interest and motives.

## 7.2 Emerging needs for continuing education and training

Over the past decade politicians and organisations have been selling the importance of CVT to enterprises and according to a report from the Danish Ministry of Finance (cited in Bottrup, 1995), many enterprises would appear to have bought the message. The report found that over half a million adults in Denmark participate once or several times a year in public adult education and training for shorter or longer periods of time, and just under half a million participate in private adult education and training. Employees use 24% of their working hours on adult education and CVT and, approximately 48% of the employees participating in CVT have an agreement with their employer, the rest do so on their own initiative. In 1992, approximately 87% of enterprises had employees engaged in vocational training, either public, private or in-house. The total operating and refunding costs for adult education and CVT in Denmark amounted to 2% of GNP (DKK 18 billion).

This depicts quite an impressive amount of commitment, even if there are still great differences in CVT provided by large and small enterprises. Nevertheless, one big problem was recognised in that efforts do not always meet the desired results. Many employees do not get the opportunity to turn the skills learned at courses into competence at work, and enterprises are unaware of what is really needed. This is put down to the fact that there was no cohesion between training and work, the two function separately. Blame rests not only with the enterprise, training institutions too need to get involved at all stages of training. AMU – the adult vocational education and training system – courses are standardised and conducted according to a compendium. Courses are uniform and do not take participants and their backgrounds into



consideration. The OVE project, the Danish pillar in the FORCE projects in the manufacturing and transport sectors (carried out by the Danish Technological Institute (DTI) and the Danish Royal School of Education Studies (DEL), with cofinancing from the Ministry of Labour and the National Labour Market Authority) looked exactly at these problems.

The purpose of the OVE project was to involve employees, enterprise management, teachers and training institutes in a collective effort to create a continual learning process and to penetrate the wall between the training institutions and the enterprises. The project endeavoured to bring together two research traditions in two analyses, one on industrial sociology which took the view of the enterprise and examined qualification requirements, focusing on existing work organisation and functions while emphasising throughout the need for broader jobs. The second analysis centred on educational theory and assessed the various teaching methods used in the AMU courses, including considerations regarding differentiation of teaching based on the participants' background and also looking at their learning patterns in the enterprise.

This project has been a milestone in the key skills' debate in Denmark. It concluded that key skills are best acquired 'in context', i.e. in relation to the workplace and not isolated in institutions. It made suggestions as to how individual employees, management, and external trainers could contribute to the necessary interplay between what is learned in and outside the workplace. It made the point that central to developing a continual learning process is to have these actors (who keep their main responsibilities) involved on an ongoing basis in the preparation, training and evaluation/follow-up, to allow easy transition between work and course and course and work respectively. Experiences demonstrated that enterprises and training institutions have to be brought closer together to assume joint responsibility for the 'contents of the entire qualifying process'.

This poses challenges to teachers, training institutions, enterprise management, and not

least, to the employees who have to assume responsibility for their own further vocational qualification process. 'The crucial innovation happens when they acknowledge their responsibility regarding follow-up in the enterprise... The follow-up constitutes the actual innovation and strengthening of the effects of the course. The best effects appear when the enterprises have defined the framework for the so-called learning organisation, where the employees are allowed to develop and pass on course experience to the colleagues who did not attend the course' (DTI, 1997, p. 18). This also has implication for the training of teachers and trainers who become quasi-consultants to the enterprise. On the basis of this demonstration project and a series of follow-up pilot projects, the Danish AMU system has embarked on the widespread implementation of such a model for its public system of continuing vocational training. The *integrated delivery of CVT* has been placed on its strategic development agenda.

### 7.3 Enterprises

Enterprises are responding to the trend towards globalisation and technological innovation and the desire for increased productivity and competitiveness. They would appear to be quicker to take on the challenge of reacting to changing circumstances than educational institutions. Contrary to the predictions of the early 1970s, there is no consensus that 'deskilling' of the workforce has occurred. Many enterprises are turning more intensively to training because of their need to restructure and upgrade the skills of their workforce, due to the increasingly faster turnover of skills and the importance of their renewal time for mastering change. Training for the modern workplace cannot be successfully achieved apart from the enterprise. The enterprise is the melting pot of change and adaptation and it cannot await results of scientific research for advice on how to proceed, it must react immediately. Hence many enterprises are integrating more learning and training into work and becoming involved themselves in higher education and research. It is generally estimated that an increasing number of enterprises are changing their work organisation and are devel-

oping as *learning enterprises or organisations*. The conservative estimate of the CVTS was that they amount to 7 to 8% of enterprises. The ILO (1998) considers the 'learning organisation' to be an ingredient of lifelong employability.

### **7.3.1 Learning enterprises**

In restructuring their *human capital* (labour force), such enterprises often turn towards forms of work-integrated learning as part of their human resources development plan (see also contribution by Dehnbostel and Dybowski, which describes new enterprise learning that promotes self-organised, self-directed learning, thus facilitating personal as well as organisational development). The whole work process replaces the classroom or training centre and the focus is on development rather than training. Work is divided into teams and each team and its members are empowered to take responsibility for their own development and training. Learning takes place through team work and collective learning; job rotation; coaching and mentoring by other colleagues; training workshops; quality circles; information flow through intranet and other forms of communication; exchange programmes with other firms and dealing with customers; and self-directed learning using distance learning aids. Such transformation needs the commitment of management and workers. Unions are also finding a new role as promoters of lifelong learning and the right of all workers to training and development.

Many theories of human resource development originate in the USA and Japan and are not yet at home in European enterprise culture. Within the framework of the European Commission, DG Research (ex. DGXII), programme on Targeted Socio-Economic Research (TSER), a project entitled, *The role of HRD within organisations in creating opportunities for life-long learning: concepts and practices in seven European countries*, is seeking to clarify the specific European outlook on the role which HRD in learning-oriented organisations can fulfil in lifelong learning. It hopes to identify differences between HRD concepts and practices in European organi-

sations and those that exist in the USA and Japan. The outcome of the research should contribute to the discussion on a European model of and infrastructure for lifelong learning.

For many intermediary and skilled workers, pathways through career and lifelong learning usually went via the workplace. At work, they picked up the skills they needed (with some measure of on-the-job training) to progress to supervisory and foreman positions and eventually production managers. Such career paths and traditional forms of work-based lifelong learning are now threatened a) by the flattening and restructuring of internal company hierarchies and b) by competition from 'side entrants' recruited by employers because of their management skills and high qualifications, including higher education graduates. '*New career paths and lifelong learning- CALL*' is a Leonardo da Vinci funded research project that is investigating this dilemma in the mechanical engineering and chemical industries in Germany, France and Great Britain.

The project is examining current company policy on recruitment and acquisition of specialist production-managers, in an attempt to understand the consequences of staff replacement policies, and the possibilities offered both to the company and to the employees by new forms of work and new career and learning patterns. Through company studies in each country, it will identify the problems which ensue for both parties, and identify innovative solutions which, while supporting the substitution of traditional managers, would offer them methods of acquiring new qualifications through work process learning and new career patterns. Working with the social partners to find new bridging processes which give an alternative to both the strictly career progression and side entry patterns will be given due importance. It will identify elements of 'good practice' that can be transferred to any country. The quality of 'good practice' will be judged on its role in implementing new forms of work organisation while at the same time strengthening the esteem in which vocational training is held.

Participants at the Cedefop *Agora II*<sup>6</sup> (1998a) felt that, left entirely to the employer, there is a tendency to specialise which hinders outward mobility, since the experience of workers becomes too restricted. The success of the creaming off process in innovative, flexible companies was blamed for the creation of neo-Taylorist companies. By rationalising their companies, they retain and promote their better qualified staff who are most adaptable to new forms of work organisation caused by moves to lean production or just-in-time supply of goods, etc. Many of the lesser skilled employees are displaced to small companies, some of which are created to do the more routine work that the main company is casting off. But in these new 'Taylorist-type' companies they have little or no opportunities for development. Too much specialisation leads to 'monopolisation' and 'retention'. The employees cannot use their skills outside the company and become 'dependent', and in fact, vulnerable because they are not being kept 'employable' should anything happen to the company in which they work or, if their task is eliminated. This situation is serious given the OECD's jobs study prediction that those now entering work can expect six or more job changes in their working life (OECD, 1994).

### **7.3.2 Small and medium-sized enterprises**

The problems of SMEs in freeing employees for external training, or providing them with well-rounded in-house training, are well documented (Gil et al. 1994; Cedefop 1998a). Cedefop's *Agora II* (1998) concluded that small enterprises are reasonably happy with on-the-job training, whereas they are reluctant to shoulder the cost of other training and it is unusual for them to review and plan in the light of long-term requirements. Other Cedefop research on microenterprises in the printing, retail and car repair sectors confirmed that most training was received in the

form of 'incidental' or non-formal learning. Furthermore, the disadvantage of those without any initial training was evident. In non-formal learning situations, those with initial training are more capable of taking their own initiative on updating their skills and competencies, while the less qualified are dependent on the support of others. In the car repairs sector, for example, the trained mechanics learn from:

- solving problems themselves;
- regular rotation of tasks;
- direct employee participation;
- complaints from customers;
- doing work with a growing degree of difficulty.

The untrained mechanics rely more on asking their supervisor for help or observing an experienced colleague and the knowledge they gain is restricted compared to what the trained mechanic gains from non-formal learning. This shows that to benefit from continuing training, adequate initial training is a *sine qua non*.

*DELOS – developing learning organisation model in SME clusters* – was a transnational project financed under the TSER. It explored how local 'clusters' or networks could be used to the benefit of SMEs. It examined over 300 SMEs, their existing networking behaviour and the type of organisational learning that went on there, to elaborate guiding principles aimed at enhancing the role played by clusters in developing training and employment support for SMEs. Its recommendations ranged from using training and labour market observatories, currently being developed by the EU, to capture and analyse data on the strengths and weaknesses of clusters, to exploiting local chambers of commerce to provide informal information gathering support to local clusters, or to act as the 'hub' of a European accreditation system for providing on-line assessment and accreditation to SMEs.

### **7.4 Networks**

Traditionally, we have the example of local enterprise that was the centre of the community. Towns and villages were character-

<sup>6</sup> *The Cedefop Agora*, with three seminars annually, provides a forum for VET researchers, social partners and policy-makers to come together and exchange views and improve mutual awareness. *Agora II on the role of the company in lifelong learning* was held in November 1997.

ised by their local factory or industry and life revolved around them, not only for work but also for social activity and social standing in the community. Japanese enterprises still have this role, as do enterprises such as, Volvo, VW or Skoda, around which whole towns survive. It is important that the enterprise collaborates as part of a community network, in order to achieve the infrastructure that is needed in the learning society. Today, the role of the enterprise in lifelong learning can only be elaborated in cooperation with outside agencies, both public and private. Networking should be part of any enterprise's strategy to get to know what resources are available locally, to contribute to developing these resources and to share them, for example, through inter-company training. SMEs in particular need the support of a local network.

Such networks might also provide guidance and counselling. Lifelong learning has to be accompanied by lifelong guidance. Not all enterprises have the expertise or the capacity to provide this type of service, and it is of most value when considered in the local context, in relation to local employment prospects, etc. A review of their work on guidance to-date, by Cedefop and the European Foundation for the Improvement of Living and Working Conditions (Chiousse and Werquin, 1999), found that because training no longer focuses primarily on young people, the need for vocational guidance and counselling also recurs throughout working life. It points to the fact that counselling should be provided on a more individual scale that analyses needs and demands case by case, for the employed as well as the unemployed. This is interesting in relation to non-formal learning because, even if an accreditation system is put in place, guidance will be needed to indicate where individuals have gaps in their skills and to steer them in the direction of suitable supplementary training.

With the support of the Further Education Funding Council, Further Education Development Agency, Association of Colleges, Association of Principals of Colleges, TEC National Council and the Local Government Association for the *National Partnership Protocol*, lifelong learning partnerships (renamed

learning partnerships) are being established throughout England. The collaborative aims of these partnerships are to:

- ❑ raise educational and training standards;
- ❑ improve the quality of provision;
- ❑ increase choice and enhance the quality of guidance;
- ❑ improve cost effectiveness;
- ❑ enhance access to local provision and widen participation;
- ❑ encourage coherence of local planning; and
- ❑ avoid wasteful duplication of provision.

### 7.5 Decentralisation

Trends towards 'individualisation' and 'pluralisation', the breakdown of traditional bonds and dissolution of standardised structures and generally valid orders, to the benefit of equally valid but different paths, forms, systems and options, limit the possibilities for general planning and regulations. (Dohmen, 1998). This is also true in VET. It is more difficult to have a comprehensive system that covers everyone's needs. At EU level we see this in the emergence of the subsidiarity principle. At national level, there is more decentralisation and deregulation of responsibilities and decision-making to local level. We see examples in many countries of the regions having a key role in VET, France, Spain, Italy, and The Netherlands. In countries where lifelong learning has taken root, decentralisation is also an important feature, e.g. the municipalities' role in adult education in Sweden or the village movement project in Finland.

The notion of the learning city was first introduced by OECD in the 1980s. The idea has been developing in Europe through the efforts of ELLI – European Lifelong Learning initiative. ELLI has initiated a number of pilot projects which are receiving funding under the Socrates and Leonardo da Vinci programmes. Longworth (1999) gives many examples of how cities, towns and regions are becoming learning communities. He admits that contrary to his and Davies prediction in 1996 that universities would take the leading role in learning communities, this role is being filled by business and industry. He feels

that the success of lifelong learning is based on ‘thinking globally and acting locally’. He describes initiatives in cities such as Edinburgh and Göteborg to improve the employability of unemployed workers and employees at risk of redundancy. These were based on transmitting the message of lifelong learning rather than specific skills. Such ‘flagship’ projects, he says, must become the norm. The learning cities and communities are also supporting social and cultural aspects of lifelong learning that have not been covered here. One of their greatest assets is promoting social cohesion in the community, to which the above examples also contribute.

## 8. Higher education

Eurydice and the European Commission (1999) underline that the ‘massification’ of higher education has been evident in educational policies for several decades because of the political will to ensure that the greatest possible number of citizens obtain qualifications consistent with the increased demands of the workplace and become successfully integrated into society. Hand in hand with this has gone the principle of ‘equal access to higher education’ which is the rationale underlying the establishment of financial support for higher education in all EU Member States. However, ‘massification’ of higher education and State support have not sufficiently improved the ‘social mobility’ expected. Indicators relating to the social origin of students reveal that their participation is clearly conditioned by the level of qualification of their parents (Eurydice and European Commission, 1999).

Participation in upper secondary school is predicted to rise from 60% in 1995 to 73% in 2015 and people in this category are 32% to 38% more likely to participate in adult education and training (OECD/Statistics Canada, 1997). Potentially these people will be eligible for higher education. Though not all will seek access to university or higher level colleges, demand for adult learning at tertiary level will increase substantially in the coming years, as will the demand for access to more varied and flexible forms of educa-

tion and training. Kintzer (1997, p. 1) says the ‘interchange of credits, courses and articulation services between secondary-level schools and post-secondary colleges and universities directly and positively enhance opportunities for lifelong learning’. In Europe, the idea of credit transfer has taken root in higher education but not so far in other forms of education and training, apart from the Europass training initiative. Higher education graduates may also need more training to upgrade their skills in areas affected by the spread of technologies (Acemoglu and Pischke, 1999).

‘As economies increasingly come to accept and believe in the economic benefits of a lifelong learning culture, policies must be developed and implemented that support institutions which have been demonstrably most able to support the phenomena. That is the biggest challenge facing politicians and policy makers’ (Kintzer, 1997, p. 11). As institutions of this calibre, he identifies the ‘short-cycle colleges’ which provide a link between ‘lower’ and ‘higher’ education, both academic and vocational. These colleges of non-university higher education have their parallel in Europe in the ‘polytechnics’, ‘Fachhochschulen’, ‘community colleges’, ‘regional colleges’, ‘institutes of technology’, ‘further education colleges’ and the like. They form the ideal pivot for organising ‘articulation’, i.e. ‘the totality of processes and relationships involved in the systemic movements of students vertically and laterally throughout formal and informal education systems’ (p. 1). Their merits lie in their flexibility and the linkages they provide for lifelong learning. The persuasive factors which Kintzer cites include:

- emphasis on vocational education and work preparation as well as continuing training;
- flexibility of curriculum development under practitioners who often spend a percentage of their time employed in industry;
- courses location and planning more in tune with adult needs;

- a flattened administrative structure more suited to rapid decision-making and less costly to operate for the public authorities.

The lifelong learning strategies in France and the UK also emphasise the key role of short flexible courses at this level.

As universities are the seats of much scientific research, it is not surprising that there are quite a number of research projects currently running under EU programmes which examine aspects of the role of higher education, particularly universities in facilitating lifelong learning. There are many aspects to this question. The universities themselves, in their traditional form, are a barrier to lifelong learning because of their limited access and offer of: learning possibilities, ability to exploit and respond to developing ICT, methods of accreditation and credit transfer, cooperation with industry and the local community. *'Lifelong learning: the implications for the university in the EU'* is a TSER project which has recently started to analyse the implications that lifelong learning is seen to have on traditional power structures and traditional forms of knowledge within universities. National empirical data will be used to see how universities are transforming and reforming their educational goals and strategies. Various partnerships of the universities with social agents and how their involvement in market relations is progressing will be assessed.

But the signs are that universities are rising to the challenge of becoming institutions of lifelong learning. The driving force of knowledge is coming from ICT and the world of work. Companies are looking for people who can learn. In return adults are becoming more demanding and expect courses which are relevant to their work. More students, particularly post-graduate students are part-time. The enormous impact of the UK's Open University has set a trend in this respect. Universities are also meeting with competition in the form of corporate universities, such as the British Aerospace Virtual University. Although they are rare in Europe, over 1000 exist in the USA. A greater proportion of university teaching is becoming post-graduate and vocationally oriented. There is greater

emphasis on higher degrees with a work-based learning format which can be studied part-time, or at a distance. Traditionally research was full-time. Universities are adapting slowly to the needs of PhD students. It is becoming accepted that many theses are practice-based. Many participants have their own case studies related to their work and some of it is funded by employers. Jarvis (1999) feels that it makes a lot of sense to have doctoral research happening at the workplace, given that the process of transferring knowledge to practice needs to be speeded up.

Virtual campuses are growing in Europe, encouraged by the Erasmus programme, and telematics-based learning opportunities which have been made possible in recent years. Such developments create tensions in the organisation and functioning of traditional education organisations and create new demands and challenges for the teaching staff. A TSER project 'Implementation of virtual environments in training and education' started in October 1998. It is investigating the implementation of virtual learning environments (VLE) in post-secondary public educational institutions, as well as training institutions. Three empirical studies are being undertaken on: the teaching and learning approaches in VLEs, especially those combining face-to-face and distance learning methods; cross-cultural and academic dimensions in European diversity, including curriculum; and institutional and organisational factors in fostering innovation in public educational institutions and training companies through the implementation of VLE.

## **9. Non-formal learning – recognition and accreditation**

Examinations have value as a record of achievement at one point in time, particularly at the end of school or university, etc. But in most cases, they begin to lose their currency as soon as the individual enters employment and starts to acquire new skills, particularly in informal settings at the workplace. This acquisition of knowledge is rarely given due consideration and ways of assessing it are only in their infancy.

It has been established that non-formal learning constitutes an important part of continuing training in companies, particularly micro-enterprises as seen above. This being the case, then there should be some mechanism for accreditation whereby this type of learning can be assessed for the purpose of promotion. Indeed, it could prove useful for those engaging in human resource accounting, as a means to evaluate intangible assets, i.e. what an enterprise's human capital is worth in terms of skills and competence not visible on CVs or formal certificates. This is useful to the enterprise in terms of promoting itself to investors and future employees but also to employees when seeking promotion or employment in another firm. It could be interpreted as a way of collecting 'intangible' data on human resources.

Furthermore McKenzie and Wurzburg (1998) recognise the benefits of a mechanism for assessing and recognising the learning that occurs outside formal learning institutions for the lower skilled to validate the experience they acquire through experience and self-directed learning on and off the job. This is also relevant for young people in transition to work who want to demonstrate the experience they have accumulated in the form of placement or odd jobs. The Cedefop *Agora II* (1998a) concluded that as consumers, employers should be the best judges of competencies and abilities and should therefore have an important role in certification. However, standardisation is necessary to assure quality, especially if an employee intends to move on from his/her present company, or continue independent self-directed learning. The use of networks might be a useful contribution, as suggested by the DELOS project (see above).

The Cedefop project on the accreditation and recognition of non-formal learning has been documenting the ways in which the EU Member States are dealing with this problem. The UK's system of National Vocational Qualification (NVQ) and the French *bilan de competence*, for example, are pioneering models of assessment of prior and non-formal learning. The UK model has been successfully marketed throughout Asia and South Africa. More recently, the Finnish competence-based quali-

fication system, established in 1994, defines work-based, non-formal learning as an essential part of vocational education and training. It aims to strengthen the integration of workplace learning in the traditional Finnish system. The assessment is based on a portfolio and is closely linked to 'national guidelines' which describe the competence requirements for each trade/occupation. In 1998, 10 000 candidates passed through the system. In the chapter in this report on non-formal learning, Bjornavald gives a comprehensive overview of the situation in the Member States and Norway.

## 10. Educators

As we have seen above, the general pattern in lifelong learning is to build its foundation on school education. Whilst most strategies highlight the diversity of learning sites and situations, it was UNESCO's committee report, *Learning: the treasure within* (1996), which stood by the 'irreplaceable' nature of institutional learning. In this case, the role of the teacher or educator becomes paramount. We have also mentioned that the school or educational institution is seen as a weak link in the network of lifelong learning partners. One reason for this is the neglect of teachers that has been evident for some time. The OECD study (1990), *The teacher today*, detected that teachers in vocational education and training and also in higher and adult education tend to be much neglected, compared with issues such as curriculum development and accreditation, etc. OECD is continuing its research on these matters in the project *Schooling for tomorrow* that, in the meantime, has produced new findings exploited in the chapter on 'Teachers for tomorrow's schools', in *Educational policy analysis 1998* (OECD, 1998).

'Just as committed educators fought in the past to make the school a freer place, with room for divergent and non-conformist ideas and opinions, so now they must join forces with all those involved everywhere in educational activities to develop new centres of creativity and non-conformism, in companies and in schools, in community centres and in the

popular associations set up for cultural and other purposes'. These words of Gelpi (1992, p. 332) still ring true of the situation today, and as he goes on to say, education is often out of touch with the 'popular culture of experience' and 'swift and efficient international communication seems to be confined to technology, financial activities and commercial culture'. Today, the learning society is being facilitated as much by the world of ICT as by education.

Although it should not be exaggerated, there is a tendency towards ageing of the teacher population. A high proportion of teachers are in their 50s, but this varies widely, from 40% in Sweden to 13 % in Austria. The majority of teachers in-service in 1998 were likely to have been trained before 1980 (OECD/CERI, 1998). As in most occupations at the time, initial teacher training usually followed Taylorist-type specialisation. In the modern school, teachers are now being asked to participate in the school as a learning organisation, including more teamwork, broader functions, administrative tasks, etc. Although in-service training of teachers is widespread (Eurydice, 1995), it does not provide the type of professional development these changes require. In the view of OECD/CERI (1998), 'how far schools are able to transform to become oriented towards lifelong learning will hinge to a large extent on the contribution of teachers'(p. 26) [...] 'teachers have to become competent at transmitting a range of high-level skills including motivation to learn, creativity and co-operation, rather than placing too high a premium on information recall or performance tests. They themselves have to have the ability to learn from and teach other teachers. Such skills, as well as their old skills will combine in the new professionalism' (p. 38).

This new professionalism was the subject of the Leonardo da Vinci funded project, 'Europrof', which sought to combine research-based analysis of existing structures and patterns of initial and continuing training of vocational education and training (VET) professionals with developmental work on curriculum planning and development. It found evidence of a convergence between the

role of the VET professional, i.e. the instructional activities required to promote the attainment of vocational learning and expertise, and the human resources development (HRD) professional who organises continuing development of competence in the workplace. New forms of education for both VET and HRD professionals need to be organised 'on the basis of a new system of didactics, which recognises the relationship between technology, education, training and work' (Brown ed., 1997, p. 115). The new occupational profiles for VET and HRD professionals will be multidimensional, bridging vocational and pedagogic skills. Their education should be based on broad occupational fields and should focus on work process knowledge and key qualifications in order to enable them to transfer learning and competence both within an occupational family and associated fields. Europrof concluded that these new programmes of study, new occupational profiles and related research provide the basis for 'VET pedagogy' as an independent area of study at university level (Brown ed., 1997).

The role of the workplace supervisor or tutor is changing to one in which initiation and supervision are decreasing, and management and organisation of teams, defining tasks and developing the potential of colleagues in the team are increasing. The Leonardo '*Transnational pilot project: master/supervisor in lean production*' aims to contribute to the qualifications of this group and adapt the qualifications and curricula to new production concepts and develop modular curricula, incorporating new communication and work organisation methods. Longworth (1999) talks of the teacher (trainer, tutor) role becoming that of a 'learning counsellor'. The 'learning counsellor' would coach and facilitate the learner in any learning site, be it school, work, or other. The European Roundtable of Industrialists recommend learning counsellors in large companies and universities.

Guile and Young (1996, cit. in Brown, 1997) argue that work-based learning in its current forms is disconnected from theoretical training with the result that practitioners are not encouraged to connect theory and practice. They propose a 'connective model' in which



theory provides the concepts for analysing the problems that arise for professionals in their place of work, i.e. for developing and improving practice, and theoretical learning is enhanced by locating and understanding problems and finding solutions. They have applied this model to the initial and continuing training of VET professionals (but equally for post-16-year old youth), which is why Brown (1997) puts it forward as part of the debate about a European curriculum development framework for VET professionals, within the framework of Europrof. He also examined a post-graduate programme (certificate/diploma/masters) in further and higher education, which has been running at the University of Ulster's School of Education since 1989. It is based on a connective model combining theoretical and practical skills and knowledge, and strong links between the institutions involved. College tutors are heavily involved in assessment and employers' representatives are involved in a wide range of training and support roles, as well as in course committees and exam boards.

The view persists that there is a clear 'gap' between research-based degrees and masters programmes, which support professional expertise. The introduction of practitioner doctorates is one attempt to support and develop expertise in practice thus filling this 'gap'. These are available at Ulster and Nottingham Trent universities.

## 11. Disadvantaged groups

The Dutch strategy sees 'people as managers of their own employability' (Ministry of Education, NL, 1998). To do this they must be lifelong learners with ability to learn and the necessary tools and access. Currently, however, lifelong learning is a rather elitist area. Lifelong learners tend to be those with greatest educational success in early years (OECD/CERI, 1999). The ILO (1998) reports that lifelong learning is likely to be mainly available to advantaged workers already in the labour force. Women tend to be treated unequally to access because they are more likely to spend time out of the labour market, which in fact means that they are thus in even greater need

of training. The CVTS shows that 28% of all employees in the EUR 12 had access to CVT in 1993 (Tessaring, 1998; European Commission, 1999). The OECD's *Education at a glance* (1996) indicates higher participation for certain countries and it gives a breakdown by educational attainment which illustrates that the more-educated people are also the more likely to receive CVT. The tendency for those with a good basis to receive more training is reflected in the number of managerial and supervisory staff participating compared to lower categories. Again it is the higher skilled staff who benefit from new competence development programmes devised in the framework of restructuring, experiences such as job-rotation and teamwork, etc. Likewise, higher level employees are more likely to take part in formal courses outside of work, while lower skilled engage mainly in in-formal learning. Research shows that direct influence of factors like social class is declining, but their impact is increasingly operating via their influence on access to, and success in, education (OECD/CERI, 1998). (See also relevant chapters in the first research report [Tessaring, 1998] and the background report [Cedefop 1998b]).

### 11.1 Educational dropouts and the young unemployed

The education participation rate in OECD countries has been rising in recent years. This is in part due to governments trying to raise their achievement targets but also because of parental pressure and aspirations for their children. Yet, on average around one quarter<sup>7</sup> of young people leave school without completing their upper-secondary education (Durand-Drouhin et al., 1998; OECD/CERI, 1998, p. 5). Because of the higher skill requirements and greater competition for jobs (also from older workers and the unemployed), these young people who leave school with compulsory schooling only are deemed early school-

<sup>7</sup> This average is based on OECD figures for the following countries: Australia, Canada, Czech Republic, Denmark, France, Ireland, Korea, Poland, Spain, Sweden, Turkey, United Kingdom, United States.

leavers and have problems finding employment. Early school leavers have the double disadvantage of having no qualification and no experience. They spend more time finding their first job, and are more likely to end up with poor quality, temporary or part-time work. They are more likely to fall into the trap of casual seasonal work in the hospitality or tourism sectors. Young women are even more vulnerable than young men over the next five years, if they spend the first year after school unemployed.

In its national report for the OECD on alternative approaches to financing lifelong learning, the Netherlands set a target rate of 85-90% for those who should attain a 'starting qualification', i.e. a level 2 diploma (HAVO/VWO or MBO/apprenticeship) and not 100%, 'because international agreement exists about the fact that approximately 10 to 15% of each year-cohort does not possess the abilities necessary to complete upper secondary education' (Baaijens et al., 1998, p, 47).

Getting a job early matters especially in preventing the social exclusion of those with low attainment. However, most countries, instead of finding a mechanism to continue their learning and build up the basic skills which they lack when searching for employment, allows this group to leave the education system and then set up schemes retrospectively to give them some remedial training. Examples of this are *Youthreach* in Ireland, and *the New Deal* in Britain. The EU's NAPs have given impetus to the efforts to combat unemployment and social exclusion, e.g. the Danish job-training schemes with public employers, and extension of the *programmas de garantia social* (vocational integration programmes) for young people, 16 to 21 years, who have not achieved minimum compulsory education qualifications, in Spain. Funds are being channelled from the structural Funds to encourage and assist the development of employment-training programmes with a strong workplace learning element, for youth out of employment for six months and for the long-term unemployed. Nevertheless, the shortage of jobs still remains a big problem in many Member States, and while such programmes can prepare these people for reentry

to the labour market and encourage them to develop their own lifelong learning and employability, they do not create jobs. Their motivation and efforts will quickly lapse, if they return to unemployment. The other side of the coin is that some countries will soon experience labour shortages and they will be doubly penalised, if young people are not given the necessary training and skills to take up some of the vacant jobs.

## **11.2 Unemployed adults and low-skilled workers**

The 'decompartmentalising', i.e. building bridges and providing flexibility between initial and continuing training is particularly important given the rising VET targets, upper secondary education becoming a minimum entry point to the labour market (OECD, 1997). Many of the adults in the labour market have a standard of education way below this level. 'The number of poorly qualified adults is equal to half the school population or more' (ibid.). Annex 3 gives an overview of the percentages of adults, between 25 and 64, who have not completed upper-secondary education. Recent legislation in Norway makes provision for such groups to obtain paid leave to recoup firstly on lower secondary education, and progress thereafter to upper secondary qualifications, for which no financial arrangements have yet been agreed. The raising of their educational attainment levels could lead to more of an equitable situation with regard to continuing vocational training, from which currently the more highly educated profit most. Publication of further results of the *adult literacy survey* (OECD / Statistics Canada, 1997) have increased awareness of the need to boost the basic education of the working population, as well as their work-related skills. This is evident from the national strategies analysed in Annex 1.

Layard et al. (1995) feel that it is the 'job of the state to enhance peoples' general skills – those skills that will enhance their productivity wherever they work'. It is justified as a good investment for society, which will save later on unemployment benefits that would otherwise have to be paid. Those who lack educational qualifications are a major preoc-

cupation of policy makers. Mass unemployment is before them if they cannot update their competence more quickly than the labour market eliminates or exports their low-skilled jobs. The success of lifelong learning strategies depends on them being 'affordable' to all the stakeholders. But an equilibrium has yet to be found. There is wide consensus that governments should carry the cost of providing access to training for disadvantaged groups. There is a general reluctance on the part of the enterprises to contribute in the form of placements that would give them access to workplace knowledge and skills. Denmark has come up with a novel idea, 'job-rotation' (extended to most other countries with ESF support, through the EU job-rotation network under the Adapt programme) which gives the chance of paid leave to some employees who are replaced in their jobs by unemployed people, who in turn receive a period of on-the-job training. In Denmark the initial scheme led to full-time employment for three out of four participants. But now that many of the unemployed are back in work, the long-term unemployed who are next in line for placements, and it is more difficult to get enterprises interested.

*Paid leave and job rotation in Europe – a model for fighting unemployment* is a Leonardo pilot project which started in 1997 to extend the Danish model to Austria and the Netherlands. Schemes like these must also become a constant feature of local networking, if suitable work-related learning opportunities are to be provided for the unemployed.

A group less disadvantaged, but in danger of becoming so, are the low-skilled workers in enterprises who will be the first to lose their jobs in times of restructuring and rationalisation. Enterprises act only with a plan for retraining and outplacement to replace redundant workers following pressure from government or bargaining with trade unions. Under present conditions lifelong training by employers is only offered to the employed. There is a need for a broader social partner policy aimed at developing all human resources whatever their status, including the less qualified and the unemployed. There is

an obvious role in this for the trade unions. Collective bargaining between the social partners is now covering the lifelong learning debate. New issues are on the table, such as, the inclusion of a training component into normal working time. A figure of 10% has been suggested in Norway. As we have seen above, in relation to Denmark, in practice this is a conservative figure.

A person's survival in the modern information society depends on continual educational opportunities at work, as well as broad initial training. Therefore, workers should negotiate on matters of work organisation, knowledge renewal and training. At a time when the unions' role is waning, they have a major role to play in negotiating workers' right to training. This is also an important issue for part-time workers and those with no fixed contracts. The participants at the Cedefop Agora II saw the right to continuing training as a possible solution to the unpredictability of the employment situation. 'In the absence of contracts of employment for life and a reduction in the number of fixed-term contracts, in the absence of an actual right to work or contract of employment including a clause on maintaining 'employability', recognition of the right to lifelong training is a worker's only guarantee of retaining his job or finding another, giving him and his dependants security for life'. (Cedefop, 1998a, p. 78)

### 11.3 Older workers

The situation of older workers is similar to that of the less well educated, their participation in CVT is less than average. Annex 4 shows the pattern of participation in education and training over the lifespan, which depicts a decline that accelerates after 50. In western Europe, the allocation of redundancy payments, early retirement and invalidity pensions, as well as unemployment, helped to reduce the numbers of older workers in the workforce. The decline is most pronounced among men. The participation rate for men aged 55 to 59 is under 70% in Austria, Finland, France, Italy, and the Netherlands. In the age group 60 to 64, participation rates are below 40% in Austria, Finland, France, Germany, Hungary, Italy, the Netherlands, and

Poland (ILO, 1998). But the latest statistics from Finland, from the *Adult education survey 1995*, show that older-worker participation in employer-sponsored training compares favourably to that of 18 to 24 years olds, 51% of 55 to 64 year olds compared with 33% of 18 to 24 year olds (Blomqvist et al., 1999). This suggests that employers are beginning to realise the value of older workers' experience for the enterprise. Finland is of course a country where the problem of the ageing population is being experienced. A committee was set up to study the employment prospects for older workers and its report (*Ageing in working life*, Komiteamientintö, 1996) held that, generally the low level of basic education among ageing workers is a threat to their retaining a position in working life.

Most European countries, especially Scandinavia, will be faced with the problem of the ageing population in the next 10 years, including an ageing workforce with less young people coming into the labour market. This is aggravated by the tendency for young people to enter later into working life and early retirement trends among the over-55s. A Leonardo da Vinci project entitled '*Over 45: causes of dismissal and the role of lifelong learning*' finished in 1998. The project focused on good practices in continuing training and especially lifelong learning as part of a strategy to prevent social exclusion among older workers and to respond to workforce ageing. The case studies examined three companies in four countries, Sweden, Finland, Italy and Spain. They highlight the strong commitment to the lifelong learning principle in Scandinavia, the lack of any strategy in Italy and reforms in Spain which are currently concentrating on coordinating national training routes sponsored by the Ministries of Education and Employment and the development of a common qualification system. Despite the differences of approach to training, 'good' practice was nevertheless found to thrive in all countries. The choice of countries was also interesting from the point of view of exclusion of older workers and ageing patterns of the workforce. All countries (despite persisting high unemployment rates in the two southern countries studied) have reached an awareness of the need to redress their poli-

cies of early retirement and invalidity pensions, introduced to deal with low employment levels in the 1980s and to make room for the younger generations. It also highlighted the role of the trade unions in motivating older workers to train.

## 12. Information and communication technologies

Gelpi (1992) reminds us that while new technologies and science have the possibility of making working life and leisure better for everyone, paradoxically, they contribute to new forms of exclusion. He quotes Tanguy (1983) 'scientific knowledge as such is the same for skilled workers and managers alike, its distribution follows a process of exclusion, separation and reification determined by the realities of social hierarchy'. It was therefore important that OECD (1996) added two important words 'for all' to its maxim, 'lifelong learning for all'. Information and communication technology (ICT) offers the potential to the population at large to learn what, how, when and where they like and, at less cost (especially in light of internet developments). The Open University was an overwhelming success because it offered courses through media which were available to the majority (mail, radio and television). Computer-based media are now taking over this role. There is a danger that this development introduces a new element of exclusion because not all people have access to computers, specially not those in most need of learning<sup>8</sup>. However, it is estimated that 70% of people in the UK will have digital TV in 10 years, with an integrated personal computer (Stuart, 1999).

In the context of continuing training, not all workers will want to learn in formal settings due to negative experiences at school, thus preferring to learn at home or at work. For some motivation may be a big problem. Spurred on by the success of the Open University in the UK, the establishment of the

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<sup>8</sup> Wain feels that for internet to have the same effect on education as it has had on researchers and scientists, 'there needs to be an enormous jump in accessibility and affordability'.

University of Industry is an attempt to make available distance training possibilities and training material to this target group.

In studies and policies to date, the emphasis is on the availability of hardware and software in schools and less on the capacity of the teacher to use these appliances and guide his/her students in their use, so that they enhance learning. This is reflected in the strategies analysed in Annex I. The Council of the EU listed 'teacher training in the use and application of multi-media tools' as an area of lifelong learning that needs attention, however, only the Netherlands and Finland earmarked it as an explicit area for action in their strategy. There has been a feeling that ICT could replace the teacher in the classroom and teacher may have been wary of ICT as a result. This is a gross misconception. ICT is, however, accelerating the change in the role of the teacher in the classroom, from one of information provider to one of facilitator of learning, both inside and removed from the classroom. At CAL99<sup>9</sup> – *Virtuality in education – What are the future educational contexts?*, University of London, 29 to 31 March 1999, the radical effect of the combination of multimedia and electronic networks on the learner and the teacher was the main theme.

One of the most important results that have emerged at this event concerned learning patterns using virtual courses, particularly internet. Even in a very electronically literate society like the US, the dropout rates from virtual courses are extremely high (only about 37% completion rates at Vanderbilt University). Three factors appear to have the most predominant effect on completion: the time frame given, problems using and accessing technology (even among skilled users), and feedback on work versus more personalised attention. Many of the participants were slow on take-up because they first of all had to suss out the group which often meant wasting valuable time at the beginning (exchanging photos and e-mail messages, etc.), to get to

know the other virtual students. More importantly, most presentations underlined that the teacher/facilitator is busier than ever when involved in such courses, if they are properly run. A key to solving the problems is to have the teacher put more planning into the course and distributing more information prior to the start of the course and giving supportive, individualised feedback to participants. This by no means reduces the role of the teacher. A presentation from the Universities of Sheffield and New South Wales highlighted a supporting role for librarians in helping learners develop their information management skills.

One of the keynote presentations, from Australia, showed how ICT-based project work can cut across the traditional subject-based curriculum, allowing a student to learn elements, for example, of English, geography and science using one ICT-package. Such developments are highly relevant to what we said above about the provision of broader, more general skills in initial vocational education.

### 13. Financing

In Member States generally, there is a problem when it comes to adequate company participation in training, though in the long run, companies have the most to gain in terms of skilled and competent workers. But there is much evidence that 'learning organisations' in particular, realise the value of training and are ready to pay to keep their companies competitive. Since the 1960s, Becker's theory has been widely accepted that given good labour market conditions, employers will only invest in company-specific skills and not in marketable skills that can be used by the employee elsewhere, i.e. general training. However, employees themselves might pay for it by taking lower wages during training but if they cannot, then training provision falls below the optimum. During periods of economic depression, their participation becomes even more precarious. Economists such as Acemoglu and Pischke (see OECD, 1999) are questioning this theory and provide evidence of employers who do provide general training. Furthermore the borderline between general and specific training is blurring.

<sup>9</sup> CAL is an annual conference on computer-assisted learning. Abstracts of CAL99 are available at: <http://www.elsevier.nl:80/homepage/sag/cal99/>

Adult lifelong learning is supported in a number of ways. The hypothesis is that company-specific training be financed by the company. The employee is trained during working time or is financed by the employer to do independent study outside of working time. State supported allowances for training leave exist on a small scale. This is most common in France where the individual's right to training leave is guaranteed by the Labour Code. The State helps finance up to 70% of applications. Kallen (1996) feels that one reason why lifelong learning policy has not developed up to now is because legislation on paid educational leave exists in few countries and it has been made conditional on 'professional training.' Favourable tax incentives for the company are a usual way of encouraging companies to train in most countries. It is a widely used practice for companies taking on apprentices or trainees. Training levies are placed on companies in France (= 0.20% of wage bill) and also in Denmark and Ireland. Levies are seen as an incentive for companies to invest in training themselves rather than to poach workers (see also contribution by Green, Hodgson, Spours and Sakamoto in this report).

Good practice exists at the level of social partners in the Netherlands and Denmark, where they have agreed new funding models. The Netherlands introduced training, research and development funds (O+O) to create a solid basis for training in the various sectors. O+O funds are based on sectoral collective agreements, which are preceded by negotiations between the employers and employees and last usually for two years. They generally include arrangements for educational leave and may have special arrangements for specific target groups, such as women, lower educated employees and migrants. O+O funds are managed by the employer and employee organisations. They are financed through a levy on the gross wage bill of the firms according to sector. Contributions vary from 0.1% to 0.6% (Romijn, 1999). In Denmark, in addition to the levy, collective employer fund (AER), which finances work placements for students in initial training, adult and continuing training and education is financed through the 'activation fund'. This is one of three funds,

which receive income from the 8% extracted from Danish employees' gross income before various tax-deductibles are subtracted. Persons receiving social subsidies do not contribute (Eggert Hansen, 1999).

Individuals do not directly finance much of their own training, so far. However, new schemes involving loans and tax relief are being experimented with. Layard et al. (1995) talks about the 'outrageous discrimination' in Britain against subdegree VET and part-time degrees which have to be paid for by the participants, while people who take full-time degrees have their fees paid. This bias towards providing grants and loans for academic higher education, and young people, only, is also an obstacle to mobility between university and colleges providing VET, and to the development of combinations of learning and work. Since Layard was writing fees have been introduced in England and Wales, subject to means tests, but the principle of free admission to higher education is upheld in Germany, Greece, Ireland and Austria, and the Nordic countries.

While most countries refer to the funding of lifelong learning, the UK green paper (DfEE, 1998) refers to *investment in learning*. The UK government has also been innovative in piloting new schemes to fund education and training. Career development loans have been introduced to help those who wish to avail of job-related training but can't afford to pay for it. It covers a wide range of vocational courses, lasting up to two years, plus a year's practical experience where it is part of the course. Successful applicants can borrow up to GBP 8,000 to cover 80% of course fees (100% for the unemployed), plus the full costs of books, materials and other expenses like childcare. Repayment of the loan does not start until a month after the course finishes – or up to a maximum of 18 months for the unemployed, those employed and getting certain in-work benefits, or a continuing trainee. Since it was introduced in 1998, EUR 417 million have been loaned to 95,000 applicants.

Also in the UK, efforts are also being made to extend the type of shared investment, common in apprenticeships and traineeships to

anyone who wants to learn and is willing to invest in it. Individual learning accounts or special bank accounts are being set up to help individuals plan and pay for learning. For 1 million starter accounts, the government is paying in a contribution of GBP 150 for each individual in the first year of the account, subject to a small contribution from the individual. Employees will not be subject to tax or national insurance contributions on an employer's contributions to a learning account for eligible learning, as long as the employer extends the facility to the lowest paid employees in the company on a similar basis. Employers (who are being encouraged to contribute to their employees' ILAs) will receive tax deductions on their contributions, as for other employee training costs.

While changes will be necessary in public expenditure on education and training, private investment from enterprises, NGOs and individuals are needed to meet the ambitious lifelong learning targets, such as those suggested by the OCED (1996). In March 1999, a new project funded by the TSER programme began, involving eight countries. *'Further training funds as an impulse for new models of lifelong learning: Integrated funding concepts'* aims to develop new concepts of funding based on existing patterns of funding in companies and sectors which would be extended and oriented to both permanent staff and the unemployed. It will draw up guidelines, (a) for organisations (which should provide not only for their own employees but also for the unemployed and, through the concept of substitution, develop new ideas and models that combine employment, training and ongoing qualification) and, (b) for regional and national networks and decision makers who should combine employment and educational policies to conform to 'integrated funding concepts'.

New models of sharing costs are necessary in view of the tremendous costs incurred in meeting targets, such as those recommended by the OECD (Green et al., 1998), which range from upper secondary education for 90% of 18 year olds and university education for 35% of 30 year olds to retraining programmes for 100% of long-term unemployed adults. Even

where there is a willingness to achieve such targets, the deficit to be made up is often quite large. This can be observed in the national reports to the OECD on financing lifelong learning.

## 14. The paradigm change

To our question has the paradigm really changed, the answer must be, yes. It has changed in so far as, 10 years ago we were still looking at isolated elements, such as adult education or continuing vocational training, and today many countries are taking a more holistic approach to the whole area of education and training. In countries like Germany the debate is still carried out on three tiers (education, vocational pedagogy and adult education), rather than collectively. However, if we take the UK, the Director-General for Employment and Lifelong Learning, Nick Stuart, sums up the change: 'Five years ago even, there was no idea of widely inclusive lifelong learning. We tended to think of different elements of post-school learning in distinct boxes, that were separate from each other. Now I feel we really are at the beginning of a Learning Age, in which those different elements are seen as linked coherently together, and people are ready to act in ways that draw on the advantages of collaboration.' (Stuart, 1999).

Organisations and individuals are confronted on a daily basis with the need to adapt to change. They are also aware that this means acquiring new knowledge and skills to cope. There is therefore a greater urgency to learn which cannot be ignored. Another notable difference now, in the late 1990s, is that enterprises are emerging as a driving force behind lifelong learning. The Confederation of Finnish Industry and Employers has published its own strategy paper entitled *The never ending joy of learning* (1997), while the Confederation of British Industry proposes a new curriculum based on core skills for the new millennium. Another contribution in this volume that looks at globalisation and its effects on labour, restructuring, and training needs in the company is critical of estimations as to how widespread organisational restructuring

in response to globalisation actually is. However, given the speed with which, for example, e-mail and internet have infiltrated the workplace in the past five years, it is very likely that other effects of technological development and globalisation are also making their mark.

Lifelong learning must succeed, if we are to sustain our present society, life-style and prosperity into the 21<sup>st</sup> century. But people like Giddens (1998) and Petrella (1999) have warned us to be cautious about accepting change unquestioningly. Tobias (1999) says we should stop thinking and planning to meet the needs of industry for highly qualified workforce and challenge these assumptions and policies. Many humanists would argue that lifelong learning has become monopolised by labour market policy and in this way it is slimmed down to a mechanism for renewing workers' skills throughout their working life and maintaining 'employability', in keeping with human capital theory, thus making it difficult to reconcile with its function in attaining social cohesion. Maybe they have a point. Kallen (1996) thinks that this shift is inevitable, considering the change in the political climate and the evolution of the 'present-day efficiency-oriented no-nonsense market economies.'

Reviewing the situation in 1987, Schütze et al. (1987) found that no country had a 'recurrent education system' (i.e. a strategy for lifelong learning). The situation has improved somewhat. A lifelong learning culture is emerging out of renewed interest in Grundvig's philosophy, in Scandinavia. In contrast to the 1970s, reforms this time around have many facets and are not just confined to the formal school system. All the main partners, education and training institutions, employers, trade unions and individuals are conscious of the social and economic changes taking place around them and realise that they must react. Nørstegård (1998) thinks that lifelong learning will work this time because, 'even without government backing, enterprises and individuals are taking their own steps in this direction'.

'Operationalization of a modern lifelong learning concept is a long-term education policy

task' (Dohmen, 1996, p. 99). It has to be achieved in two stages. For the generation still in school, the foundations must be laid before they leave formal education and they must emerge as lifelong learners with the motivation and incentive to direct their own learning for the rest of their lives. With regard to adults, remedial measures must continue to encourage those of them who have stopped to rediscover learning in order to assure their own future, at work and in the learning society. Some actions are being taken at the level of education institutions to provide initial education and training with greater breadth and skills relevant to modern work and society. For individuals coping with change and the breakdown of social values, it is important to have some stability and continuity. The workplace provides this, as long as employment remains stable. The individual him/herself is also the basis for continuity and hence individual needs have to be catered for.

## **15. Where more research is needed**

Specific research that deals with the issues of implementing lifelong learning is missing. Most of the national strategies are relatively young and still evolving, so this is not unusual. However, before the next research reports in this series is due, it would be worthwhile attempting to investigate how lifelong learning strategies are being implemented and, if they are having the desired results.

Many of the issues discussed in our various chapters above are the subject of research in their own right, but not in relation to lifelong learning. What is needed is to take research, as well as learning, out of these 'distinct boxes' described by Stuart and to coordinate it better. Over the past few years, Cedefop has been attempting to get this process going by accompanying various EU projects to stimulate exchange and transparency between them.

More investigation is required to establish the extent of restructuring and learning enterprises, themes which are dominating current literature in the field, and to determine just how widespread human resources develop-



ment really is in enterprises, and how it can best be carried over to SMEs.

Surveys carried out by the Norwegian committee to draw up the document *New competence* (NOU, 1997) clearly demonstrated that ‘employees get the greater benefit from further training schemes that are structured or implemented in such a way that they are linked to their company or enterprise... Giving employees the opportunity of acquiring a theoretical and conceptual background knowledge in the context of their work has a clear advantage. This does not mean that all schooling per se has to happen in or focus on the workplace but it does mean that parts of the “cohesive whole” can take place in the workplace or home’ (Nørstegård, 1998). However, knowledge of this equation is limited and more research should be done on how best to organise and link the parts, as well as on the learning processes in the workplace.

Research is working on the deficits in the field of training for VET and HRD professionals but, still not enough. While national strategies are listing in-service training of teachers as a priority, the situation in schools is still far removed from the philosophy of the ‘learning counsellor’. The OECD’s *Education policy analysis* (1998) pointed to a lack of research on motivation to learn, informal learning and learning in older age, all of which are crucial to lifelong learning. Gray (1999) while elaborating on the new potential of the web for lifelong learning says we still have to learn about the technology-based distance support needed to accompany such tools, and more research is urgently needed in this area, as demonstrated also at CAL99.

## 16. Conclusions

A new concept is taking shape based on a belief that lifelong learning is as much about providing young people with foundations skills, as about recurrent learning for adults. Responsibilities are based on realisation of partnership between governments, employers, trade unions, communities and individuals. The partners have still to reach the stage of fulfilling their roles adequately. Govern-

ments are still subcontracting part of the supply to the unemployed and disadvantaged groups to providers who are interested in making profit rather than passing on adequate skills where needed. This criticism was made at the conference, *Competence for Europe*, Berlin, from 21 to 23 April 1999 (bmb+f, 1999b). To date, companies are not adequately involved in providing learning possibilities for these groups. The total extent of employer commitment is not known but it is, so far, mainly visible in ‘learning enterprises’ which have undergone structural change. Trade unions are still finding their feet in their new capacity as promoters of workers’ learning.

Accessibility of learning opportunities is perhaps the most well researched part of the lifelong learning. As a result training is becoming more flexible in terms of time, locations and format (open and distance learning, computer-assisted courses, modular curricula, work-based learning). There is acceptance that it must be affordable to all but, that targets being set in response to OECD recommendations and NAP guidelines are a new financial burden which cannot be met entirely by the state and there is no consensus on how it should be divided. It is essential to the success of lifelong learning strategies that there are no financial barriers for those whose need is greatest. This condition is currently not being promoted.

More and more, training is being related to work. This can be seen as a motivation to adults who are eager to learn when they see that it has some relevance to their daily lives (van Riezen, 1996). OECD and UNESCO place emphasis on the teachers and trainers in ensuring quality of education. Accreditation of prior and non-formal learning is developing as a means of admission to education and training for the less qualified, and as a validation and recognition of skills and competence achieved independently by individuals in general. It can therefore act as a motivation to become a lifelong learner and facilitate progression to further education and training. ICT, and particularly the internet, are opening up a whole new world of possibilities, giving a new meaning to local networks which can link up to anywhere on the globe.

## 17. Annexes

### Annex 1

#### Council conclusions 1996 – areas recommended of lifelong learning for development

#### Points covered in national strategies\*

##### Challenge to school system

1. Efforts to combat illiteracy and improve communication skills
2. Promote success at school
3. School reform/improvement curricular and administrative
4. Provision of quality, guidance and counselling
5. Promotion of school in the community (both as educational resources and in partnerships)

##### Economic and social consideration

7. Specific measures for the long-term unemployed, including early school leavers
8. More transition within school and from school to training opportunities
9. Providing initial training programme focused on needs of contemporary life
10. Active partnership education, training and working life
11. Role of workplace as a learning environment

##### Local community development through education and training

12. Learning in informal settings
13. Construction of pathways from non-formal education to formal

##### Continuing education and training

14. Social partnership
15. Human resources strategies in the workplace
16. Encourage investment
17. Role of the HE to cater for adults and working life
18. Creating paths between work and education
19. General adult education to enhance personal development and possibility of employment

##### Pathways and links between general and vocational education

20. Closer relationship between general and vocational education and training of all types
21. Active involvement of student in the learning process
22. More work experience and possibilities for its accreditation

	DK	F	IRL	NL	SF	UK	N
			x	x	x	x	
				x	x		
	x	x		x	x		
		x	x	x	x	x	
	x	x		x		x	
				x			
	x	x		x	x	x	x
		x		x	x	x	x
		x	x		x	x	x
		x					
			xx		x		
	x		x			x	x
	x						
							x
	x			x		x	
		x			x		x

**Council conclusions 1996 – areas recommended of lifelong learning for development (cont.)**

**Points covered in national strategies\***

**Access, certification, teaching personnel**

- 23. More flexible instruments for certification and accreditation
- 24. Ways of accrediting prior learning and experience
- 25. Access to higher education
- 26. Wide dissemination of information on training opportunities
- 27. High quality initial, in-service and retraining for teachers and trainers
- 28. Distinctiveness of the role of the adult educator

	DK	F	IRL	NL	SF	UK	N
23. More flexible instruments for certification and accreditation	x	x		x	x	x	
24. Ways of accrediting prior learning and experience		x		x	x		x
25. Access to higher education						x	x
26. Wide dissemination of information on training opportunities	x	x			x	x	x
27. High quality initial, in-service and retraining for teachers and trainers	x			x	x		
28. Distinctiveness of the role of the adult educator	x		x				
<b>Role of new technologies</b>							
29. Flexible access and delivery using technologies and distance education	x	x	x	x	x	x	x
30. Availability and use multimedia tools in educational institutions			x	x	x	x	x
31. Teacher training in the use of application of multimedia tools				x	x		

\*This table was drawn up on the basis of the following national strategy documents:

1. 10-point programme on recurrent education, Copenhagen: Danish Ministry of Education, 1995.
2. La formation professionnelle: Diagnostics, défis et enjeux, Paris: Secrétariat d'État aux droits des femmes et à la formation professionnelle, 1999.
3. *Adult education in an era of lifelong learning, Green paper on adult education*, Dublin: Department of Education and Science, 1998.
4. *Lifelong learning: The Dutch initiative*, Zoetermeer, Ministry of Education, Culture and Science, 1998.
5. *The joy of learning: a national strategy for lifelong learning*, Helsinki, Ministry of Education, 1997.
6. *The learning age: a renaissance for a new Britain*, Green Paper, London, DfEE, 1998.
7. *New competence: the basis for a total policy for continuing education and training for adults*. (NOU 1997:25 – Abridged version), Oslo: Ministry of Education, Research and Church Affairs, 1997.

The table gives an impression of where the emphasis rests in the countries studied. However, it should be interpreted in light of other developments and reforms in these countries. Denmark is introducing broader vocational programmes from 2000, the UK published its *Excellence in schools*, DfEE, 1997, and *Learning to succeed*, 1999. Since 1996, Norway has made great strides in implementing its Reform 94 at upper-secondary school level. In Ireland, a separate white paper, *Human resource development* (1997), was launched by the Department of Enterprise and Employment, which does not point towards a very integrated approach to lifelong learning. The Council recommendations are summarised and pre-school is omitted.

## Annex 2 Overall apprenticeship statistics in the Member States 1986, 1996-97

Country	1986	1996	1997
<b>Belgium</b>	14,592 7,199 7,393	14,538 total 9,273 Flanders 5,265 Wallonia	- 5,476 Wallonia
<b>Denmark</b>	45,120	38,500 new entrants	31,494 new entrants <sup>1</sup>
<b>Germany</b>	1,805,000 696,000 new entrants	1,590,000 579,000 new entrants	1,622,000 587,000 new entrants
<b>Greece</b>	-	5,500	6,800
<b>Spain</b>	-	184,577	156,151
<b>France</b>	214,000	295,828	312,828
<b>Ireland</b>	4,849 new entrants	6,317 new entrants	7,506 new entrants
<b>Italy</b>	523,053	413,892	393,138
<b>Luxembourg</b>	1,675	2,083	2,190
<b>The Netherlands</b>	97,246	110,459	114,973
<b>Austria</b>	- 169,921 (1985)	119,932 37,079 new entrants	121,629 40,175 new entrants
<b>Portugal</b>	1,395	13,124	6,419 <sup>2</sup>
<b>Finland<sup>3</sup></b>	< 8,000	26,255	36,289
<b>Sweden</b>	-		150 currently in pilot projects
<b>The United Kingdom<sup>4</sup></b>	318,000	28,000	82,000
<b>Norway</b>	20,992 (1990)	25,836 17,588 new entrants	30,268 16,045 new entrants
<b>Totals</b>	3,223,843	2,874,841	2,929,311

NB: Unless otherwise stated, the statistics refer to the combined numbers of apprentices in all stages of apprenticeship.

- 1) Marked decrease due to the reform of commercial training which came into force in 1996, allowing students to opt for an extra year in school before practical training.
- 2) Statistics from the IEFP employment centres are missing.
- 3) Refers to the number of places allotted annually, the actual number of apprentices may be higher.
- 4) These data refer to modern apprenticeships only, there were 183,000 in traditional apprenticeship in 1995.

Source: Ní Cheallaigh, 1999.

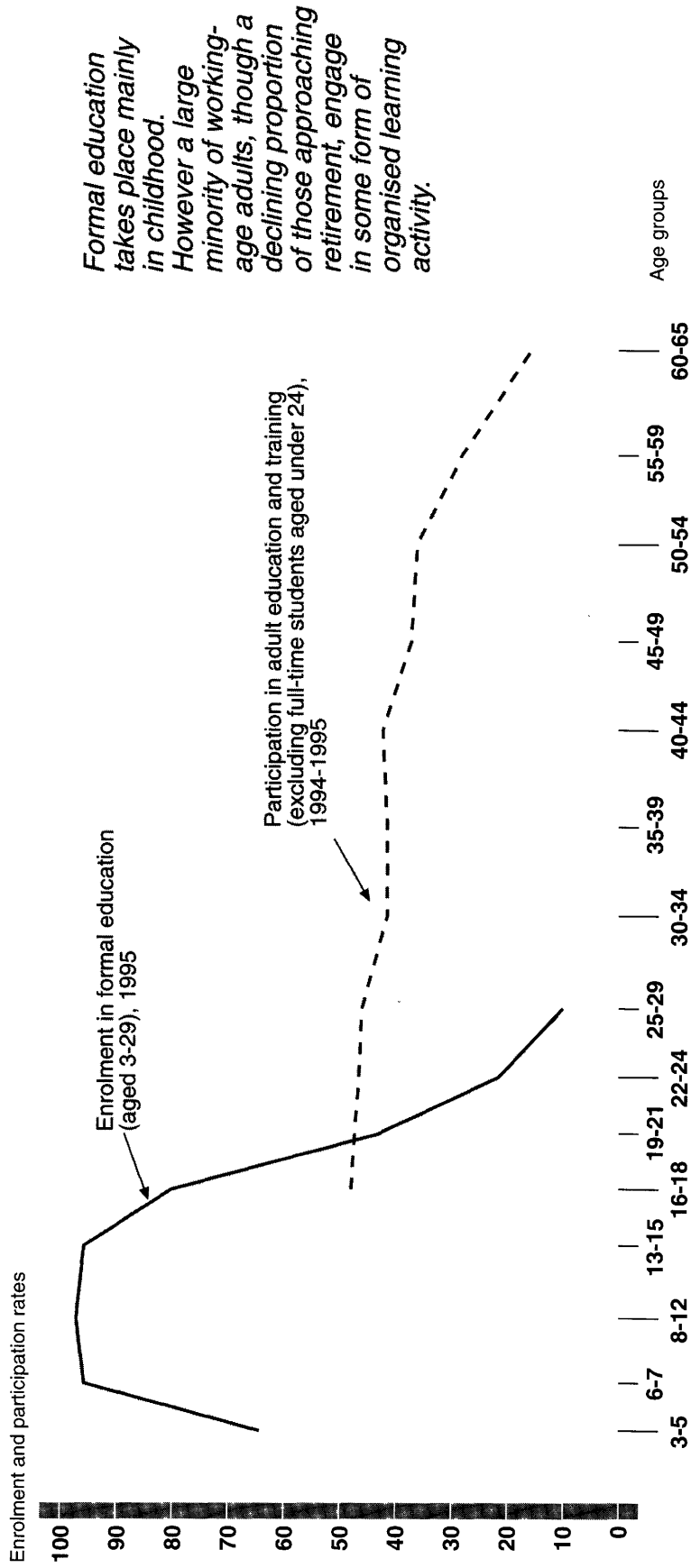
**Annex 3 Adults not completing upper-secondary education, 1994****% of population in given age-group**

<b>Age group</b>	<b>25-34</b>	<b>35-44</b>	<b>45-54</b>	<b>55-64</b>
<b>North America</b>				
Canada	18	21	30	47
United States	14	11	15	24
<b>Australasia</b>				
Australia	46	46	53	59
New Zealand	38	40	44	55
<b>European Union</b>				
Austria	21	28	36	52
Belgium	35	46	57	72
Denmark	32	38	41	54
Finland	18	28	44	66
France	16	27	40	59
Germany	10	12	16	28
Greece	38	50	65	74
Ireland	39	53	65	73
Italy	53	59	74	86
The Netherlands	31	36	46	56
Portugal	70	78	85	92
Spain	55	71	84	91
Sweden	15	22	31	48
United Kingdom	14	22	31	43
<b>Other OECD Countries</b>				
Czech Republic	13	21	32	49
Norway	11	15	22	37
Switzerland	11	16	21	27
Turkey	76	80	84	90
<b>Average</b>	<b>31</b>	<b>37</b>	<b>46</b>	<b>58</b>

Source: *The OECD Observer*, No 209, December 1997/January 1998, p. 15.

**Annex**

**Figure 1.1**  
**Participation in education and training over the life-span**  
 Percentage of age cohort enrolled in formal education (age 3 to 29), and participation in adult education and training (age 16 to 65), unweighted mean, for nine countries\*, 1994-1995



\*Belgium, Canada, Ireland, Netherlands, New Zealand, Sweden, Switzerland (French and German for IALS), United Kingdom, United States.

Sources: OECD Education Database and International Adult Literacy Survey.

Data for Figure 1.1; page 74

## Annex 5

### *Projects funded by EU programmes referred to in the report*

#### **Title of project:**

Paid leave and job rotation in Europe – a model for battling unemployment and improving service quality

#### **Coordinator:**

The Danish Confederation of Municipal Employees – DKK, Project Manager: Torben Møller, Hanne Sandager, E-mail: tm@dkk.dk, hs@dkk.dk

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#### **Timetable:**

1 January 1997 to 31 December 1999.

#### **Short description:**

The Danish job-rotation system has enjoyed considerable success. When an employee takes training leave, an unemployed person can replace him or her and thereby acquire job experience. In 1995, for example, 80,435 workers took training leave. Around 70% of the positions made vacant were filled by unemployed people. The job-rotation model can be used in an European context. The purpose of this project is therefore to introduce trial schemes in the participating countries, involving 25 to 30 people in each area. The target group is 'service assistants', or people who

care for the elderly in their homes. In the preparatory phase of the project, the partners will acquire an insight into the labour market structure of the participating countries. All partners at national level will develop and test the model to suit their own particular circumstances. After the trial schemes have been implemented, a conference will be organised to review the results and to draw up a final report.

Impact: The results are expected to contribute substantially to the development of both national and community labour market and vocational training policies. The project can also be seen as a breakthrough in the development of lifelong learning in Europe.

#### **EU programme funding the research:**

Leonardo da Vinci

#### **Website:**

<http://www.dkk.dk/english/documents/index.htm>

**Source:** DKK web page

#### **Title of project:**

'LifeQual' – Effective processes for acquisition of qualifications for lifelong learning

#### **Coordinator:**

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#### **Partners:**

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University of Warwick  
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OCTO – Center for Applied Research on Education  
University of Twente  
Enschede, The Netherlands

Laboratory on Sociology and Education  
University of Patras

Patras, Greece

ITB – Institut Technik und Bildung  
Bremen University  
Bremen, Germany

Beta – Cra-Cereq Alsace  
Université Louis Pasteur  
Strasbourg, France

University of Tampere  
Department of Education  
Tampere, Finland

**Timetable:**  
1998-2000

**Short description:**

- to analyse research data and studies at European, national and regional level in order to identify and specify structures and agencies efficiently fostering the acquisition of qualifications for lifelong learning;
- to search for and specify particular examples of 'good practice';
- to develop a framework for the acquisition of qualifications for lifelong learning;
- to draw up recommendations for policy and decision makers at European, national and regional levels;
- to develop and implement a dissemination strategy so as to increase awareness among VET practitioners of innovative developments fostering lifelong learning through vocational education and training.

**EU programme funding the research:**  
Socrates

**Website:**  
<http://www.itb.uni-bremen.de/projekte/lifelqual/lifeqial3.html>

**Source:** University of Bremen web page

**Title of project:**

Lifelong learning: the implications for universities in the EU

**Coordinator:**

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Brunel University  
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**Timetable:**

1 November 1998-31 October 2000.

**Short description:**

This project investigates how the universities in the EU respond to the concept and practice of lifelong learning (LLL) and analyses



the structural and functional implications which the application of LLL is bound to have for the universities.

The study is primarily qualitative and involves 28 universities from seven European countries (France, Germany, Greece, Norway, Spain, Sweden, UK).

**EU programme funding the research:**  
TSER

**Website:**

<http://www.panteion.gr/kekmokop>

**Source:** Mr N. Kokosalakis

**Title of project:**

The role of human resource development (HRD) within organisations in creating opportunities for lifelong learning: concepts and practices in seven European countries

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**Timetable:**

1 December 1997 – 31 December 1999.

**Short description:**

The research is concerned with how HRD departments in learning oriented organisations throughout Europe envision their own role in stimulating and supporting employees to learn continuously, as a part of everyday work (with the intent to contribute to organisational learning, and thus to enhance organisational competitiveness).

An attempt will be made to show differences in outlook between HRD concepts and practices in European organisations and those which exists in the US and Japan.

The research will go into strategies adopted by European HRD departments to realise their envisioned new role. Consequently the research will analyse the facilitative factors as well as the difficulties (the inhibiting as well as conducive factors) they encounter during the implementation process.

To provide practical guidelines, the research aims to analyse how practitioners cope with these (inhibiting and conducive) factors.

**EU programme funding the research:**  
TSER

**Website:**

<http://www.cordis.lu/tser/src/ct972026.htm>

**Source:** Cordis web page

**Title of project:**

Further training funds as an impulse for new models of lifelong learning: integrated funding concepts (IFC)

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**Timetable:**

1 March 1999 – 30 June 2000

**Short description:**

Aim

The IFC aims towards integrating existing patterns of funding with forms of lifelong learning to develop new concepts. These must be custom-made to suit the individual needs of the companies in the selected sectors and must also be oriented towards the concept of ongoing training both for permanent staff and for the unemployed.

Background

Certain European countries have been utilising sector specific funding for many years to update skills. These funds are furnished by the social partners and can therefore be widely implemented. Up until now, however, only a limited number of unemployed skilled workers have been able to avail of the training opportunities.

Work sectors and organisations without funding also realise the importance of continual training for employees to keep in step with the ongoing technological and social changes in working life. They too must offer their staff opportunities for further training to remain, or indeed become, competitive.

Due to the present rate of unemployment in Europe neither the funding trustees nor the agencies organising further qualification projects can afford to target their measures solely towards the permanent staff of their affiliated companies. On the contrary, they must also involve the unemployed and through the concept of substitutions develop new ideas and models combining employment, training and ongoing qualification.

□ **Results**

The presentation of new concepts and drawing up guidelines for further strategies – not only for the organisations directly involved, but also for regional and national networks, organisations and decision-makers who must combine employment and educational policies to conform with ‘integrated funding concepts’.

**EU programme funding the research:**  
TSER

**Website:**  
N/A

**Source:** Mr Heger

**Title of project:**  
CALL – New career paths and lifelong learning

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University of Warwick  
Dr. Alan Brown

CEREQ  
Mrs Martine Moebus

**Timetable:**  
1997-99

**Short description:**

Europe has a particular problem with the recruiting and qualification of production managers. In particular the breaking up of internal company hierarchies, which reduce traditional access to management positions, question the efficacy of traditional forms of lifelong learning in favour of a ‘side entry’ of highly qualified entrants to the profession. At the same time new jobs must be found for those who cannot keep their managerial positions, reinforcing firms ‘social responsibility’.

The project first analyses, in the fields of mechanical engineering and the chemical industry, new methods of personnel recruitment and of acquiring specialist and social management skills for production managers. Here it will be particularly important to determine the background and consequences of replacement by ‘side entrants.’ Secondly, innovative methods of acquiring new qualifications, integrated into the work process and the career pattern will be investigated for those managers who lose their leading position in production. Important to these are ‘bridging learning processes’, which to a considerable extent are based on learning in the workplace and in the work process. The identification of the argument that argues for keeping the traditional ascent and against the generalisation of side entry, strengthens the relative attractiveness of vocational training as compared to university education, as it keeps promotion paths open for vocationally qualified specialist employees.

**Impact:** The results of the investigation should improve the quality and innovation of existing national vocational training systems and strengthen the esteem in which vocational training is held. In addition it should provide information on socially responsible methods of reducing hierarchical structures in companies and so ease economic and social change.

**EU programme funding the research:**

Leonardo da Vinci

**Website:**

<http://homepages.muenchen.org/bm752233/projekte/leonardo.htm#top>

**Source:** ISF website

**Title of project:**

Europrof (New forms of education of professionals in vocational education and training)

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**Timetable:**

1995-97

**Short description:**

1. The project is based on the idea of anthropocentric production – on the idea that workers should be given the skills and the autonomy to shape and control technology in the production process and to design and control work organisations. These skills are called shaping skills. One of the key roles for the new VET and HRD professional is to facilitate the development of these new skills.
2. The project aims to develop social innovation. Innovation is seen as being based on the skills of the workforce, on work process knowledge and on new forms of work organisation.
3. The project is based on ideas of social inclusion – that everyone has the right to education and opportunities for learning vocational skills and that the application of skills for social innovation is central to generating employment opportunities and reducing unemployment.
4. Since VET is seen to play such a central role in the promotion of social innovation it is important that VET becomes recognised as a discipline in itself.
5. The project aims to professionalise VET professionals – in other words to raise the status and skills of the occupation. Therefore we believe that we need to develop university based education programmes.

6. The project seeks to develop a new occupational profile for VET and HRD professionals. That profile will necessarily be multifaceted based on the breakdown of the traditional divide between vocational teachers and human resource development professionals and the integration of initial and continuing education and organisational learning within the concept of lifelong learning.
7. The project stresses the importance of work related process knowledge and the application of knowledge and skill in promoting sustainable innovation. The project aims at a new curriculum for VET and HRD professionals that combines pedagogy with technical and vocational knowledge and work based skills.
8. Methodology: the project seeks to identify common research questions leading to transnational development tasks. The project adopts an action research approach bringing together research and developmental traditions.

Publication: *Promoting vocational education and training: European perspectives*, Brown, A. ed. (1997). Tampere: Tampere yliopiston (Ammattikasvatussarja 17)

**EU programme funding the research:**

Leonardo da Vinci

**Website:**

<http://www.itb.uni-bremen.de/projekte/europrof/default.htm>

**Source:** University of Bremen

**Title of project:**

Implementation of virtual environments in training and education

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**Timetable:**

1998-2000

**Short description:**

Taking advantage of the new information and communication systems, many different ex-

periences are emerging where traditional public institutions and training organisations are moving towards new ways of open and distance education. Participants in what are currently called 'virtual campuses' are now experiencing new ways of teaching and learning. This new scenario arises tensions in the organisation and functioning of both public and private institutions. On the other hand, the new ways of telematics-based learning crosses geographical borders, challenging E&T systems all around Europe, and posing new questions to European cultural diversity. The central objective of this project is to investigate the issues involved in the implementation of virtual learning environments (VLE) in post-secondary public educational institutions, as well as in training institutions. The project will focus particularly on looking for a holistic view when tackling the main issues mentioned. Within this context, the key objectives of the project are: to map out the teaching and learning approaches in VLE, especially those arising from combining face-to-face and distance education methods in traditional institutions and companies; to critically assess the impact of European diversity on international VLE, in relation to common elements of curriculum, language issues, and institutional adaptation of the E&T systems to open and distance learning; to contribute to innovation in public educational institutions in relation to the restructuring of their functioning, the cooperation with similar European institutions and with the private sector when implementing VLE.

**EU programme funding the research:**  
TSER

**Website:**  
<http://xiram.doe.d5.ub.es/IVETTE/>

**Source:** Cordis

### **Title of project:**

Developing learning organisation models in SME clusters – DELOS

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**Timetable:**  
1996-98

**Short description:**  
Often SMEs organisationally take on the characteristics of a cluster. Within the cluster there is a strong integration between local institutions, service centres, training organisations and enterprises. The organisational formula of the cluster guarantees better average performance in companies which belong to it in terms of company results, employment, updating and adjustment of qualifications. The 'clusters' represent privileged observatories for the analysis of employment and learning dynamics. Considering the 'clusters' as a

learning organisation permits, methodologically, to analyse the information flow and the interactions which, in the cluster, give rise to circular processes of competence acquisition, shared know-how, experimenting and progressive correction of collective intervention. In relation to SME clusters it is the group of SMEs which acts as the learning organisation.

The 'interorganisational' learning processes which develop in the SME clusters have not yet been systematically studied from the point of view of implications of collective learning, shared development of knowledge and intervention models. It is opportune to focus attention on the distinct characteristics and on specific organisational learning processes which arise through cooperation between SMEs, so as to clarify their nature and to build support methodologies to increase conscious interventions on these issues. The project objectives therefore are: verify the modalities through which the SMEs clusters intervene as learning organisation and investigate the organisational learning processes that arise through clustering; give 'working' indications capable of supporting training and occupational policies in favour of SMEs. Throughout six different countries, 12 different clusters are analysed.

Publication: DELOS project – Developing learning organisation model in SME clusters, final report. Brussels: European Commission – Science, Research, Development, 1998.

**EU programme funding the research:**  
TSER

**Website:**

[http://improving-ser.sti.jrc.it/default/show.gx?Object.object\\_id=TSER---00000000000005E0&\\_app.page=show-TSR.html](http://improving-ser.sti.jrc.it/default/show.gx?Object.object_id=TSER---00000000000005E0&_app.page=show-TSR.html)

**Source:** Cordis

**Title of project:**

Transnational pilot project: master/supervisor in lean production

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**Timetable:**

Started 1995

**Short description:**

Objectives: In an environment where new jobs are being created through the implementation of innovative approaches in future-oriented economic fields, master craft people and supervisors are having to face new challenges in their day-to-day activities. Their role in professional initiation and supervision seems to be diminishing in importance, whereas new skills such as managing and defining the objectives of groups of workers, developing the potential of colleagues and organising team

work are becoming an increasing priority. The aim of this project is to contribute to the changes in the qualifications of a specific category of personnel to accommodate the new production concepts being developed in cooperative structures such as SMEs.

**Activities:** In a first phase, it is planned to list, analyse and draw up an account of the various national qualification systems for master craft people and supervisors. In the second phase, on the basis of the results of the preceding phase, appropriate training modules will be developed, tested, evaluated and finalised in the form of a global concept, which – in a third phase – will then be published and marketed in German, Swedish, French and English.

**Products:** Development of a modular curriculum for master craft workers and supervisors in the area of new communication and work organisation methods, organisation of workshops and production of publications of the results of the work.

**EU programme funding the research:**  
Leonardo da Vinci

**Website:** N/A

**Source:** <http://europa.eu.int/comm/dg22/leonardo/html>

### **Title of project:**

Over 45: causes of dismissal and the role of lifelong learning

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**Timetable:** 1997-99

### **Short description:**

Since the 1980s, many workers over the age of 45 in Europe have progressively been marginalised and excluded from the labour market, as they are considered unable to cope with the pace and nature of industrial change. Early retirement has given rise to a new social category – the senior worker who is no longer regarded as productively viable. Using the lifelong learning approach, this survey and analysis project aims to contribute to the research of new political/social solutions with regard to this social category. An analysis of continuing training schemes will be conducted and several industrial case studies illustrating positive examples of reintegration will be examined in the four partner countries. The results will be discussed at an international convention with the participation of national and local institutions, social partners and training structures with the aim of disseminating successful experiences in the struggle against exclusion from active working life.

**Impact:** The results will be used to draw the attention of national and local institutions to the importance of lifelong learning in the fight against social exclusion.

### **Publication:**

Over 45: causes of dismissal and the role of lifelong learning

**EU programme funding the research:**  
Leonardo da Vinci

**Website:** N/A

**Source:** Mr Pettenello



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# Training for new jobs: contents and pilot projects

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**Jeroen Onstenk**

**Abstract**

*The paper discusses the need for and the prospects of curricular redesign of vocational education and training as an answer to changes of job profiles and skill requirements. The first part deals with new skills needs, developments in the labour market and the responsiveness of the vocational education system. Two main strands could be distinguished: a general or core skills approach (including emphasis on learning skills) and a broad occupational competence or key competences approach.*

*The second part deals with new curriculum designs. It discusses whether and how these new requirements are met by redesigning initial training and by developing new forms of continuing training and learning at the workplace, in schools or in combination. Two main focal points are distinguished: first, innovations which accentuate (learning to) learn and study and the development of the self-directed student. Second, innovations which focus on learning how to solve occupationally relevant problems and how to work effectively in changing organisations: the development of the self-directed professional.*

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## 1. The responsiveness of the vocational educational system

This part focuses on new skill demands, developments in the labour market and the responsiveness of the vocational educational system. Jobs are changing at high speed because of new technology, changing markets and the rise of new organisational paradigms. Information and communication technology in the workplace leads to a shift from an emphasis on action centred skill to intellectual skills (Zuboff 1988). Companies have to respond to changing market demands with regard to variety, flexibility and quality. In order to cope with both these developments, new production and organisational concepts are introduced which enlarge the autonomy and responsibility of workers by enriching jobs, integrating problem solving and quality care in production jobs and diminishing the layers of management (Onstenk 1997b).

As a result, many firms require a work force with more, and different, competences. These include an increase in general abilities, such as numeracy and literacy skills, in order to deal with the growing amount of information processing, as well as organisational and communicative key qualifications and technical skills in order to effectively solve production and organisational problems. At the same time, a sharper and more mobile labour market asks for more employability. Employers, management consultants and even unions welcome the concept of employability, although it is not at all sure that they are wanting the same thing. We are on our way to a 'risk society' (Beck 1986), where everybody is responsible for his or her own destiny.

In a market society individuals are forced to rely on their competences and abilities and their willingness to develop them. However, at least two different images are hidden behind the concept of employability (Onstenk and Kessels 1999). On the one side is the mobile entrepreneurial job seeker or job hopper, always looking for opportunities and ready to move. On the other side is the flexible, employable worker, able and willing to attend training, perform a variety of tasks,

geographically mobile, cover a broad qualitative and quantitative spectrum and prepared to work at non-standard hours (Bolweg and Maenhout 1996).

Most definitions of employability tend to cover a very narrow field and to emphasise the growing relevance of general skills. Competences regarding professional substance appear unimportant or even as a hindrance. Whereas, in most cases, broad and deep content-specific competences are still the most important employability tools someone could have. In a mobile labour market the asset of having recognised qualifications is not less, but more important. So at the same time as pleas for more flexibility are heard, a tendency to establish or improve qualification structures and to establish mechanisms to recognise and certify competences acquired outside education or training can also be observed.

Occupations can be a very strong instrument to improve structuring and functioning of the labour market, as well as improving people's chances (Hövels 1998). Of course this does not deny the need for further individualisation and for the development of people's abilities to plan their careers and to ensure versatility on the job market (Meijers 1995). So a new concept of vocational education is needed which better prepares people for this problem area, full of contradictions.

There seems to be a growing conviction in Europe that (vocational) education should give students the basic equipment to cater, on the one hand, for the growing demands for competences while, on the other hand, enabling workers to obtain a firmer grasp of their opportunities for personal enrichment. Changing job and labour market requirements are a challenge for vocational education and training, both of which have to respond to increasing demands with regard to the amount of learning and training needed, as well as to the content of training.

Vocational education is increasingly regarded as the beginning of a vocational learning career, rather than as the summit of skill acquisition. During working life workers will have to attend further training and change

jobs on a number of occasions. This means that vocational education must offer a broad base including technical, methodical, organisational, and communicative as well as learning skills. How this objective is to be reached is less sure, and there are different answers.

### **1.1 Generic skills, key qualifications and core competences**

There are different European models for the responsiveness of training systems in adapting contents and curricula to changes in occupations and the labour market. An important theme is the inclusion of a broader concept of skills (i.e. key qualifications, core skills, competence transversal, broad occupational competences) in the qualification system and in vocational education. Changes in the skill requirements of jobs and underlying reasons (e.g. new technologies, restructuring of work organisation, outsourcing/out-contracting, new types of jobs, changing employment patterns) are identified, as are implications for training contents and curricula.

In the European discussion it is emphasised that the broadening of occupational requirements (problems to be solved) should lead to a multi-dimensional analysis of skills needed in the work place. These are not restricted to the level of 'technical' job-specific skills. Many approaches and definitions can be distinguished with regard to the need for a broader concept of skill, including both more complex and information skills, organisational skills and social-communicative skills. Two main strands can be distinguished, comparable respectively to the core skills and key competences strands distinguished by Kämäräinen and Streumer (1998). The third strand distinguished by these authors, the German model of key qualifications, can be seen as a special case of the second strand, as for example illustrated by recent use of the concept of key competences (Heidegger and Rauner 1997).

#### **1.1.1 Core skills and general qualifications**

The first strand centres the discussion around the concept of basic, generic or core skills

(Carnevale et al. 1990; Levy 1987, 1989; Stasz 1998). The basic idea is that changing conditions ask for more general, work-related skills, as distinguished from more narrow, occupation-specific skills. At first the growing awareness of the importance of this new broad or core skills was matched by an even faster growing confusion concerning their precise content and conceptualisation (Onstenk and Moerkamp 1999).

In the Anglo-Saxon world at the beginning of the nineties there is common ground emphasising core skills like communication, mathematics, reading, writing, planning, cooperation and planning. With regard to the United Kingdom, Brown (1998) concludes that:

'...the national approach to core skills generated in the idea that they could be used as a developmental tool to give structure and direction to learning in the workplace (particularly on Youth Training Schemes). As they were used primarily in education for 16-19 year olds core skills became identified with the more remedial function of equipping significant numbers of young people in each age cohort with basic skills and understanding that they have not acquired through the compulsory phases of education. The association of core skills with the skills necessary for employment was interpreted as part of a wider attack, in which an emphasis upon skills was seen as undermining the traditional model of education, with its emphasis upon knowledge, understanding and cognitive development'.

In the USA the Secretary of Labour's Commission on Achieving Necessary Skills (SCANS), identified in 1991 along the same lines, a list of three foundation skills (basic skills, thinking skills and personal qualities) as well as five generic 'work competences' (resources, interpersonal skills, information, systems and technology) (Stasz 1998). In Australia the Mayer Committee identified seven strands of key competences, with three performance levels defined by complexity and situational familiarity (Stevenson 1994):

a) collecting, analysing and organising ideas and information;



- b) expressing ideas and information;
- c) planning and organising activities;
- d) working with others and in teams;
- e) using mathematical ideas and techniques;
- f) solving problems;
- g) using technology.

Skills listed like this do not refer to specific tasks or clusters of tasks employees should be able to perform, but to general skills that employees are supposed to need to be able to work in a whole series of jobs or even any job at all. They can be considered as entry-skills. This includes both elementary skills like arithmetic, reading or writing skill, general cognitive skills (problem solving) and social-communicative or interpersonal skills. These skills are supposed to be fundamental for performing many tasks, for and a whole range of occupations and to ground specific occupational skills.

In many other countries there is an observable tendency to discuss changing and broadening skill needs in terms of general qualifications, albeit rarely as the dominant aspect. In Denmark Andersen et al. (1996) propose the concept of general qualifications. Shapiro (1999) emphasises the acquisition of general and personal competences as an important objective of the major Reform 2000, which will transform the Danish Vocational Educational system. It could even be stated (Kämäräinen and Streumer 1998) that a variety of the German key qualifications concept could be grouped under these approaches, that is when key qualifications are considered as general labour market skills next to and apart from, or even instead of, specific occupational skills (Mertens 1974; Wilsdorf 1991; Geissler and Orthey 1993). The same idea has been put forward in the Netherlands, both in theory and research (Nijhof and Streumer 1994; Van Zolingen 1995) and in policies. Several sectoral national bodies have included lists of key skills in their attainment terms, although, at the same time, it is emphasised that these have to be made concrete for the occupation (SER 1997).

### *Learning skills*

In many countries a strong emphasis is found on learning skills as an objective for vocational education. This could be seen as a specific example of the core skills approach. As the need for acquisition of new and broader competences grows in order to enable employees to keep up with the speed of change (technological, market driven, organisational) the capability and willingness to learn becomes a prerequisite for the modern worker (Nijhof and Streumer 1998; Stasz 1998; Onstenk 1997b; Simons 1998b). Learning to learn and self-directed learning have become important dimensions of working life. This, of course, is stressed in all countries and by most VET researchers. They differ, however, in the estimation of the amount of learning needed and in the approach to learning, either as a specific skill or as a component of a broader concept of competence.

The implications of this are, in general, much better elaborated than most other core skills. Straka (1997) makes a distinction between skills with regard to interest and goal setting, executive learning strategies, cognitive and emotional control strategies and the ability to evaluate learning results. In many cases the willingness of the learner and the responsibility of being his own teacher is emphasised (Nyhan 1991). Simons (1998b), however, stresses that at least three kinds of learning are needed. Learner-workers should be able to learn (as an individual, at the team level and at an organisational level), and to be flexible in several respects (time, place, job). They have to know how to learn in formal settings, but also to learn from and on the job (experiential learning on their own and especially in cooperation) and to learn in a self-directed goal-directed way (action learning).

Learning skills for formal and also self-directed learning may be derived from the learning functions (planning, preparation, execution and control of learning activities). Non-formal learning can appear as action learning or self-directed learning when there is explicit attention to learning, including the formulation of learning goals, a choice of learning strategies and an explicit testing or

measurement of learning outcomes in various ways (not only through a standardised test). It can also appear as experiential or incidental learning, where learning can be seen as a side effect of problem solving, working or acting. In this case there is no explicit regulation of learning: no learning goals, no learning strategies and no testing of learning but there is still learning, even very important learning.

Simons presents a list of skills and attitudes that relate to experiential learning. These include looking for opportunities to get feedback, to reflect, to innovate and experiment and to develop a vision. Also giving and accepting feedback, trying out new things and making mistakes are important. Learning is improved when the worker-learner has theory-orientation and is interested in the background to what he is doing. Perhaps the most important condition Simons (1998b) mentions is that the worker-learner should be prepared and able to work with experts, colleagues, managers and also clients in such a way that he can learn from and with them.

### **1.1.2 Key competences and broad occupational competence**

The second strand focuses on key competences and key qualifications. Kämäräinen and Streumer (1998) emphasise that these concepts refer to sets of competences that transcend traditional divisions of labour and traditional occupational profiles. Competences are related to organisational learning and to new production concepts. In France this discussion comes under the heading 'competence transversale', in Germany under 'key qualifications' and 'action competence' (*Handlungskompetenz*) and in the Netherlands under a series of concepts ranging from extra-functional to broad occupational competence. Brown (1998) stresses the difference between this concept and the UK-brand of core skills. In his view, 'key qualifications' were associated from the beginning with the need to broaden and deepen vocational education and training, in relation to development of an underpinning knowledge-base and increased emphasis upon logical analytical and critical thinking (Wilsdorf 1991; Laur-Ernst 1989; Reetz 1989; De Jong et al. 1990; Hövels 1998;

Van Zolingen 1995). Van Zolingen (1995) identified 'key qualifications' in terms of knowledge, insight, skills and attitudes.

The German and Dutch discussion refers to cognitive, organisational-strategic and social-communicative skills, connected to change in the organisation and demands of work. The concept builds on a sociological distinction originally made by Dahrendorf (1956) between functional and extra-functional qualifications, later elaborated by Kern and Schumann (1970) in a distinction between process-dependent and process-independent qualifications. Mertens (1974) introduced the concept of key qualifications, building on this tradition, as a number of broad qualification dimensions that are needed by workers in the modern labour market next to their – defined in very limited terms – vocation.

In the aftermath the concept has been elaborated in two directions. On the one hand it is integrated in new descriptions of vocations in the German dual system and in that sense led to much broader definitions of vocational content (Reetz 1989). From this perspective emphasis is laid on the embeddedness of specific tasks and jobs in the labour process as a whole (Laur-Ernst 1989) and on situated social, organisational and strategic dimensions of occupational practices. A distinction is made between task competence, methodical competence and social competence (Arnold 1994). On the other hand, the concept of key qualifications is sometimes also elaborated by drawing up long lists of key qualifications as qualifications next to specific occupational content (Wilsdorf 1991). In the Netherlands Van Zolingen (1995) attempts to combine these perspectives by defining key qualifications as the broad, common core of occupations. She distinguishes six dimensions of key qualifications: general-instrumental; cognitive; strategic; social-communicative; social-normative; personality. This concept has for some time had considerable influence on the policy debate regarding the broadening and innovation of vocational education (SER 1997; Van Zolingen et al. 1997).

In the Netherlands the concept of broadly applicable skills (De Jong et al. 1990; On-

stenk 1992) tried to combine both traditions. It concentrated on strategic effectiveness and social and communicative performance skills. Strategic effectiveness involves various skills: problem solving skills; organisational skills; versatility (multi-skills, procedural knowledge); and leadership skills. Social and communicative performance refers to the social character of the work place, both as a working environment and a social context. It implies cooperative skills, social-communicative skills and cultural skills. Both strategic and social competence imply commitment and motivated activity. De Jong et al. (1990) proposed a list of situational skills, that distinguished between strategic, social-communicative and motivational dimensions, related to job management and work environment. Strategic effectiveness demands problem solving skills, organisational skills, versatility (multi skills, procedural knowledge), leadership skills and methodical skills. The social dimension demands cooperative skills, social-communicative skills and cultural skills. As motives of activity Onstenk (1992) made a distinction between several aspects: professional attitudes; motivation and commitment; flexibility; responsibility; and the ability to handle emotions, fear and uncertainty.

In a further elaboration of this approach Onstenk (1997b) shifts emphasis to the need for integration of so-called general skills in a coherent ability to perform. Based on the analysis of occupational problems elaborated above, he develops a concept of broad professional competence (*brede vakbekwaamheid*), in which seven dimensions are distinguished, parallel to the kind of problems a person has to deal with in work. He defines broad occupational or professional competence as a multi-dimensional, structured and internally connected set of occupational technical, methodical, organisational, strategic, cooperative and socio-communicative competences, geared to an adequate approach to the core problems of the occupation. In order to respond to the need for change, to participate in and contribute to innovation and to acquire new competences he adds 'learning and shaping competences' as necessary elements in broad professional skill.

This analysis has been accepted and elaborated recently in a white paper of the Advisory Committee for the qualification structure (ACAO 1999), which makes core competences the central element in both occupational and qualification profiles, aiming at improvement of vocational education as a preparation of the demands in actual occupational practice. ACOA (1999) concludes that, in the Netherlands, a consensus is reached on the need and usefulness of a clear qualification structure, based on occupational profiles that are legitimised by social partners. There is also consensus on the need for the development of broad vocational education, both with regard to the range of occupations and with regard to threefold qualification; for an occupation, for further (vocational) education and for citizenship. But there is a need to achieve more coherence and comparability by developing more elaborated formats.

ACOA emphasises core competences as a learning objective for vocational education. Four fields of competence, needed for any job, are distinguished:

- a) vocational (*vakmatige*) and methodical competences refer to the vocational content and specific activities, assignments problems and contingencies and to the development of adequate approaches to these problems;
- b) organisational and strategic competences refer to the ability to organise and plan tasks (task management) and to work in specific work and organisational environments (i.e. different organisational concepts);
- c) social, communicative, normative and cultural competences refer to problems connected to working in groups and the participation in the community of practice at the level of a team, a company or a profession;
- d) learning- and shaping competences refer to the contribution to one's own learning and development and the development and innovation of organisation or the profession.

This elaboration could also be of relevance for other European countries, as it includes in a

structured and broad, occupational-centred way the aspects distinguished in most key qualifications, concepts or core skills lists. Also it is compatible with the prominent UK definition of Job Competence of Mansfield and Mitchell (1985, 1996), which makes a distinction between work activities, managing different work activities, managing contingencies and managing the interfaces with the work environment. Also it matches the main dimensions of action competence, as discussed in Germany (Dehnpostel and Walter-Lezius 1995; Heidegger and Rauner 1997).

## 1.2 Occupational core problems

As a result of these new demands, emphasis is being laid on the competences workers need in order to act adequately and to solve occupational problems. In Germany the importance of action competence (*Handlungskompetenz*) as an objective of vocational education is emphasised (Laur-Ernst 1985; Heidegger and Rauner 1997). In the UK NVQs are competence based, albeit in a much more limited way. A central theme in this discussion is how to analyse and represent occupational problems. In the Netherlands the concept of Core Problems as a fruitful way of both identifying essential aspects of broad occupational competence and key qualifications, and of designing methods to deal with this in vocational education has won some recognition (Onstenk 1997a, 1997b; Blokhuis and Van Zolingen 1997) and is being elaborated in concrete proposals for improvement of Dutch qualification structures (ACOA 1999). Brown (1998) states that the attempt to use 'core problems' as a focus for the development of 'key qualifications' (Onstenk et al. 1990; Onstenk 1997a; Van Zolingen et al. 1997) may also have considerable value for the development and implementation of broadly framed curricula for 'vocational' higher education in England. So, what are core problems?

Problems in work practice do not occur one by one separately, but in specific combinations. It is not only expected that a competent worker can perform a set of tasks and solve the routine problems that occur, but he also must be able to manage and plan differ-

ent tasks and handle unexpected problems and change (contingency management). And that must be accomplished in the context of the organisation as a whole, that is the production process, as well as the organisational and social-communicative environment (Mansfield and Mitchell 1996).

In a specific occupation, problems occur in specific combinations. If, for example, we look at caring occupations, production demands stem directly from the caring and nursing tasks in relation to the patient. These can already be quite complex, requiring technical, medical, social and emotional skills (Benner 1984). Organisational problems result from specific task divisions, but also from changing business policies. So Dutch experiences show a growing tension between the demand for a more efficient businesslike approach and a client centred approach, which both depart from the traditional institutionally centred approach (Onstenk 1997a). Social-cultural demands have to do with formal and informal rules within the occupational group, within the specific team someone is working with, but also with others, i.e. doctors. It is important to realise that these are not nicely tuned demands, but that concrete situations can show contradicting demands, which makes situated deliberating and choosing necessary. This complex combination of problems can, for specific occupations, be condensed into central, specific, characteristic combinations of production problems, organisational forms and social-cultural environments and problems. These sets could be described as the core problems.

Core problems are central to the performance of roles of particular groups of practitioners. They are characterised by uncertainty, complexity and conflicting considerations that require the exercise of judgement. These problems may have organisational, occupational and technical dimensions, and their solution may require knowledge, insight, skills and attitudes related to these dimensions, as well as inter-disciplinary knowledge, the application of high-level cognitive skills and the inter-related use of communication and other core skills (Onstenk 1997a, b). These are precisely the type of issues with which new en-

trants will have to grapple if they are to make successful transitions from trainees or novices into experienced practitioners.

Core problems, then, are problems and dilemmas which are of central importance for occupational performance. Core problems occur regularly as part of occupational practice; they are characteristic for the profession. Professionals are expected to find an efficient and effective approach and solution. Core problems are essential characteristics of the professional task, in which decisions and choices must be made, in which deliberate application of knowledge and skills and the appropriate set of action alternatives in the right speed determines the degree of expertise.

Core problems are important on two different levels for learning and the acquisition and development of professional competence. On a direct level the learner acquires competence and expertise regarding central elements of the occupation. At the same time, more general learning, problem-solving and meta-cognitive skills are developed in solving specific and concrete core problems by learning to handle complexities, contradictions and uncertainties. Thus learning through core problems contributes to the development of transfer skills. Core problems can be distinguished in breadth, depth and complexity. They do not look the same for a beginner or an expert (Dreyfus and Dreyfus 1986; Benner 1984). Different levels of the learning process imply different levels of complexity for core problems as a didactic strategy.

Core problems refer to occupational situations in which complex problems are solved, and in which the specific characteristics of the situation, and the social context, are of central importance. This implies uncertainty and the need to balance different, sometimes contradictory considerations and interests against each other. A distinction must be made between the level of complexity and the situational dimension of core problems. Complexity refers to complexity of required activities: handling different kinds of information at the same time; recognising different dimensions of a problem; possible contradictions; differences in importance; the need for delib-

erate reasoning and choices as part of the job or task itself.

This core problem approach has a strong resemblance to the German discussion on action-centred occupational analysis. Actual occupational practice in real working situations is characterised by a strategic and social dimension (Buck 1989). Strategic action relates to task management and structure of regulation, inasmuch as these are characterised by a certain amount of internal and/or external regulation autonomy or freedom of action (Frei, Duell and Baitsch 1984). Each task and work environment is characterised by a degree, however small it may be, of uncertainty, uniqueness or conflict (Buck 1989).

Core problems could offer vocational education an integrated approach (Onstenk 1997a,b; Brown 1998). The concept of core problems connects the determination of the central issues of the profession with the importance of making decisions and choices in both occupational expertise and educational practices/ learning processes. Competence develops by solving problems, meeting challenges, taking decisions, considering different action possibilities, weighing up alternatives (Frei et al. 1984; Onstenk 1992, 1997b; Dreyfus and Dreyfus 1986). Core problems also highlight the way professionals working in one sphere increasingly have to deal with issues that are not necessarily within a single disciplinary compass, and that they have to be able to work with colleagues and in groups with different kinds of expertise (Engeström 1994). Young and Guile (1997) argue that increasingly professionals need to possess a connective, rather than an insular, form of specialisation, which stresses the ability to look beyond traditional professional boundaries (Brown 1998).

Situated learning theory (Brown et al. 1989; Raizen 1989; Scribner 1984, 1986; Lave and Wenger 1991) and with some reservations also activity theory (Laur-Ernst 1990; Engeström 1994) suggest that learning in and through the work process itself can be a very effective way to acquire this kind of work-related knowledge, key qualifications or broad occupational competence. But new challenges are

also raised for vocational education, to which we turn in the second part of this chapter.

## **2. New curriculum designs in vocational education**

This second and main part of this chapter deals with new curriculum designs in vocational education. How are the new requirements met by redesigning initial vocational training and by developing new forms of continuing training and learning at the workplace, in schools or in combination. This includes the development of forms of integrated learning and problem-based education. In many European countries new training profiles are developed in initial and in continuing training in an attempt to narrow the gap between vocational education and the demands of occupational practice. Attempts are also made to create more integrated learning trajectories by better coordination of learning places (BIBB 1999).

Different European countries offer different answers to the challenges of vocational education. These can be grouped in two strands, reflecting the discussion on new competence demands. A first group of innovations aims at strengthening the general or core skills dimension, but a second, and growing group focuses on preparing students for broad occupational competence by including central occupational problems (core problems) in the vocational curriculum, both by learning on the job and by learning in school. Kämäräinen and Streumer (1998), who make comparable distinctions between curriculum concepts (atomistic and holistic; collection code and integrative code; bipolar and integrative curriculum regimes) stress the fact that there is a mutual relationship between curriculum design and the way new competences or skills are defined.

In the remainder of this chapter the central focus of both strands, as well as some examples of 'best practices and innovations' in different countries are presented. As work-based learning is discussed in other chapters (cf., for example, Dehnbostel and Dybowski 2000), this chapter will focus on the school as a vo-

ational learning environment. Examples will be taken mostly from the Netherlands. In Dutch school-based vocational education there is much innovation. Attempts are made to create powerful learning environments in vocational education and to develop new didactic concepts. Vocational colleges (*rocs*) are increasingly interested in methods which promote self-directed and self-paced learning, but also problem-based learning. There are also examples from Germany, England and Denmark where there is a growing recognition of the importance of the role of the vocational educational school in responding to new competence demands.

There are many different approaches to didactic and methodical innovations in vocational education. The main development could be defined as a switch from a mainly instructivistic to a more constructivistic paradigm (Salomon 1998; Simons 1998a). Important themes relate to the content, structure and sequence of learning places and the new roles of teachers and coaches. New concepts for a more active role of students have been developed. Contents are enriched with occupational problems. Didactics aim for strong learning environments (Brown et al. 1989), based on constructivistic approaches, situated learning and activity theory. An inventory of new didactic forms in the Netherlands (Onstenk, Moerkamp and Van Gelderen 1999) distinguished open learning (Internet, open learning centres); self-directed learning (learning skills, learning styles) and problem-steered learning (discipline-oriented, practitioner-oriented). This seems also a useful distinction to analyse didactic innovations on an European scale. This chapter will concentrate on self-directed learning and problem-based learning, as these seem connected most directly to both strands of competence needs.

### **2.1 Core skills and general qualifications in VET**

One very important result from the identification of general or core skills is the formulation of new objectives for both general and vocational education, which should prepare better for the labour market. There are several examples of new didactic designs aiming

to promote general qualifications or core skills as a learning outcome. An obvious example is to be found in GNVQ-courses in England. Another one is the General Qualifications project in Denmark.

### ***2.1.1 Learning and teaching GNVQs (England)***

In England, GNVQs were set up as a 'middle pathway' in a three track education and training system between vocational education and general education. GNVQs are designed for educational purposes to develop knowledge, skills and understanding in a broad area of work, such as manufacturing or business, to improve ability to communicate well, use information technology, and work with numbers and to develop skills in planning, handling information, evaluating work and teamwork. Brown and Keep (1999) remark that emphases on student choice, experiential learning, core skills and learner autonomy were constrained by regulations framed by state agencies. They recall the analysis of Green (1998), who criticises the lack of a general education foundation in British VET. This gap has been filled by the much narrower surrogate of core skills.

Green concludes that the English concentration on a restricted range of core or key skills (such as communication, IT and the use of numbers) provides a much narrower education to a lower standard than is generally found overseas. His conclusion is that 'the core skills paradigm represents an impoverished form of general education which is neither adequately delivering the minimum basic skills normally associated with an effective general education, such as verbal articulation, logical skills and mathematical literacy, nor even attempting to impart a foundation of scientific and humanistic culture adequate to the demands of active citizenship in modern societies' (Green 1998: 40). According to Green it is not very likely that the core skills model of VET is able to produce broadly skilled, polyvalent workers. Gleeson and Hodgkinson (1995) point to developments such as GNVQ having taken place within policy discourses which did not address any broader vision of citizenship and learning or take into account

the over-lapping dimensions of personal effectiveness, critical autonomy and community.

Nevertheless, Brown concludes, depending upon how GNVQ is implemented in practice, it can be a powerful vehicle for meaningful learning and personal development. Branson and Walsh (1999) claim that the single most influential factor in raising esteem for GNVQ and vocational education was the experience of taking part in GNVQ. They found that as individual teachers and learners had gained first hand experience of GNVQs they had come to hold them in high regard. To achieve a GNVQ award, students are required to demonstrate full coverage of curriculum by meeting the performance criteria and evidence indicators for each unit. They are assessed on the quality of their learning processes – their planning, information seeking and handling, and evaluation – as well as their learning outcomes. Harkin and Davis (1996) show how teachers on GNVQ programmes may adopt warmer, more supportive communication styles in relating to students. Branson and Walsh recognise an element of paradox about this:

'GNVQs are specified in the form of learning outcomes. Official guidance for teachers emphasises that how students acquire 'knowledge, skills and understanding in a broad vocational area' is not important. 'The important thing is what students learn, not how they learn it'. Yet, when asked what they liked about GNVQ, in almost every instance, the students and teachers involved in this research referred far more to the process of teaching and learning – sometimes referred to as the 'GNVQ way' – than to the content or outcomes of the courses'.

According to this research the design, delivery and management of GNVQs is left in the hands of teachers and students. Plenty of enthusiasm and imagination with respect to these tasks were witnessed. However, it was also found that GNVQ structures, components and (most particularly) assessment patterns inspired a distinctive and fairly consistent overall approach to teaching and learning. The researchers stress that the gathering of evidence to meet GNVQ assessment require-

ments is only feasible if the students take a significant role in the management of their learning. Also internal assessment in combination with the right to redraft and upgrade work stimulates formative interaction between student and teacher on an individual basis. Self-management of learning and one-to-one formative assessment were integral aspects of the valued 'GNVQ way' in the schools investigated by Branson and Walsh (1999). They give the following comprehensive observation of a GNVQ Advanced Science session. This observation, according to the researchers, exemplifies to a greater or lesser degree all the features of the GNVQ way of working to which teachers and students referred in explaining their high esteem for their GNVQ course. These included:

- ❑ student management of the pace, location and methods of work;
- ❑ mixture of independent and group work;
- ❑ more student-led than teacher-led activity;
- ❑ a more interactive and democratic relationship between student and teacher than previously experienced;
- ❑ regular use of information technology;
- ❑ independent research and reference work;
- ❑ opportunities to work on a variety of tasks in a variety of locations;
- ❑ work set (imagined, envisaged, some of it actually done) in meaningful business/industry or other vocational contexts;
- ❑ plenty of practical work;
- ❑ formative feedback from the teacher and other students;
- ❑ knowledge and understanding of the content, structures and assessment requirements for the course;
- ❑ student involvement in the assessment process and opportunities to redraft and improve assessed work.

In this research students and teachers tended to summarise their favour for these features in terms of the merits of active, responsible and meaningful learning. Among these merits, sheer enjoyment and relish in the process featured as much as, or more than, benefits in terms of specific learning outcomes.

GNVQs are intended to prepare students for further/higher education or work. Regarding the former, Branson and Walsh found that subject knowledge and understanding were considered to be adequate for most relevant further/higher education courses. As to work, most students had no intention of progressing to a job immediately after they completed their GNVQ, but most believed that, in terms of know-how in relevant job areas, GNVQ had already demonstrated its value in their work experience and/or their part-time jobs.

### ***2.1.2 The general qualifications project (Denmark)***

Core skills are often considered to be too narrowly defined (Brown 1998, 1999). Looking for alternatives in this direction, Denmark offers an option. In the General Qualifications Project (Andersen et al. 1996) a concept of teaching was developed which aims for general qualifications. In this project the student, the one to possess and develop the qualifications, is given a central position as a subject. Other aspects are observed from this point of view. By placing the subject in the centre, the dialectic between societal and external interests and influences, and subjective qualities and preconditions, becomes visible and accessible to analysis. According to Andersen et al. (1996) it is necessary

‘to take into consideration whether perhaps conditions outside the subject should be changed, rather than the subject itself. If the point of departure is in the resources of the subject rather than its shortcomings, it might become obvious that the real block to developing the working process is located in the organisation of the work itself, or in other agents in the production process, e.g. superiors. Consequently the adequate process of “qualifying” would not be to change the fea-



tures and abilities of subjects, but to change the framework within which they are to function'.

The analysis emphasises the importance of paying attention to the relationship between qualifications and qualifying at an early stage. The circumstances under which specific types of qualification could be developed are considered an important factor in the formulation of the needs for qualifications. In addition, the process of qualification might be understood as having an influence on qualification itself. Andersen et al. make the convincing point that:

'the qualifications usually referred to as general [...] will often be developed as an effect of the how of the education (e.g. the pedagogical form and didactic principles), rather than an effect of the what (e.g. the content of the education)'.

General qualifications are described by Andersen et al. in terms of the important features of present demands in workplaces:

- ❑ general skills in communication, abstraction, and symbol analysis;
- ❑ an active, structural understanding of social and working conditions;
- ❑ personal engagement and agreement in identity in relation to relevant activities;
- ❑ active individual and collective potential for development and resistance.

The decisive characteristic of all these fields, according to Andersen et al., is that they involve personality and identity in an integrated way, that is to say different from a mere isolated acquisition of knowledge and skills. This sets conditions for the learning process that first and foremost have to do with motivation. When learning encompasses personal development, active motivation, positive and personal engagement take on the character of a necessary condition.

Andersen et al. stress the fact that it is important to understand that active motivation

is not just a matter of what one immediately would like to do.

'The strongest motivation is probably found when it has the nature of personal objectives which usually consist of a mixture of elements linked to desire, necessity and personality that can be both conscious and unconscious in nature.... Motivation is also linked to content: in occupational settings one would like to achieve something more than general personal development. But in the educational context, it is more directional and encompasses an element of content that one would like to cultivate or develop'.

After stressing the necessity of building on active and positive motivation in relation to the course of education and its content, Andersen et al. list a number of conditions that general qualifying programmes of education should meet. There must be guidance or supervision in connection with admission to the programmes to ensure that participants realise what they want to get out of them. This requires quite radical innovative re-thinking of the types and general procedures of guidance and supervision offered to or imposed on applicants. To put this bluntly: it should be counselling of persons rather than guidance towards an education. It should primarily have to do with clarifying the motivation of the individual, with selection of line of education coming in second place.

Courses should give priority to, and be designed to meet, participants' needs before those of the current labour market. This kind of priority is also in accordance with the recruitment and personnel policy of most modern enterprises, it being more important to attract motivated staff than people with a qualification profile that is absolutely right. If the motivation is there it is rarely a problem to ensure practical upgrading of qualifications or any retraining that might be necessary.

In addition, the framework and practice of the programmes of education should be flexible enough for participants to feel that they have some connection with their motivational starting point. This latter is a pedagogical goal that

many adult education teachers strive to attain. However, it presupposes this flexibility, i.e. that individual teachers have enough freedom to adapt content and method to the needs of participants with many different types of educational motivation.

Finally, Andersen et al. stress that it is important that participants can experience learning places as a framework for, and invitation to, both professional and personal development. They show a tendency in adult education in Denmark for the strong sides of programmes of education to dominate while their less strong sides are further weakened through the locations' physical and mental environment and their self-conception. For instance, the strength of adult vocational training programmes derives especially from their close association with, and orientation towards, the labour market, while participant orientation is weaker, being at best something that individual teachers establish.

At the practical pedagogical level the importance of the motivational factor must lead to consideration of how participants' interests and preferences can be employed and how they can influence the educational activities. Andersen et al. distinguish two basic didactic dimensions, a content dimension (stretching from traditional subject-matter orientation to problem orientation) and the direction dimension, stretching from teacher direction to participant direction (or from other to self-directed learning). Combining these two dimensions, four types of educational activity are distinguished:

1. teaching (teacher, subject-matter);
2. exercise (teacher, problem);
3. studies (self, subject-matter);
4. projects (self, problem).

As motivation is mostly enhanced by participation and problem orientation, the model at least gives an indication that models other than teaching should be applied, to make personal development and general qualification possible.

## **2.2 Self directed learning in VET**

A second kind of new educational designs deals explicitly with learning competences. Now, this is an objective that is present in most innovative designs. But some focus explicitly on this. A rather new development, seen in several European countries, is the emphasis on promoting self-steered and self-directed learning in initial vocational education (Straka 1997). There are several varieties of this. The conceptual framework of self-steered learning is developed in cognitive and constructivistic learning psychology (Boekaerts 1997), whereas the concept of self-directed learning derives from adult education (Tough 1979; Brookfield 1986).

In didactic approaches that aim for self-steered learning, educational methods are developed to foster active learning, self-steering meta-cognition and learning skills (cf. Straka and Stöckl 1998). This is motivated by the finding that passive or consumptive forms of learning are less effective. These learning theoretical insights deal with learning in general and are mostly not specifically tested for students in vocational education, with some exceptions (Witteaman 1997; Slaats 1999). Didactic approaches in this category are mostly general educational methods, even if they are developed specifically for vocational education. The characteristic of self-directed learning is strong emphasis on the learning process, on guidance and coaching of this process and on reflection on the learning process (Straka and Stöckl 1998). An example, which is described below in more detail is the Integrated Learning Group system, developed in Dutch vocational education.

Self-directed learning makes demands on educational content in the sense that it must be possible for students to work individually or in a small group with the learning material. This implies that the material must not only contain well-formulated information, but also guidelines and support for learning methods and activities. A different structuring of learning content from traditional subjects is not necessary per se for self-directed learning and rarely happens. In most self-directed learning literature there is made a strong contra-

position between the teacher as a knowledge expert – a weak image for an inspired practitioner or representative of a discipline! – versus the teacher as a coach learning processes. This does not seem a very happy position for vocational education. In an effective learning environment the teacher should play an important role as example, model and knowledge source, with regard both to motivation and knowledge, not only declarative facts, but also procedural relations and processes and conditional knowledge (Brown et al. 1989; Lave and Wenger 1991).

*Interactive Learning group System  
(Netherlands)*

The Interactive Learning group System (ILS) is a method organising the learning process in the class room. It is used in a growing number of regional vocational colleges. The method emphasises cooperation between students in groups as well as self-regulated learning. The method also focuses on differences in learning style between students. The teacher is expected to be more of a coach than an instructor.

The method is inspired by theories of cooperative learning, active learning, learning styles, learning functions and self regulated learning (Witteman 1997). The most important objectives of ILS are:

- ❑ improvement of the learning style of students (deeper processing of learning subjects); knowledge is considered as a tool (Boekaerts 1997), which should be made operational for the student;
- ❑ improvement in self-directed learning abilities of students, for example by self-regulation activities or the execution of different learning functions (Boekaerts 1997); the method emphasises and uses differences between students with regard to learning styles;
- ❑ contribution to the social development of students (stimulation of cohesion in the class room, integration of 'black' students, experience of collective responsibility for learning tasks);

- ❑ letting students learn from each other (exchange of prior knowledge or opinions about learning subjects and about the most effective ways of learning, including different learning styles);
- ❑ enhancement of learning motivation and self-reliance of students;
- ❑ making room for other tasks than instruction by the teacher (by making students themselves more responsible);
- ❑ more opportunity for individual coaching of students;
- ❑ avoiding absenteeism by enlarging the autonomy and responsibility of students;
- ❑ avoiding a gap between the learning style of students and the teaching style of teachers.

ILS is mainly based on a model of self-regulated learning, as developed by Boekaerts (1997). In the model a distinction is made between two clusters of learning processes. Firstly, cognitive processes include subject knowledge, cognitive strategies and cognitive self-regulation. Secondly, motivational processes of the learner include meta-cognitive and motivational knowledge, motivation strategies and motivational self-regulation. In each category a number of relevant distinctions and points of attention for educational innovation are summarised. For example, subject knowledge distinguishes between declarative and procedural knowledge. Meta-cognitive knowledge refers to knowledge about the usefulness of strategies in relation to subject knowledge. Motivational knowledge refers to aspects such as self-image, professional attitude, and goal orientation in different subjects.

Classes are divided in little groups of three, four or five students. These groups are, by preference, heterogeneous with regard to learning performance, and also in relation to learning styles and regulation styles. Instruments are developed for establishing the learning and regulation styles of students. Lessons are organised in a more or less standardised way, consisting of seven steps:

1. writing work on the black board;
2. activating prior knowledge;
3. instruction;
4. groups work on learning tasks;
5. control, help and summarise;
6. diagnostic evaluation
7. testing (every eight weeks)

Prior knowledge is activated (2) by looking for a couple of minutes at what students already know about the subject and how the new learning subjects should be connected to this. Instruction (3) should not take more than 10 to 15 minutes. Groups work on tasks (4) (15-25 minutes), while the teacher coaches individual students when there are problems, or he gives help to groups. Control and summarise (5) demands that the teacher evaluates each group on progress and problems. Diagnostic evaluation (6) implies a more precise evaluation of problems, results and group processes.

More than 20 Regional Colleges have experimented with ILS, supported by external consultants and training. As an innovation process, a top-down approach is chosen. Implementation takes place at the level of management, teachers and students. Management and teachers have to attend introductory courses. Teachers need competences such as:

- skills in stimulating interactive knowledge construction by students;
- social skills in dealing with students (individual and in groups);
- organisational skills (in grouping students; in structuring learning subjects in appropriate group tasks);
- diagnostic skills
- individual coaching skills;
- understanding of (meta-cognitive aspects of) learning processes;
- understanding of learning styles and regulation styles.

When implementing ILS a number of bottlenecks occur, mainly resulting from organisational conditions: too little support and coaching; too little commitment of heads of department; too little direction from the management; not enough teachers involved in the project; misunderstandings about responsibilities; misunderstandings about communication structures; misunderstandings about availability of personal and financial means; misunderstandings about schedules; misunderstandings about the adaptation of educational content; too many (unrealistic) objectives; not enough adaptation of teaching behaviour to the method; and, last but not least, mixed enthusiasm of students.

The method concentrates on learning in the class room situation and is strongly knowledge-oriented. ILS is best if there are well structured assignments, meaning that the usefulness of the method for development of problem-solving competence for the poorly structured core problems of the occupation can be doubted.

It can be concluded that introducing a new concept like ILS is a difficult and far reaching process. Other bottlenecks are, for example: the lack of learning material suitable for group learning; the lack of case or problem-based learning material; the lack of professionalism of teachers on the topic of regulation functions for learning processes; and, last but not at all least, a lack of suitable tests.

Of course, these bottlenecks are not peculiar to ILS. On the contrary, many problems in the learning process, which remain invisible in traditional instructional teaching, become clear when working with ILS. For example, a student doing nothing in a traditional frontal instruction situation draws no attention, but in ILS this becomes visible and a target for action.

### **2.3 Learning for broad occupational competence**

Against the structural background of changing labour markets and growing demands made by business on vocational education, more and more schools are innovating their

courses, both with respect to content (to respond to new qualification structures) and methods (to respond to the need for broad occupational competence and learning skills, to prepare students for an accelerating speed of change and a lifetime of learning).

Introducing core problems in vocational education presupposes specific contents and specific didactics (Onstenk 1997a). Occupation-based problems should have a central place with regard to content action. An holistic, multi dimensional approach to problem solving must be developed. Curricula innovation helps to adapt to new attainment norms. A serious discussion both in the Netherlands and Germany is if the attainment norms and examination regulations really fulfil these demands.

More interesting still is the tendency to try out new didactic forms to answer the need for broad occupational competence. There is an emphasis on self-directed learning, troubleshooting and problem-solving, problem-steered learning, cooperative learning and decision making. There is also a tendency to develop stronger learning environments to reach this objective. This includes the establishment of open learning centres in many schools, with an emphasis on learning how to learn and the development of problem steered learning. This emphasis reflects both the importance attached to vocational education as a learning environment and the recognition of the need to teach students how to learn and how to acquire broad occupational competence, which can be used in a broad range of jobs and gives a strong foundation for further competence development.

### ***2.3.1 Core problems in vocational education***

In many European countries it is felt that vocational education should not be satisfied with teaching knowledge and 'technical' skills, but should concentrate on preparing pupils and apprentices for competent action in occupational practice. To achieve this, changes in content and didactics of vocational education are necessary. In Germany this has led to re-definition of vocational training profiles

(*Ausbildungsberufe*), making them broader and including action competence and methodical, systematic and social-communicative aspects. New didactic forms have been developed, centring on action problems of the occupation. In the Netherlands, in the 1990s, a new qualification structure was developed and new contents of vocational education proposed, better responding to the needs of a changing economy and labour market. New vocational curricula have been developed. It is questionable, however, if the objective of delivering broad vocational competence has been reached already. The ACOA-white paper (1999) proposes to include core problems – or core assignments – in occupational and qualification profiles to improve this.

Contents should be structured to a greater degree according to core problems of occupational practice. Core problems can be handled better if the professional has broad competences. But pupils and apprentices (and starting professionals) acquire these competences more easily and better by dealing with complex and realistic occupational problems. From this perspective didactic changes in vocational education should be directed at stimulating self-steered learning, problem-solving, diagnostics and problem formulation.

One way of integrating knowledge acquisition with problem-solving and core competence development is through a focus upon core problems as a basis for building commitment to continuing learning and development. This approach is most appropriate when initial VET contains significant exposure to authentic work contexts. Core problems relate to the central challenges found within occupational communities of practice. This approach is pedagogically driven, and all aspects and activities of this approach fit with the ideas previously outlined, as they are held within the same conceptual and theoretical framework.

The common approach is underpinned by a commitment to continued learning and occupational development as a reflexive process, grounded in the importance of critical reflection as a basis for learning. The favoured approach to learning is also collaborative, with a particular emphasis on the use of problem-

based learning, situated close to the work context, so that it is possible to focus on the 'core problems' typically meant by groups of practitioners (Onstenk 1997a, b). The initial organisation of the problems fits with the idea of a reflexive collaborative learning environment making use of problem-based learning. According to Brown (1998) a didactic approach, which focuses upon 'core problems', would highlight a reflexive collaborative learning environment making use of problem-based learning such that:

- ❑ it provides authentic contexts for learning with a focus upon real (complex) problems;
- ❑ it is collaborative and dynamic, enabling learners to develop shared understanding and a sense of belonging to a dynamic community of practice, which they are helping to change and shape;
- ❑ it is participative and fosters active engagement as the learners determine for themselves the issues that need to be addressed when facing core problems; they can draw upon the knowledge and skills of others in facing these issues and also create their own learning agenda to fill any gaps in their knowledge and understanding;
- ❑ it supports learning which is highly relevant, because the learning is focused upon issues which are perceived as pressing by practitioners;
- ❑ it gives (possibly isolated) individuals the opportunity to think through problems as part of a team;
- ❑ it supports the development of creative and flexible approaches to problems;
- ❑ it supports the development of contextualised critical learning;
- ❑ it supports reflection on and review of the learning process as well as of the outcomes.

Reflection on core problems can give insight into current practice and provide ideas as to how a student or practitioner might tackle similar problems in future. Such reflection is

critical in two respects. First, it is necessary if learners are to look beyond current practice and to help shape how such problems are tackled in future. Second, it can act as a stimulus to creativity and innovation, not least because the learners have learned the value of applying a reflective approach to the development of their own practice and expertise. Such an approach not only increases the likelihood of significant learning, it also provides a framework for subsequent continuing professional development in which it is likely that processes of new knowledge creation may be facilitated. In this sense it helps those that are learning within vocational education to feel they are moving towards assuming a full position within particular 'communities of practice' (Lave and Wenger 1991), and a subsequent continuing commitment to explore, reflect upon and improve their professional practice (Schön 1987).

One way of raising the intellectual demands is to make use of problem-based learning where the focus is on core problems of groups of practitioners (Onstenk 1997a), acknowledging the contribution theoretical concepts can make to assisting individuals in understanding what they are doing and why work practices are subject to change (Engeström 1994). This, of course, also places a burden of proof on theoretical subjects. In a competence-based curriculum theoretical knowledge must be shown to be of use in dealing with core problems. Core problems in vocational education can be used as a facilitator of both practical and theoretical learning (Onstenk 1997a; Brown 1998) 'Theoretical learning' is also developed through applying the concepts for analysing the problems that arise for professionals at work and for making explicit the assumptions underlying existing practice (Guile and Young 1996). This conceptual knowledge can then be used to underpin reflection on practice at a deeper level than just 'theorising' practice. Such conceptual knowledge can have both explanatory power and be applied to (changes in) practice. It therefore complements the development of practical learning, based on reflection on practice. Crucially, however, the development and application of theoretical learning also facilitates a forward-looking perspective: enabling thinking about how practice might be devel-

oped in future. Indeed, a base is laid whereby the subsequent application of the processes of research, review and reflection in new contexts can lead to the creation of new forms of knowledge (Engeström 1994). The use of core problems within vocational education can according to Brown (1998) act as a springboard for the:

- ❑ exploration of and reflection on professional practice;
- ❑ development of skills, knowledge and understanding (of critical reflection) necessary to evaluate and review professional practice;
- ❑ need to understand processes of change (as practice increasingly takes place in complex and dynamic contexts);
- ❑ ability to create new knowledge;
- ❑ development of theoretical knowledge to underpin and complement reflection upon practice;
- ❑ study of the interplay between theory and practice;
- ❑ need to be able to transfer skills, knowledge and understanding from one context to another;
- ❑ ability to handle complexity and interconnectedness of issues (including through the formulation of mental models, schemas or networks);
- ❑ development of contextualised understandings;
- ❑ translation of understanding into action, as appropriate;
- ❑ further development of communication skills.

### **2.3.2 Problem-based learning**

There seems to be a logical relationship between new demands made of practitioners, with regard to problem solving, work plan-

ning, systems thinking and self-directed action and problem-based learning. This means building curricula around occupational relevant tasks and problems. In many much use of new media is anticipated for problem-based learning.

The concept of problem-based learning is strongly connected to vocational education and preparation for vocational practice. Constructivist learning psychology is also very important for this approach, but some other lessons are taken from it. Whereas self-directed learning focuses on regulation, monitoring and meta-cognition, problem-based learning focuses on learning in real contexts. For vocational education this is a very useful insight, because the context is clearly definable in occupational practice. In most cases group work is promoted as cooperation – an important aspect of real work settings. Problem-based education can, in this respect, be considered as a kind of simulation of occupational practice. This kind of education puts heavy demands on the content aspect of the curriculum. Although it is not impossible to work with problems coming from one subject, there is a strong preference for subject integrative and thematic problems and projects.

#### *Problem-based learning in the Netherlands*

Actual developments in the Netherlands show that teachers and program developers are responding to this need and are looking for new ways to teach and to develop vocational education as a strong learning environment. Next to promoting self-direction in learning, emphasis is laid on the acquisition of occupational competences. A precondition for this is that, in the educational setting, the student can deal with actual and complex occupational problems. There are different forms of Problem Based Education (PBE). The Main characteristic of these approaches is the fact that learning takes place by dealing with realistic vocational problems. In all cases these are taken from actual occupational practice, but they differ very much in the way they are formulated, the level and the complexity.

PBE is not, in fact, a new educational form at all. Inside and outside secondary vocational

education attempts have been made many times to motivate students and to improve their learning through problem-based education. Dutch higher education has years of experience with problem based-education. It started in higher medical education at the University of Maastricht (Schmidt and Moust 1998). This approach, mostly referred to as 'the Maastricht model', has been adopted in higher and secondary vocational education. The Maastricht model has a number of characteristics which recur to a greater or lesser degree in vocational education. (Part of) the learning subjects is treated in tutor groups of 6 to 12 students, in which is worked on specific tasks. A distinction is made between several kinds of tasks (study tasks, problem tasks, discussion tasks etc.). A model approach of working in groups is developed, known as the 'seven steps jumps' (seven steps jump), consisting of seven steps to be taken while working on a problem:

- a) step 1: clarify unclear terms and concepts;
- b) step 2: define the problem;
- c) step 3: analyse the problem;
- d) step 4: make a systematic inventory of different explanations, resulting from step 3;
- e) step 5: formulate learning objectives;
- f) step 6: look for extra information outside of the group;
- g) step 7: synthesise and test new information.

A school year in PBE is divided in a number of blocks or modules, mostly lasting 10 weeks. Each block is structured by a so called block book, which can be seen as a combination of study guide, work plan and learning material. The book contains objectives, planning and description of tasks, case situations and problems to be solved, tasks students should do, products to be delivered and (sometimes) suggestions for extra information sources. Students work in small groups of 10 students, so-called tutor groups. Tutor groups work sometimes with coaching of a teacher (tutor

and often without coaching. In PBE different kinds of tasks are distinguished; the problem task, the strategy task, the study task, the application task, the discussion task, and the project task. In the tutor group, one student takes the role of chairman and another student the role of reporter.

It is remarkable that the 'Maastricht model' focuses on a systematic method to deal with learning and study tasks and to build learning groups, but pays little attention to the actual problems themselves. The detailed distinction in kinds of tasks says very little about the contents. In practice this means that many schools themselves make tasks and assignments and structure the curriculum in blocks centred on these assignments. Of course this means a lot of work, and often leads to big differences in approach and quality (Moerkamp et. al., 2000).

### ***2.3.3 The 'block books' approach for the building engineer course (Netherlands)***

Recently a very interesting concept of a course design based on problem-based learning was developed in the Netherlands. It is called the 'block books' approach, block books being a series of booklets – and more recently CD-ROMs – which outline the curriculum for a block of five to eight weeks and which include assignments, problems and learning material. This approach, although inspired by the Maastricht model, shows some significant differences. It was designed for the level 4 course Building Engineer. In 1999/2000 this approach has also been elaborated for courses in road construction, electrical engineering and engineering. The development of the block book concept is closely related to the introduction of the new qualification structure and to changes in occupational practice. The project is strongly supported by the social partners. There is even pressure on higher vocational education to adopt the same methods.

The course for the building engineer was restructured at the beginning of the 1990s, when a new curriculum was developed, which was centred around problem-based education and the acquisition of executive skills (*kader-*



*vaardigheden*). In 1994 the organisation of vocational colleges (BVE Raad) installed a learning plan commission, which analysed research results on the future of building jobs and on the evaluation of companies of graduates of vocational education. It turned out that there were not that many new 'technical' things required as most companies expressed a great satisfaction with existing education. This, however, was not true for organisational, communicative and executive competences. These were not represented in the old curriculum. A project group of teachers, dealing with this problem, decided that executive skills (mainly planning, problem solving and communication) should be closely connected to technical knowledge and skills, as any other way would not be effective and motivational. Integration was also supposed to lead to a reduction of the number of different, isolated subjects. Students should not experience the course as a accidental series of subjects, but should be enabled to see a clear connection to real occupational problems.

### *Objectives*

The objectives for the newly-designed MBO-course for building engineers and middle management are defined as technical, organisational, personal and communicative.

In the first place, an adequate technical level should be reached, as laid down in the attainment norms, including specific attention to environmental issues and quality of work in the building site. In this respect the project can be seen as pro-active education, where improvement of occupational practice is an explicit objective. The project was supported by sectoral organisations in the field of environmental care and work quality.

In the second place personality development (and organisational competences) was made an explicit objective. This included being responsible and autonomous working – being able to take the initiative, take decisions and bear responsibility for them. In the third place, attention is paid to communicative aspects. Practitioners must be able to function as a member of a group. They must be able to accept and understand each other, to commu-

nicate openly and to bear responsibility for collectively taken decisions. They must be able to work together and to solve problems and conflicts in a constructive way. They must be capable of taking decisions. Finally, motivating aspects received much attention, through thematically clustering knowledge and skills. Technical, personal and communicative skills were transformed in learning objectives.

The objective of this approach was to contribute to student competences in taking autonomous decisions and bearing responsibility for them. The student has to develop initiative and analyse problems from different angles, systematically and structurally solving them. He must learn to work in teams and to deal with people. So he needs to develop communicative skills. On top of that he must learn how to be responsible for the environment and work conditions and make these issues an integral aspect of his work.

It is recognised that a student can only accomplish these tasks if he thinks lessons are attractive and if he becomes optimally motivated. Integration of subjects, a concentric building of blocks, variation in didactic methods and attention to management skills in a well-designed combination will have to achieve this and lead to the expected results.

Emphasis is put on the training of the student as a future practitioner who, in complex situations must act independently, must take decisions and defend them and who must be able in this process to make reference to different arguments and view points. The student must learn to take societal demands with respect to environment and work quality into account. It is expected he can take autonomous decisions in important aspects of the occupation as the vocation of building engineer is characterised by a great number of different visions and view points. The principle of self-directed learning is seen as including the recognition of the right of students to explore independently this field of visions.

### *Approach*

A structured and detailed learning plan was developed. From the beginning the student

focuses on the occupation of building engineer. The emphasis is put on a holistic representation of the building process, which is presented in a series of concentric projects (from simple to more complex problems). This replaces the old way of designing the curriculum, which started with an extensive module on 'foundations', while the rest of the building only followed much later on, even the next school year. A second important principle is that in the selection of learning subjects emphasis is put on a 'deep' treatment of specific topics (like a building system, material or technique), and the development of a systematic problem solving approach, rather than treating all systems, materials and techniques superficially or only on the knowledge level. A third principle is that the emphasis is put on learning how to search for the information needed, rather than on an integral presentation in a learning book of all information needed to solve the problem.

The core of the problem-based curriculum is formed by a series of assignments, which structure the learning process in case form. A typical case takes about 30 study hours and is executed in a relatively short period of 5 weeks. There is a global time schedule: 2 hours of deliberation; 6 hours of instruction (delivering information relevant for the case problem); 13 hours of execution (self-directed work by students); and 6 hours of practical instruction and exercise. Students work in small teams (6-8 students). There is a project per semester, divided into a number of blocks. At the end of a project a presentation is given to fellow students, but sometimes also to companies or parents.

The case are presented to the students in a series of 'block books'. The series is constructed from simple to more complex assignments, but they are all complete projects (building assignments). Apart from the building technical work there are other aspects to be taken into account, for example environment and work conditions.

In block book 0, problem-based learning is introduced to the student and the most important competences are described. It is emphasised that a report must be given of the

group process and that the execution of the project is considered as a role play, in which roles in the real building team are simulated.

For assignments in the field of building design, students are given a list of specifications. They then have to design, draw and specify the solution. The evaluation criteria are realistic: it must be possible to actually build the design. In assignments in the field of execution students are given materials and drawings. By choosing their own methods they can make it their own project. The block books for the first year deal with a garden house. Apart from the, relatively simple, building technical requirements, students also have to take other aspects into account, for example public planning and building regulations. Alternatively, they have to design a bridge master's house, taking into account building technical issues, but also water resistance and management issues.

#### *Didactic methods*

The learning plan distinguishes a large number of didactic models and methods: lecture and lesson; teaching-learning conversation; cooperation in a group; role playing; practice and exercise; task; excursion; computer supported education; self study; execution tasks. Execution tasks, part of the case, integrate different school subjects. In a real building problem, several disciplines are necessary (i.e. building technology, building administration, drawing etc.). Also several learning activities (including the seven step jump) and types of task are distinguished, based on the Maastricht model.

Much attention is given to the structure of assignments – preparation, planning, approach, execution the assignment, control of product and process – and also to the degree of structure (which diminishes in the course of the semester).

Learning how to learn is a central point of attention. In the recommended didactic methods the development of a systematic way of working is by using the *Leittext*-method. In this way the ascending degree of difficulty of learning subjects is made manageable for the

student. If, for a specific problem, there is more than one acceptable solution or technical approach the student is made aware, during the orientation phase, of the existence of the technical possibilities. For example, in building a house there are four basic techniques: hard skeleton; piling up bricks; concrete elements; and concrete foundation. One method is chosen based on the list of specifications and requirements as specified in the assignment. This implies arguing why this method (and not another one) is chosen and elaborating how the method works in this case. In principle, all methods should be used across the whole class. Students acquire in-depth knowledge of one method, but are aware of the other possibilities and have developed a systematic way of dealing with the other methods when, in later practice, they come to use this method. In this way students develop the learning competence required to acquire other methods in occupational practice, when necessary.

It is emphasised that this kind of learning and teaching makes heavy demands on the design of the classroom and the learning material, and on teaching and coaching styles. Students work on their assignments in small groups, so a spatial structure must be adapted to make this possible. The traditional image of a class changes and becomes much more varied and noisy. Students work on different projects and not every group works at the same speed or in the same order. So the teacher has no detailed understanding about the exact topic or progress of each group. He can be faced with divergent questions about objectives, information needed, problems and bottlenecks. Although he is not supposed to solve the problem, but rather help students by pointing them in the right direction, stimulate thinking and reflection or suggest information sources, this does imply a great need of active knowledge. And he has to learn how to give strategic support, rather than giving the 'right' answer.

#### *Communicative aspects*

In problem-based education, much attention is given to communicative aspects as orientation. This involves: group responsibility; re-

acting with others; organising cooperation; taking decisions; facing and analysing problems; solving conflicts; result-oriented work; and splitting up of a group. The group process is explicitly made the object of reflection and learning. An observation form is designed, which students can use to report on the group process. A list of criteria has also been developed to evaluate and judge the group processes. Students can have different group roles, with every student being chairmen or group secretary a number of times. Recently the role of observer has been added to the curriculum: a student has to observe the group processes and report about them, using the observation form.

#### **2.3.4 Learn work tasks in 'Schwarze Pumpe' (Germany)**

In Germany, the model projects (*Modellversuche*) approach has produced a number of new didactic approaches aimed at action competences (*Handlungskompetenz*). So there are new ways of promoting learning on the job (*Lernen am Arbeitsplatz*) and action-oriented educational design (*handlungsorientiertes didaktisches Modell*). There are several examples of this, mostly focusing on problem- or project-centred curriculum designs (Dehnboitel and Walter-Lezius 1995).

A fine example is the pilot scheme 'Schwarze Pumpe' [black pump] (Heidegger 1997). This project aims to give students in vocational education a double qualification, that is both oriented towards skilled employment and provides access to higher education. It can be considered as an attempt to find effective responses to challenges resulting from the changing needs and culture of working life and industrial work. It also looks to respond to the differentiated modernisation processes of the VET system by striving for integration of vocational and general education, enrichment of vocational learning and integration of work and technology. The course is designed to promote action- and shaping-oriented learning (Höpfner 1995). Heidegger (1997) stresses that:

'Integration of general and vocational education does not mean an enrichment of voca-

tional education by making it more like general education. On the contrary the objectives of general education are pursued in the vocational learning process itself. This implies improvement of vocational learning by developing a central, didactic principle for the integration of numerous competences (relating to the subject, methods, learning and social skills) through real work tasks/processes.'

The distinctive feature of this pilot scheme is the introduction and elaboration of the concept of 'integrating learning and work tasks' (*integrierende Lern- und Arbeitsaufgaben*). These include both occupation-specific and more generic competences, contributing to the development of knowledge and skills which enable shaping-activities and support an integration of school and company and cooperation of teachers and trainers (*Lehrer und Ausbilder*)' (Höpfner 1995). The aim is to bridge the gap between 'learning by working' and 'learning by theoretical understanding' by using integrated methods of learning itself: the competences needed for work-processes have to become subject to theoretical understanding and both scientific theories and communicative and organisational competences must be used in the work process in which learning is organised. Therefore the curriculum consists of 'integrated learn- and working tasks' which offer a wide demand of 'open' solutions the students have to find even such which seem to be 'off-standard' (as a result of individual *Gestaltung* [shaping]). By using this kind of task, methods of self-directed learning are promoted. One central curricular idea is that general knowledge and skills should be generated from solving occupationally relevant problems and assignments: complex and rather open-ended tasks with no set routes to follow, thus providing opportunities for exemplary, integrated learning. The aim of the scheme is to promote or shape the trainee's capacity for competent and self-determined action.

'The concepts in the didactic thinking are signified by the German terms *Gestaltung* and *Mündigkeit*; neither of which are easily translated to English. *Gestaltung* refers to the process of shaping and *Mündigkeit* to moral authority or self-actualisation. *Gestaltung* is

conceived as a dialectic process between freedom and predetermination, between planned and ad-hoc/situated actions, between conscious and spontaneous actions in which plans, emotions and creativity are involved. Human activity is moulded by reason and emotions and guided by values. In this dialectic paradigm the duality of reason and emotion is transcended.' (Heidegger 1997)

The training takes place both in an enterprise and at the secondary vocational school (*Fachoberschule*). By using integrated tasks the two learning arenas can supplement and enrich each other.

What students and teachers or trainers have to learn/to teach is prescribed; the way (how) to do this, and by what means, is an open choice and decision, taking into account the range of individual possibilities of learning and creating conditions of learning by groups of pupils, etc. Although students are not free in choosing their subjects, they are free to choose the organisational framework of learning and working: they are given the tasks and have to find the solutions within a defined time. They have to make use of those methods which are demanded by the task, including making use of knowledge beyond their immediate experience, so they work with textbooks, using the facilities of the enterprise/the school including computers, libraries. A full integrated assignment ends with a media-supported presentation of the result, including the problem-solving process. Teachers or trainers provide information on request, directly or by offering a 'classroom session' to give concentrated support. Roles both of students and teachers/trainers change. The latter have to spend more time in preparing the integrated learning and work tasks, but less while the students are learning and working, as students are controlling the kind and amount of the demanded 'input' teachers/trainers are asked to give.

Not all teachers are happy with this. They seem to think that in order to accomplish more general, cognitive goals, teaching is necessary, even while acknowledging that practical projects are probably a better way to prepare for work. Apprentices have a need for, and are

interested in, successful teaching. They judge mostly both 'project' or 'teacher centred' intervention to be a success. Some of the teachers and trainers are sceptical. They doubt, that such successes support performance in the final examination. They talk about the need for a 'healthy mixture', meaning that 'teacher centred' teaching has to play an important role to ensure that the aims and the syllabus will be met. They still believe that only this kind of teaching can ensure an assessable 'success'.

The apprentices prefer the company learning location and favour successful projects rather than teacher-centred teaching. Some teachers and trainers limit the success of learning and working tasks to a certain class of aims. In that sense, 'project work' can only be successful in relation to 'independence', and 'team and communication abilities'. The actual, mainly cognitive, aims of teaching still require teacher-centred teaching. This indicates a split of educational aims that should be pursued together with the following attribution to the different approaches: you need 'teacher-centred' teaching for the qualification aims, and 'project' teaching for the key qualifications.

Heidegger (1997) emphasises that this is counter-productive, that a 'division of labour' between approaches destroys the educational standards of both teaching methods. This is also indicated by suggesting that it is the job of the school to prepare for cognitive testing and the company to prepare for work (and testing of the vocational demands as established by the Industrial Chamber of Commerce (IHK). In that sense, in the actual project, some learning and working tasks have been carried out, without integrative character. This, according to Heidegger, is probably the reason that some apprentices had bad experiences with 'action orientated instruction' (*handlungsorientierter Unterricht*). The occasional criteria of school projects seem to show a complementary relationship between the reports of teachers and apprentices. On the one hand, apprentices are complaining about chaos during work and the fact that no one really knows what to do. On the other hand, the teachers expected more independence, energy and ideas from the apprentices.

Heidegger (1997) also identifies another typical problem for innovative didactic designs (cf. Klarus 1998). The application of methods of self-directed learning which are stimulated by open, both scientifically and vocationally described problems of working and learning raises problems with regard to evaluation and examination.

"The effects of learning something non-standardised cannot exactly be seen either in the results or in the behaviour of the student. So they have to be asked about their processes of learning and their work-experiences. This must be part of the evaluation. In advance ILWT are designed according to the extent to which they possess the potential for shaping and how realistic – related to the existing capabilities of the students – it could be to expect the students to be able to find rational solutions. Afterwards not only the results but also the experiences both of the students and the teachers are subject to the research process. In addition by analysing the content of the students and teachers answers and comments on their reflections upon what has happened during learning and working, this will indicate some of the differences between conventional training and learning and the effects of the new methods which include a higher level of reflection because this is itself an important aim of "Bildung" (Heidegger 1997)

A very important point is the need for congruency between teaching and testing. In *Schwarze Pumpe* – and many other educational innovations (Onstenk et al. 1999; Klarus 1998) – lack of congruency prohibits fully integrated learning processes. Only an integrated assessment based on the work done in both educational routes would give an acceptable basis for testing.

"That would give the apprentices the opportunity to prove their abilities, and show that they have gained by solving learning and working tasks. As long as these are considered not relevant for testing, the conflict stays, that forces teachers and students to a schizophrenic interpretation of the results of the model project. You learn quite a lot, but nothing of relevance examination. Testing is not only for the control of the learners, but also

for the teachers. If the testing conditions are not extended by the specifications of the model project, learners as well as teachers have to stick to conventional measurements of success.' (Heidegger 1997)

The German pilot project demonstrates that different ways of learning can only take effect if the examination tests are relevant for the new contents and methods. On the one hand all authorities have to agree to this and, on the other hand, teachers of general and vocational education need new, different qualifications, i.e. they need integrated qualifications too.

The progress of the model project is able, from its logic, to clear up the described misunderstandings about construction and implementation of learning and working tasks. But it is not able to clear up the deeper problem of devising an acceptable assessment regime that supports an holistic approach to learning. This depends on changes on a broader level and a redefinition of vocational educational objectives.

### **2.3.5 Learning-acting in a simulated company (Germany)**

Another German example is to be found in the work of Achtenhagen (1999). An educational environment is designed, taking into account principles for teaching-learning arrangements which should promote learning-acting (*Lernhandeln*). It provides the opportunity for learners to experience relatively complex facts and problems which can be related to 'reality'. Teaching should explicitly take into account both prior and everyday knowledge and the interests of students. It starts with a complex goal and content structure which can serve as advance organiser. Teaching concentrates on the introduction and extension of terms and concepts together with their intention. Here, the decisive point for successful decontextualization is given. The teaching-learning processes fosters a clear and distinctive action and activity orientation. Knowledge should be gained by solving meaningful problems.

Achtenhagen stresses that for the development of adequate mental models, learning

tasks must be accessible and open to the experience of students. A possible conflict between casuistic and systematic procedures has to be balanced by using a combined systems- and action-oriented perspective. Instruction should also foster a metacognitive perspective: by 'learning about the models used' the conditions, necessities and restrictions of the arrangements and environments should be thematized and reflected. Teaching and learning should be related continuously over longer sequences to concrete, realistic tasks and problems which have to be selected or constructed with regard to the needs of goals and contents to be taught and learned.

An introductory period for an industrial clerk apprenticeship (*Industriekaufmann*) in the sectors of business and commerce was designed as a complex teaching-learning arrangement by modelling a virtual enterprise, based on a real enterprise and represented on a CD-ROM. The curricular goals and contents were an introduction into an enterprise as complex economic and social system. The unit should provide knowledge – declarative as well as strategic – that could be used within the following three years of apprenticeship in the commercial part-time school (1-2 days per week) as well as in the individual enterprises of the apprentices (3-4 days per week). The educational goal was to support the learning processes of the apprentices in such a way that they reached a better understanding of the teaching-learning processes in the *Berufsschule* [part-time vocational school] and that they acquired categories which enable them later to identify similarities and differences with regard to the work processes in their individual learning firm – which, of course, are different to those communicated by the virtual enterprise as experienced in school. By this procedure, apprentices have the opportunity to critically analyse their work processes, but also to scrutinise the topics taught in school.

The construction of the virtual enterprise and the corresponding teaching-learning processes take into account several questions. The first question deals with the structure of knowledge to be taught and learned. In answering this, a systems-approach of business

theory was used, focussing on business processes. Within this context declarative, but also strategic, knowledge could be defined. The second question deals with individual learning conditions and prior knowledge of the apprentices. In the field of business and commerce, apprentices of very different ages and prior schooling (e. g. 9 years or 13 years with *Abitur* [higher education entrance qualification]) are frequently placed in one classroom. This diminishes the learning chances of those apprentices with lower academic schooling as, according to Achtenhagen (1999), traditionally teachers will run their instruction according to the progress of the 'upper' part of their classrooms. As a result, apprentices with lower school socialisation have less chance of fully exploiting school instruction, or of acquiring terms and concepts for better understanding of work processes in their firms. Therefore, the project runs according to a mastery learning approach by trying to bring all apprentices to a 85% mastery level by an eight week period of introductory instruction, in order to provide a basis for the concluding teaching and learning processes.

A third question deals with selection and structure of goals and contents. All situations and information on the CD-ROM followed the principles of action-orientation and learn-acting; they were organized according to a systems-approach of business theory focussing on a process perspective and a client-orientation. The virtual enterprise and the corresponding material were developed according to criteria out of the German didactic discussion, but also using US-American approaches. Narrative episodes were constructed with the stimuli for the exploration tasks and the solutions, but also provided information sources via aerial views of the whole (real) enterprise, an organisational chart, video clips demonstrating production processes, interviews with clerks and workers, and computer screens with relevant information (e.g. goods in stock).

All these scenes were filmed within the real enterprise. The apprentices had to collect all necessary information for solving the exploration tasks – though no linear solution was possible. The CD-ROM contains more infor-

mation as necessary for the solution of the two main exploration tasks. It can also be used, therefore, in later phases of instruction. The learning time was free: in the classroom, at home and in the firm. Apprentices who solved the tasks earlier than their classmates got additional tasks (also represented by other media). All apprentices had to bring their solutions of the different tasks to the next lessons where they could be evaluated.

A last, main problem is how to enlarge the complexity of the tasks in a controlled way. The sequence starts with an exploration task. A client asks, 'When can you deliver?' After the solution the apprentices are given additional tasks. Then they have to solve a second exploration task: four weeks after the first call, the client says that the promised delivery did not arrive. The apprentices have to go through the whole system – a total quality management procedure – to check the steps of production and delivery. This corresponds to the rules set by the real enterprise. After that a third exploration task is given: the apprentices have to solve the tasks first given in the CD-ROM in their real enterprises. That means: going through the enterprise, following its network structure, interviewing the employees involved, evaluating the solution and then presenting it to the school class. The acceptance of this procedure is very high: the firm instructors come to the school to attend the presentation of their firm in the vocational classroom. Here, we can find observations on the differences between the proceedings used in the virtual enterprises and the business processes in the real enterprises.

### **3. Redesigning VET: prospects, problems and policies**

Curriculum content and didactic methods in vocational education have been challenged on several levels. There are new insights in learning and instruction. Students ask for differentiated approaches with regard to backgrounds, characteristics, interests and learning styles. Societal developments make new demands on (future) citizens (Onderwijsraad 1998). Content and design in vocational education are also challenged, more directly than

general basic, secondary or higher education, by developments in organisations and occupations. Practitioners must be able to select and interpret knowledge and information. They must be able to solve problems, to plan and cooperate. In short: they need broad professional competence.

There seems to be some synergy between these demands. Didactic and learning theoretical insights, as well as motivational and learning styles of students and new demands on the job, all seem to ask for didactic approaches, characterised by an emphasis on self-directed learning, development of problem solving competences, tailor made education and individual coaching and guidance, rather than frontal teaching in a class room or simple 'watch and copy' in a work place learning situation. This synergy gives an important push to innovations in the educational process and has led to, sometimes drastic, changes. In many European countries, schools and companies are experimenting with new models and objectives. Europe, or at least the countries presented in this chapter, demonstrates a whole array of innovative actions in vocational and continuing education. Some are successful, some not; some interesting and deep, others slow or superficial. Countries differ in the amount of steering and stimulation given by the government or social partners. In Germany there are guided and supported innovation programmes, whereas in The Netherlands (and most other countries) educational innovation is not centrally steered or planned, with the exception of defining new targets and stimulating the use of ICT.

### **3.1 Broad professional competence**

Vocational education should give students a better preparation for working life and life-long learning. In order to reach that objective, qualification structures, educational targets and new educational practices like problem-based learning must be made more convergent, rather than the current state of tension or even contradiction.

It should be emphasised that new jobs and labour markets ask for a broadly conceptualised set of competences, to enable workers to

find work and to perform adequately in different and changing work situations. The substantive component of skill remains essential, even more so in a flexible and insecure labour market. But it will have to include the will and ability to expand and develop competences, including the development of new competences and possibly the abandonment of old ones. Workers are supposed to take responsibility for their social work unit, be it team, company or professional group and to contribute to the optimisation and change of the work process. This in itself opens up powerful opportunities for learning. But it also demands a broad professional base to build on.

To cater for this, vocational and continuing education should strive for contextualised general skills, learning competences and more specific occupational competences, as specified in holistic and broad occupational profiles. These determine the first layer of educational objectives, which should be further enlarged and elaborated in terms of personal development, learning competences for further education and training and citizenship competences.

Most forms of vocational education and training include a larger or smaller element of training that does not take place in the classroom, but in a practical setting or a practice-replacing setting. Empirical research into learning processes in practical learning stages in Dutch secondary vocational education (Onstenk 1997b) shows a rich bundle of learning effects that can be achieved in practical training and learning. Practical learning periods can contribute to learning how to deal with the core problems of the occupation and the acquisition of (elements of) broad professional skill, like planning, co-operation and working in a team (cf. Dehnbostel and Dybowski, 2000). Alongside the characteristics of the job in terms of content and work environment, the role of coaches and mentors, both in the company and the school, are very important.

Transfer can be stimulated through close connection between occupational practice and training in and out of school and by concen-



trating on instruction and training of developing transfer skills, reflectivity etc. Development of concepts and procedural knowledge should place a strong accent on the vocational curriculum. At the same time, this curriculum should be structured according to the logic of occupational practice rather than the logic of school subjects or disciplinary knowledge. This does not mean, however, a blind adaptation to actual existing practices. Students should be made aware of contradictions, alternative developments and possible choices. They must learn to handle them, act in uncertain situations and, in this way, be able to contribute to the further development of the profession.

### 3.2 Dilemmas in didactic innovation

New educational forms also have to make specific choices with respect to learning. These choices must be based both on objectives with regard to learning (i.e. learning to learn in different ways and situations) and on a concept of an effective learning environment and an evaluation of different aspects and possibilities for learning (educational, didactic, psychological, sociological): how do students learn and what is the most effective form of learning; what is expected of practitioners and how can students be best prepared for that; how can the educational process be organised to make flexibility and tailor-made instruction possible?

In making these choices dilemmas occur and trade-offs have to be made (Collins 1996). A few of these can be identified here.

A first dilemma is posed by the question of whether emphasis is to be placed on the acquisition of learning skills versus an emphasis on content. When discussing employability, lifelong learning or core skills it is tempting to stress the acquisition of general learning – and study skills. These skills seem to have a life time value, whereas specific skills sometimes are already considered to be outdated the day they are taught. At the same time it is suggested by learning theory that content is essential for learning. Even apart from the value of specific skills for doing the job, learning skills are developed best while

learning specific, interesting and relevant subject matter.

A second dilemma deals with the role of the teacher: should he be an expert or rather act as coach? This dilemma is closely connected to the first: if learning skills are emphasised, the teacher disappears as a source of knowledge and as an expert. Teachers are mainly called for their pedagogical and didactic qualities (sometimes emphasising the need to fade!) and for their skills in coaching students in self-directed learning. This tends to ignore the important role of a teacher or (in apprenticeships and practical learning periods) a coach or work instructor as a source of knowledge, but even more importantly as a model and a guide to the community of practice.

A third dilemma faces the choice between broad (and much) content versus deep (and selective) content. From the perspective of occupational preparation, there is a temptation to put as many aspects as possible in a curriculum. Students have then acquired at least some knowledge of everything. This seems, however, not very realistic, looking at the growing amount of required knowledge and skills and of the speed of change in required knowledge. But 'going deep' is a better option also from a learning theoretical perspective. Deep knowledge of specific themes (instead of superficial knowledge of many subjects) should in that case be combined with acquisition of transfer skills.

A fourth dilemma juxtaposes thematic structured content with logical and analytical structured content. There seems to be, in school-based vocational education, a clear shift from a subject based approach (logical-analytical) towards a more thematic or problem-based approach. From the learning theoretical viewpoint this shift is understandable and beneficial: themes open up a better entrance to the integrated and complex reality of vocational practice. The danger of a strict emphasis on a thematic approach is a tendency to strong pragmatic and solution-oriented knowledge and skills, acquisition of underpinning knowledge, but also reflection and deep understanding of processes, can be threatened.

A final dilemma has to do with the definition of the student as a starting practitioner as opposed to defining the student as a student. Working with real occupational problems, cases or projects in a small group of co-operating students can be promoted with a reference to occupational practice. Learning in school is organised as much as possible to resemble vocational practice. This can lead to a neglect of the needs of students, both with regard to their needs as learners and as human beings and future citizens (lack of developmental value and citizen-competences). And not all vocational practice is characterised by a team or project-based work structure. Some (technical) occupations can be much more adequately analysed this way than others. For example, in nursing jobs the focus is much more on a daily cycle of returning activities, which quite regularly are disturbed by 'incidents', caused by the unpredictability of patients or the contingencies of the organisation.

These dilemmas could be seen as perennial dilemmas of teaching and training. It is not possible to make a 'good' choice for all times and situations. Dilemmas are inherent to learning processes, in principle always present and in that sense not solvable. Simons (1998a) speaks of the core problems of teaching. A good new approach would take this kind of dilemma into account.

### **3.3 Policy Objective: competence development by didactic innovation**

Many companies and colleges across a number of countries are experimenting with self-directed learning, problem-based learning and/or open learning, sometimes in combination. Although many approaches are still at the experimental stage, some have already become working models. Schools and companies are looking for ways to build into the curriculum new insights with regard to didactics and with regard to required vocational competences. Two focal points can be distinguished. The first is an accentuation of (learning to) learn and study: the development of the self-directed student. The second is an accentuation of learning how to solve problems: competence development of the self-directed professional.

With regard to the first objective, there are numerous activities, sometimes based on or accompanied by scientific research and concept building, dealing with learning styles and the development of learning skills. With regard to the second objective, attention is paid to establishing attainment norms, based on occupational profiles, and to the design of educational settings for competence-oriented problem-based learning. These are not contradictory objectives – on the contrary. They are, however, also not identical, and ask for specific didactic strategies. Many projects and experiments in vocational education are limited because they centre on one of these objectives, often while stating both. But in order to reach both, vocational education needs an integration and interaction between the development of the self-directed student learner and the development of the competent and self-directed learning and working practitioner and flexible problem solver.

I have made a rough distinction in vocational educational innovations in school between self-directed and problem-based learning. In all new educational forms the student gets a more active role and the role of the teacher becomes more that of a coach of learning processes. But there are big differences in the accentuation, for example, with regard to the question of what a student is supposed to do and how he is supported in that. Also, they differ with respect to the objectives for life-long learning. Self-directed learning emphasises the acquisition of learning skills and learning motivations which are expected to contribute to learning later in life. However, in many cases this is restricted to learning in formal educational settings (Simons 1998b). Problem-based learning contributes to competence development by focusing on learning how to solve occupational relevant problems in realistic settings.

Open learning is often mentioned as a third major theme of innovative vocational education. Open learning focuses on the creation of new learning offers and environments, and on the skills required to take advantage of these new possibilities. Since such an offer is available later on this approach can be expected to contribute to lifelong learning. Open learning

is stimulated by the growing possibilities offered by ICTs. ICTs, indeed, can be used to support both strands, but can also reinforce more traditional forms of education (Simons 1998a). Both in the Netherlands and across Europe, much emphasis is placed on the introduction of new technology in vocational education. Although ICTs and didactic innovation are often linked together, it could be argued (Euler 1994; Collins 1996; Onstenk and Meijer 1998) that much ICTs reinforces instruction-driven education, mostly in order to promote more flexible forms of delivery, rather than self-directed or problem-based learning. This is not to deny that ICTs can be a very powerful tool to promote self-directed learning or to support students in competence development and in learning to cope with occupational core problems. But a clear concept of self-directed and problem-based learning environments is a precondition for effective use of these tools.

It must also not be forgotten that, in most countries, many vocational schools or training companies still use a traditional approach, based on instruction and straight forward knowledge transmission. For the Netherlands, the Education Inspectorate (Onderwijsinspectie 1998) concludes that educational practice in most cases is still mainly traditional, despite the interest of teachers in more varied didactic forms. The task of responding to all new content and didactic demands is still a heavy load for many teachers. In daily school practice there is a huge gap between what society would like to see as didactic innovation and what seems to be possible in the actual class room. There are no indications that this situation is very different in other countries (see, for example: Kämäräinen and Streumer 1998; Brown 1998).

By way of conclusion some recommendations could be formulated.

Vocational education should give students a better preparation for working life and life-long learning. In order to reach that objective, qualification structures, educational targets and new educational practices like problem-based learning must be made more convergent, rather than the current state of tension or even contradiction.

Vocational and continuing education should strive for contextualised general skills, learning competences and more specific occupational core competences, as specified in holistic and broad occupational profiles. These determine the first layer of educational objectives, which should be further enlarged and elaborated in terms of personal development, learning competences for further education and training and citizenship competences.

Discussions on standards for performance and possible development paths taking into account societal and environmental norms and values, should be an integral part of an analysis of competences, and also be included in the objectives and design of vocational education. Students should be made aware of contradictions, alternative developments and possible choices. They must learn to handle them, act in uncertain situations and, in this way, be able to contribute to the further development of the profession. Vocational education can have a pro-active role and support innovative work practices.

Development of innovative didactic processes and quality improvement of VET should be a priority in VET policies. Innovative competence-based education asks not only for a detailed and rich analysis of competences, but also for design of a strong competence-oriented learning environment. A specific challenge is the inclusion in school-based VET of designs to foster the learning of how to act in complex job situations and solve problems into actual work settings. New designs for problem-based learning should be developed, tried out and disseminated.

In most European countries attempts have been made to reduce the barriers between schools and work as learning sites. Innovation in VET should focus on the inclusion of work-based learning by establishing quality criteria for work based learning places and by designing curricula which integrate learning places.

Programmes and instruments for accreditation of prior learning have been developed in several countries. Interestingly enough, the

development of new ways of evaluating competences in vocational education has itself lagged behind. Traditional ways of testing knowledge (ie. by multiple choice or paper and pencil test) are often still dominant. This theme needs specific attention as it is an essential precondition for an effective introduction of competence-based education.

If the emphasis on the role of knowledge and competence in maintaining the competitiveness of Europe is correct, innovation in the content and didactics of vocational education and training has to be an important element of the European agenda, if we seriously wish to meet this challenge. Designing and promoting new forms of self-directed and problem-based learning, focusing on how to solve occupation-relevant problems, in order to promote competence development of (future) workers seems to be a major challenge for the coming years.

#### **4. Summary and policy recommendations**

The paper discusses the need, and prospects, for curricular re-design of vocational education and training as an answer to changes in job profiles and skill requirements. It has two main parts. The first part deals with new skills needs, developments in the labour market and the responsiveness of the vocational educational system. Two main strands can be distinguished: a general or core skills approach (including emphasis on learning skills) and a broad occupational competence or key competences approach.

The second part deals with new curriculum design. It focuses on the question of whether, and how, these new requirements are met by re-design of initial training and by developing new forms of continuing training and learning at the workplace, in schools or in combination. Here also two main focal points are distinguished. Firstly, innovations which accentuate (learning to) learn and study: the development of the self-directed student. Secondly, innovations which focus on learning how to solve occupationally relevant problems and how to work effectively in changing or-

ganisations: the development of the self-directed professional.

#### **4.1 Conclusions**

There is a growing conviction in Europe that (vocational) education should give students the basic equipment to cater on the one hand for the growing demands for competences while, on the other hand, enabling workers to obtain a firmer grasp of their opportunities for personal enrichment. Vocational education is increasingly regarded as the beginning of a vocational learning career, rather than as the summit of skill acquisition. During working life, workers will have to attend further training and change jobs on a number of occasions. New jobs and labour markets ask for a broadly conceptualised set of competences, to enable workers to find work and to perform adequately in different and changing work situations. The broad but occupational specific problem-solving component of skill remains essential, even more so in a flexible and insecure labour market. But it will have to include the will and ability to expand and develop competences, including the development of new competences and possibly the abandonment of old ones. Workers are supposed to take responsibility for their social work unit, be it team, company or professional group and to contribute to the optimisation and change of the work process. This in itself potentially opens up powerful opportunities for learning. But it also demands a broad professional base to build on. The broadening of occupational requirements (problems to be solved) should lead to a multi-dimensional analysis of skills needed in the work place. These are not restricted to the level of 'technical' job-specific skills.

There seems to be agreement that vocational education must offer a broad base including technical, methodical, organisational, and communicative as well as learning skills. How this objective is to be reached is less certain, and there are different answers. Different European models are distinguished according to how they ensure the responsiveness of vocational education and training systems to changes in occupations and the labour market. Many approaches and definitions can be

found with regard to defining new concepts of skill, including more complex and information skills, organisational skills and social-communicative skills. Two main strands can be distinguished: a general or core skills approach (including emphasis on learning skills) and a broad occupational competence or key competences approach. The second approach seems more consequential, as it touches the heart of vocational education and asks for reconsideration of both concepts and practices in VET. The first approach, by contrast, could be (and in many cases is) limited to an addition to VET-objectives.

The second approach seems to get more attention as there is a growing recognition of the competences workers need in order to act adequately and solve occupational problems. A central theme in this discussion is how to analyse and represent occupational problems. One promising way of dealing with this is the identification of core problems as a way of both identifying essential aspects of broad occupational competence and key qualifications, and of designing methods to deal with this in vocational education. Core problems, then, are problems and dilemmas which are of central importance for occupational performance. Core problems occur regularly as part of occupational practice – they are characteristic for the profession. Core problems refer to occupational situations in which complex problems are solved, and in which the specific characteristics of the situation, and the social context, are of central importance.

Didactic and learning theoretical insights, as well as motivational and learning styles of students and new demands on the job, all seem to ask for didactic approaches, characterised by an emphasis on self-directed learning, development of problem solving competences, tailor-made education and individual coaching and guidance, rather than frontal teaching in a class room or simple ‘watch and copy’ in a work place learning situation.

In many schools – and also in other educational settings inside or outside of companies – a traditional approach still dominates, based on instruction and straightforward knowledge transmission. In daily educational and train-

ing practice, there is often a huge gap between what is promoted as didactic innovation and what seems to be possible in the actual class room.

Nevertheless, many companies and colleges in numerous countries are involved in experimenting with self-directed learning, problem-based learning and/or open learning, sometimes in combination. Although many approaches are still at the experimental stage, some have already become working models. Schools and companies are looking for ways to build into the curriculum new insights with regard to didactics and with regard to needed vocational competences. Two focal points can be distinguished. Firstly an accentuation of (learning to) learn and study: the development of the self-directed student. Secondly an accentuation of learning how to solve problems: the development of the self-directed professional. With regard to the first objective, there are many activities, sometimes based on or accompanied by scientific research and concept building, dealing with learning styles and the development of learning skills. With regard to the second objective, attention is paid to the development of attainment norms, based on occupational profiles, and to designing educational settings for problem-based and project-based learning. These are not contradictory objectives – on the contrary. They are, however, also not identical, and ask for specific didactic strategies. Many projects and experiments in vocational education are limited because they centre on one of these objectives, often while stating both. But in order to reach both vocational education needs an integration and interaction between the development of the self-directed student learner and the development of the self-directed learning and working practitioner and flexible problem solver.

If the emphasis on the role of knowledge and competence in maintaining the competitiveness of Europe is correct, innovation in the content and didactics of vocational education and training has to be an important element of the European agenda, if we seriously wish chance to meet this challenge. Designing and promoting new forms of self-directed and problem-based learning, focusing on how to

solve occupation-relevant problems, in order to promote competence development of (future) workers seems to be a major challenge for the coming years.

#### **4.2 Recommendations**

Vocational education should give students a better preparation for working life and lifelong learning. In order to reach that objective qualification structures, educational targets and new educational practices like problem-based learning must be made more convergent, rather than the current state of tension or even contradiction.

Vocational and continuing education should strive for contextualised general skills, learning competences and more specific occupational core competences, as specified in holistic and broad occupational profiles. These determine the first layer of educational objectives, which should be further enlarged and elaborated in terms of personal development, learning competences for further education and training and citizenship competences.

Discussion of standards for performance and possible development paths, taking into account societal and environmental norms and values, should be an integral part of an analysis of competences, and also be included in the objectives and design of vocational education. Students should be made aware of contradictions, alternative developments and possible choices. They must learn to handle them, act in uncertain situations and, in this way, be able to contribute to the further

development of the profession. Vocational education can have a pro-active role and support innovative work practices.

Development of innovative didactic processes and quality improvement of VET should be a priority in VET policies. Innovative competence-based education does not only ask for a detailed and rich analysis of competences, but also for design of a strong competence-oriented learning environment. A specific challenge is the inclusion in school-based VET of designs to foster the learning of how to act in complex job situations and solve problems into actual work settings. New designs for problem-based learning should be developed, tried out and disseminated.

In most European countries attempts have been made to reduce the barriers between schools and work as learning sites. Innovation in VET should focus on the inclusion of work-based learning by establishing quality criteria for work based learning places and by designing curricula which integrate learning places.

Programmes and instruments for accreditation of prior learning have been developed in several countries. Interestingly enough, the development of new ways of evaluating competences in vocational education has itself lagged behind. Traditional ways of testing knowledge (ie. by multiple choice or paper and pencil test) are often still dominant. This theme needs specific attention as it is an essential precondition for an effective introduction of competence-based education.

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# Vocational training and innovative practices in the environmental sector

## A comparison of five EU Member States, with specimen cases

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**Roland Loos**

**Abstract**

*This report provides an overview of current developments in environment-related vocational education and training in Austria, Greece, Denmark, Sweden and Luxembourg. After an introductory chapter on general developments, the report focuses on two subject areas: VET initiatives and contents in solar and geothermal technologies; VET initiatives and contents for lower qualified younger unemployed people and other target groups on the labour market.*

*A number of case studies in these countries is presented and assessed. The report goes on with an analysis of qualification needs for skilled workers in the field of renewable energies generally and for solar and geothermal energy utilisation in particular. An assessment is made on what extent these innovative practices are transferable to other Member States.*

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## Introduction

For some years, environmental skills and competences have been steadily increasing in importance. New EU directives, more restrictive legislation in the Member States and the constantly growing environmental awareness of the general public have given rise to new fields of activity and new markets in the environmental protection and environmental technology sectors, and these will also continue to increase in importance in the future.

This trend also involves the creation of many new jobs, although some of these 'only' constitute a shift away from work involving products and services that are more harmful to the environment to more environmentally harmless products and services.

In the context of corporate and local authority environmental protection, various measures are being adopted in an effort to reduce energy consumption and to reduce the volumes of solid, fluid and gasiform pollutants. Appropriate separation of wastes is aimed at facilitating recycling of the greatest possible quantities. The aim is also to store and destroy residual wastes in an eco-friendly way. The reactive environmental protection previously practised has long been insufficient to cover these activities. Preventive environmental protection is becoming ever more important. This requires a deeper understanding of environmental correlations and greater specific environmental know-how.

In addition to the environmental protection technologies required for the fields mentioned, technologies for use of renewable energy sources in particular constitute new growth markets in the environmental sector. In order to more easily develop these new markets (e.g. the solar heating market, the wind energy market or the RME<sup>1</sup> market) involving environmentally harmless products and services, but also to comply with more restrictive legal constraints, new skills and competences

have become necessary in companies in many sectors.

Therefore it is of fundamental importance to integrate general environmental knowledge of environmental correlations and specific vocational skills into vocational training in the occupations concerned. But it has also become necessary to provide basic environmental knowledge in vocational training for most other occupations.

The first chapter of this report summarises and compares the current status of vocational environmental education and training in five Member States.

In addition to basic data on vocational environmental education and training in the countries selected for the study, the analysis focuses on two main subject areas:

1. vocational training initiatives and their content and market development in the field of the use of solar energy (active and passive) and the use of geothermal energy;
2. environmental education and training initiatives aimed at integrating low-skilled or unemployed young people and other problem groups into the labour market.

Of the renewable energy sources, the use of solar energy and geothermal energy represents fields in which training and continuing training of skilled workers have the greatest need for new training initiatives and content. Skills at skilled-worker level for other renewable energy sources either primarily form part of specific 'traditional' training courses (e.g. hydroelectric power, biomass)<sup>2</sup>, or currently have a greater need for training initiatives with less new content. The latter applies to wind energy, for example, but this would change in the event of greater market growth in the smaller wind generators which to date have been little used.

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<sup>1</sup> Rapeseed oil methyl ester diesel (biodiesel).

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<sup>2</sup> With regard to the use of biomass, it should be borne in mind that owing to technical innovations and new application concepts, skills requirements going beyond the traditional fields of forestry and the timber industry have come into being in this area also.

Skills involved in the use of geothermal energy are frequently imparted in courses aimed at providing training in solar technologies. For this reason, and because of the close link between the two fields in planning of an energy programme for private or industrial buildings, it is very important to include use of geothermal energy in the analysis.

A common structure is observed in describing the individual states, but particular account is taken of initiatives of specific importance to the relevant country. Important initiatives from the two main subject areas and other major measures in the field of vocational environmental education are shown in the context of a description of initial vocational training for skilled workers, continuing vocational training, and training at universities and institutions of higher education. In the sections on Austria, Denmark and Sweden, initiatives by the social partners are also mentioned, because in these countries the social partners play an important part in vocational environmental education and training.

The survey concentrates on initial and continuing training for skilled workers in particular, but account is also taken of the most important initiatives at all other levels of vocational training.

The country reports also take account of the most important legislative decisions on integrating environmental education into general and vocational education, since knowledge of global correlations in the environment can be regarded as a basic component of both general and vocational environmental skills. These decisions are shown at the beginning of the national reports. At the end of the national descriptions, there are brief details of the current situation as regards development of the market for use of renewable energy sources.

As regards the subject area 'training initiatives aimed at integrating low-skilled or unemployed young people into the labour market', Sweden is not covered in Chapter 1. However, in the context of the specimen cases in Chapter 2, there is a detailed description

of an innovative project in Sweden whose pilot phase recently ended.

In Chapter 2, following a brief discourse on the concept and meaning of innovations from the point of view of system theory and as regards vocational training, innovative training initiatives in the five states are described on the basis of representative specimen cases from four subject areas.

The two subject areas covered in Chapter 1 are again taken up and are analysed in more detail. In the analysis of solar energy use, the most important initiatives in Austria, Greece and Denmark at skilled-worker level are described. Since the training requirement in the sector is crucially determined by the market trend, in this context the current state of development of the solar technology market in the three countries is also described. A description is given of the most important initiatives in Denmark in the context of low-skilled young people. As already mentioned, the relevant section on Sweden does not claim to give a complete description of the most important initiatives all over the country.

The third subject area covered is sector-specific initiatives by the social partners in Austria and Sweden for implementation or improvement of environmental vocational training. The fourth subject area is innovative local continuing training initiatives in Luxembourg. This subject area has been included in this report primarily because Luxembourg offers no relevant examples of the other three subject areas.

All the specimen cases represent exemplary initiatives in the Member States. The cases exemplifying the first three subject areas also constitute models for other Member States. The two local initiatives in Luxembourg described in the context of the fourth subject area constitute significant innovations for this state, but in comparison with the other subject areas they are less important in terms of a possible transfer to other states.

Chapter 3 analyses the skills requirements for skilled workers in the field of use of renewable energy sources. It then discusses the

extent to which, if the examples of good practice described in Chapter 2 are transferred to other EU Member States, they can help to improve the training level in those states. It goes on to discuss the skills profiles required in order to integrate low-skilled young people into the labour market, by means of environmental vocational training. We then return to the Danish and Swedish examples of the integration of young people into the labour market discussed in Chapter 2 and assess their transferability to other Member States.

Chapter 4 assesses the extent of new employment and new jobs for skilled workers created by products and services in the environmental sector.

This paper is based on the results of the first phase of the current Cedefop project, '*Observation of innovations in vocational training*'. In this project, Cedefop supports the European Commission in the dissemination of innovations in vocational training, by analysing the potential for innovation in current vocational training approaches in the Member States and in transnational projects. In the course of this year, Cedefop will produce relevant research reports on four selected focal areas of vocational training, including environmental vocational training. The reports are intended to provide an overview of the current situation in vocational training in these areas, to assess innovative practice in the focal areas, and to produce recommendations for implementation of innovative vocational training measures, directed to political decision-makers at regional, national and Community levels.<sup>3</sup>

Within the framework of this Cedefop project, Oliver Kress (ÖIBF)<sup>4</sup> has produced national studies on Austria, Denmark and Luxembourg, Harriet Axelsson (Halmstadt University) has produced the Swedish national re-

port, and Theo Papatheodossiou (Greek Ministry of Education) has produced the Greek national report. The content of the present paper is based on these reports, on earlier reports obtained by Cedefop, and on further telephone research and research into the literature of my own. Eight more EU Member States are to be added to the study in the near future.

## **1. Current state of development of environmental vocational training in selected EU countries**

### **Greece**

In 1990 and 1991, laws were adopted making it possible for teachers to include vocational education in their lessons. Since then, the Ministry of Education has specifically promoted environmental education projects in Greek schools and the establishment of school networks for (inter)active involvement in environmental and environmental-protection issues (European Commission, 1997).

Environmental education in schools is not compulsory. Schools and teachers decide voluntarily whether they will incorporate this subject area into lessons. In order to support implementation of environmental education, the Ministry of Education has initiated a number of other measures. For example, it was decided to establish institutes of environmental education (KPEs), in which students can participate in environmental projects and teachers are given the opportunity to participate in further education in the form of specific environmental seminars. The KPEs constitute a connecting link between schools, local administrations and scientific training institutions. To date, the greatest progress with regard to implementing environmental education has been made in the first stage of secondary education. A number of curricula include ecology and environmental protection.

In the context of initial vocational training, basic information on solar technologies is conveyed in some vocational specialisms. How-

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<sup>3</sup> Loos, R., 1999. Cedefop INFO, 2/99. Identification and Dissemination of Innovation.

<sup>4</sup> Österreichisches Institut für Berufsbildungsforschung [Austrian Institute for Vocational Training Research].

ever, environmental vocational training focuses on waste treatment. As yet there is no specific course on renewable energy sources.<sup>5</sup>

Continuing vocational training is primarily provided by State-recognised continuing training institutes (KEKs). Environmental training offered includes courses on environmentally sustainable agriculture and landscape conservation, in the context of the national parks. Courses on renewable energy sources are also available, as are courses on environmental protection and waste management – engineering in the fields of industrial environmental management, monitoring of environmental pollution, and recycling. The most important subject areas in these courses are environmental protection and global environmental links, environmental legislation, recycling, and treatment of municipal and industrial wastes. Most of these courses are available only to the unemployed. Such courses are part-financed by the European Social Fund. The courses normally last for 300 hours and represent by far the greater part of the initiatives implemented by many KEKs (Papatheodossiou, 1999).

Training measures in the field of technologies for utilisation of renewable energy sources are also offered by Greece's Chamber of Engineering. The Centre for Renewable Energy Sources (KAPE) occasionally offers seminars and short courses providing basic information on alternative energy sources (solar heating, geothermal energy, wind energy).

In some training courses at specialised institutions of higher education (TEIs), skills are imparted in the field of utilisation of renewable energy sources. Skills in this field are taught at the Athens TEI, in the context of power engineering, for example, and at the Heraklion TEI under the heading of mechanical engineering.

Most environmental specialisms at university level are postgraduate courses. The University of Athens, for example, offers the two-year

postgraduate course 'European Environmental Management'. The University of the Aegean offers a degree course whose content includes ecosystems and waste management in a shipping context.

The University of Athens and other universities impart knowledge about utilisation of renewable energy sources in the context of vocational training specialisms in the area of energy technologies. The Technical University of Athens plans to set up, in cooperation with the First Viennese Solar School at the Viennese Institute of Vocational Advancement, an interdisciplinary further education facility for the utilisation of solar and geothermal energy, in accordance with the modular concept developed by the LdV project, 'European solar school'.<sup>6</sup>

As regards developing the renewable energies market, Greece leads the EU in terms of solar energy heating applications. A total of 22% of all Greek households currently have solar heating installations.<sup>7</sup> (Zervos, 1998.) The Greek wind energy sector is still relatively small. However, there is a considerable potential for developing this market, as Greece has one of the greatest wind energy potentials in Europe. In the case of the many Aegean islands in particular, which are not connected to the DEI national electricity network, the use of renewable energy sources often proves to be more cost-effective than conventional fossil fuel sources. The wind-driven generators currently in use are mainly hybrid systems, a combination of wind-driven generator and photovoltaics (Fissamber, 1996).

### Austria

In the mid-1970s, Austria began incorporating environmental education into the general school education system as an interdisciplinary subject. In 1981, it was incorporated into

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<sup>5</sup> Telephone interview with V. Fissamber, Athens/Thessaloniki, 17.8.1999.

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<sup>6</sup> Telephone interview with F. Roiz, Head of the First Viennese Solar School, Vienna/Thessaloniki, 16.8.1999.

<sup>7</sup> Telephone interview with A. Dimoudis, Centre for Renewable Energy Sources (KAPE), Athens/Thessaloniki, 16.8.1999.



the curricula of the polytechnic schools (one-year preparatory courses prior to initial vocational training). The environmental education fund established by the Ministry of Education in 1992 is responsible for supporting environmental projects carried out by schools throughout the country.

In 1984, the Ministry of Education set up the 'environmental education working party', which was commissioned to implement various environmental education campaigns (e.g. holding further education events focusing on the environment, and advising teachers) and to set up and coordinate an information network at national level (European Commission, 1997).

In 1998, this institution (now known as the 'environmental education forum') was mandated by the two competent ministries (the Ministries of the Environment and Education) to develop environmental training content for all apprentice training/traineeships ('gearing apprentice training/traineeships to the environment'). Another important project of the forum with a related subject is 'ecologising schools' (Kress, 1999).

In Austria, initial vocational training at skilled-worker level takes place in the 'dual system', in which, as in Germany, apprentices/trainees receive education in vocational schools as well as in-company training. This assures a uniform training level and ensures that important non-company-specific knowledge and skills are acquired. The training content of each training occupation is regulated by vocational trainers, who lay down uniform and compulsory national framework standards.

In 1997, following an initiative by the social partners, the Ministry for Economic Affairs began incorporating environmental skills into the job profiles of various training occupations in the metal and electrical sectors. The provision of general environmental knowledge and global environmental correlations is now a compulsory feature of training in all training occupations in these sectors. For four occupations, the provision of occupation-specific environmental content during training is also

a compulsory feature, both in vocational schools and in enterprises (Loos, 1996).

In addition to the integration of environmental skills into training occupations, between 1992 and 1997 the environmental training occupation 'recycling and disposal technician' was initiated in the field of initial vocational training, as a training experiment. In 1998, on the basis of this job profile (with additional specialisms in the fields of wastewater and wastes), two specific regular three-year training occupations were created, namely 'disposal and recycling specialist – wastes' and 'disposal and recycling specialist – wastewater'. As yet, however, their significance is relatively limited. In the context of the training experiment mentioned above, in 1996 only 30 trainees were trained in the whole of Austria (Kress, 1999).

Since the training occupation 'chemical worker' was created, many young people who previously chose<sup>8</sup> to remain as semi-skilled workers<sup>9</sup> are now training in this occupation. Young people are motivated to do this training mainly because chemical-worker training is less demanding than that of the other two training occupations in the chemicals sector. In addition to information about global environmental correlations, training for this training occupation involves acquiring extensive occupation-specific knowledge in the field of the environment and environmental protection. For many young people, learning this

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<sup>8</sup> Previously, young people who wanted to work in the chemicals sector but saw studying for one of the other two training occupations as too difficult could work only as semi-skilled workers. Training occupations in the chemicals and paper industries in Austria involve a high level of skills. This is essentially a positive feature, as high-quality training puts skilled workers in a stronger position on the labour market. The creation of the somewhat less sophisticated occupation of chemicals worker has now also provided a satisfactory training course in this sector for those less interested in learning and weaker trainees.

<sup>9</sup> In Austria, in response to a trade union initiative the discriminatory term 'Hilfsarbeiter' [unskilled or auxiliary worker] has largely been replaced by the term 'Angelernter' [semi-skilled worker].

occupation also means markedly changing their attitude to the working environment and the external environment (Loos, 1996).

The social partners' training institutions (BFIs<sup>10</sup> and WIFIs<sup>11</sup>) play a central and active part in continuing vocational training for skilled workers and those who have completed secondary vocational training courses. They initiate many innovative continuing training programmes in the field of environmental protection and environmental technology. The two main examples are the First Viennese Solar School at the BFI of Vienna and the WIFI's Environmental Protection Academy.

Since 1995, the First Viennese Solar School at the BFI of Vienna has offered a comprehensive continuing training programme in solar technology and geothermal energy. The target groups addressed by the training are skilled workers and graduates of higher technical training institutions, as well as interested parties in other occupations, such as architects. As an innovative continuing training institution for skilled workers in the field of solar technology and geothermal energy, in conjunction with initiatives in Germany it serves as a model for the whole of the EU. The teaching programme is primarily based on a good combination of theoretical and application-oriented knowledge in all areas of importance to solar technologies. Interdisciplinary training in this field takes the form of three course modules: *photovoltaics, solar heating and heat pumps*, together with optional modules. Training ends with a project paper and a commission-based final examination (Loos, 1997).

In addition to environmental and other continuing training activities, the BFI of Vienna is currently carrying out the LdV 'Synchro' project. This involves developing and testing training modules for authorised persons for hazardous goods. The modules are intended

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<sup>10</sup> Berufsförderungsinstitute (institutes of vocational advancement – continuing training institutes of the employee organisations).

<sup>11</sup> Wirtschaftsförderungsinstitute (institutes for the promotion of economic development – continuing training institutes of the employers' organisations).

to assure the first-ever uniform quality standard for this training in the EU and thus to fulfil the skills training criteria for this skilled worker in accordance with the EU directive on authorised persons for hazardous goods (Loos, 1998).

The WIFI's Environmental Protection Academy offers a three-year course in environmental protection. It is structured as follows: training to become an authorised person for wastes (first year), training to become a waste and recycling technician (second year), and training to be a specialist environmental-protection technician (third year).

An important continuing training centre in the field of ecological construction is the Vorarlberg International School of Solar Construction, which offers special continuing training courses for architects, master builders, construction engineers, planning departments, dealers in building materials, specialist teachers and energy consultants. Environmental and financial aspects of energy saving in construction are covered in their entirety and in terms of their specific application. The aim is for participants in the courses to be able to identify and assess relevant environmental and financial factors and to apply them in practice (Kress, 1999).

Within vocational training in secondary schools, some higher technical training institutions (HTLs) teach knowledge and skills in the field of environmental technologies, both in the area of renewable energy sources and relating to waste-treatment technologies and technology for monitoring emissions. The most important example is HTL Pinkafeld, where since 1998 a programme of training in solar technologies has been offered, designed partly on the basis of the First Viennese Solar School's modular structure.<sup>12</sup>

In the context of post-secondary vocational training, for some years there have been courses at specialised institutions of higher education with training content geared above

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<sup>12</sup> Telephone interview with F. Roiz, Head of the First Viennese Solar School, Vienna/Thessaloniki, 16.8.1999.

all to the requirements of industry. Some of them are important centres of vocational training in environmental management and environmental technologies. For example, the Viennese Chamber of Trade and Industry's seven-semester course in tourism management offers special training in environmental management.

WIFI<sup>13</sup> Innsbruck's eight-semester course in process and environmental engineering is another important example. This course provides sound, practice-oriented and highly interdisciplinary training in the fields of process and environmental engineering (Chamber of Trade and Industry, WIFI course book, 1999).

At university level, the University of Soil Reclamation (BOKU), Vienna, in particular offers environmental vocational training. BOKU offers the 'individual diploma course in environmental engineering with consolidation' and the course in 'agricultural planning and landscape conservation' (both ten semesters), and the University of Graz offers the 'individual diploma course in environmental system sciences'. All three of the courses cited are a minimum of ten semesters in length (Kress, 1999).

With regard to the use of renewable energy sources, Austria leads the EU in terms of their use measured as a percentage of overall energy consumption. In the field of use of renewable energy sources in Austria, traditional hydroelectric power and biomass still play a greater part than the new growth market, solar heating. For some years, the use of RME diesel<sup>14</sup> for tractors and cars has also constituted a new market, although this is currently still a small one, limited to four regions. At EU level, Austria is in second place behind Greece as regards the use of solar energy for heating<sup>15</sup> (Austrian Ministry for Economic Affairs, Energy Recovery Agency, 1998).

<sup>13</sup> Wirtschaftsförderungsinstitut (Institute for the promotion of economic development).

<sup>14</sup> Rapeseed oil methyl ester diesel (biodiesel).

<sup>15</sup> Calculated on the basis of the overall area of solar collectors installed to date.

## Denmark

Denmark is comparatively advanced in terms of incorporating environmental education into schools. Environmental education was incorporated into biology instruction in 1976. An environmental content was incorporated into social studies classes in 1987, and into chemistry and physics in 1989. The inclusion of an environmental content in primary school curricula was laid down in the 1993 Law on primary schooling (European Commission, 1997).

In 1994, the Ministries of the Environment and Education jointly formulated the objective of incorporating a compulsory environmental content into the curricula of all institutions providing general education and vocational training. In accordance with this objective, all school-based and out-of-school education programmes should contain an environmental element specifically adapted to suit the relevant subject or course (Kress, 1999).

Today, general environmental studies are widely taught throughout the school system and in apprentice training. Teaching of occupation-specific environmental skills is dependent on initiatives by the relevant schools or enterprises.<sup>16</sup>

Since 1993, three-day training courses in solar heating have been held at Søborg and Herning technical secondary schools, in cooperation with the DTI (Dansk Teknologisk Institut – Danish Institute of Technology). The courses provide participants with theoretical knowledge and practical skills. Since 1998, a craft school has been holding courses in photovoltaics.<sup>17</sup>

There are virtually no special training facilities for skilled workers in the field of wind energy use, which is important to Denmark. Employees acquire the necessary skills primarily through short in-house training courses and on-the-job training.

<sup>16</sup> Telephone interview with B. Clematide, Copenhagen/Thessaloniki, 1.9.1999.

<sup>17</sup> Telephone interview with L. Buhl, DTI, Taastrup/Thessaloniki, 17.8.1999.

An important example of environmental vocational training at university level is the two-year course in 'environmental management and eco-auditing' instituted in 1995, in the field of economics. It teaches, in particular, economic skills in the fields of corporate environmental management, environmental planning and eco-auditing.

Denmark leads the world in terms of expenditure on continuing training in relation to GNP. All employees are explicitly entitled to receive it. The 24 labour market vocational training centres (Arbejdsmarkedsuddannelses center – AMU) distributed throughout the country play a key part in continuing training. They are managed by the labour market training fund for training and continuing training, which comes under the aegis of the Ministry of Labour. The AMU centres currently offer 19 environmental course modules. One example of these is the pilot course in 'environmental awareness'. The course content includes environmental management, waste treatment and separation of wastes, and environmentally sustainable technologies. A one-year course in 'transport and treatment of solid and liquid wastes' has been introduced specifically for the unemployed. The main institutions providing continuing training courses in corporate environmental management and eco-auditing are DTI Miljøteknik in Tastrup and TIC Danmark in Esbjerg.

In comparison with Austria, the social partners play a minor part in provision of continuing training measures, but they play a leading part in decision-making processes relating to public-sector continuing training measures. The Danish trade union federation, LO, provides environmental training courses for its members in the trade union's own training college (Kress, 1999).

The LO has proposed a national strategy for a green industrial policy, in which environmental training and skills development are regarded as key factors. The aim is to develop industrial regulatory tools to impart both external and corporate environmental knowledge, and to promote increased individual responsibility and independent action. Raising the level of employees' skills and com-

petences should at the same time give enterprises competitive advantages (LO, 1998).

Many production schools (produktions-skole) have been set up in Denmark, to promote labour market integration of unemployed low-skilled young people. Young people normally attend the production schools for 12 months, but they can leave the school at any time if they have found a job or a training place. Over 5,000 young(er) unemployed people currently attend the 107 Danish production schools.<sup>18</sup>

Teaching and training do not take the form of a fixed curriculum or modules, but follow outlines. The training plan is also tailored to students' individual needs. Many production schools offer students outlines that are strongly oriented to the environment. Examples of production schools with a strongly environmentally-oriented teaching and training content are the Nature School at Roskilde, the Environment and Nature School at Ringsted, and the Pile Mølle production school at Ishøj. At the Pile Mølle production school, for example, young people are offered outline training in *nature and environment, children and environment*, craft outlines in wood and metal processing, and a tourism outline with a strong element of transnational teaching and training activities (Foreningen for Produktions-skoler og Produktionshøjskoler, 1999).<sup>19</sup>

With regard to the use of renewable energy sources, Denmark leads Europe in terms of the use of wind energy measured as a percentage of overall energy consumption. The Danish wind energy market also holds a leading position worldwide. The use of biomass is also of great importance. Solar heating has been an important growth market in Denmark for some years. However, its market size is not comparable with the markets in Austria or Greece. In contrast to solar heating, the market for photovoltaics is still relatively small, but this too is growing (Kress, 1999).

<sup>18</sup> Telephone interview with A. Hiss, Director of the coordination office for production schools, Vejle/Thessaloniki, 10.9.1999.

<sup>19</sup> Telephone interview with P. Gaarn-Larsen, Director of the EU Centre at Pile Mølle production school, Ishøj/Thessaloniki, 10.9.1999.

## Sweden

The 1985 Education Act laid down that all teachers must respect environmental and environmental protection values. In 1990, the Government decided that environmental education should be incorporated into teaching in all compulsory schools (European Commission, 1997; Weiters: Act on Education, Stockholm, 1990). In 1991, work began on drawing up new curricula, in which the highest priority was to be attached to environmental education in addition to other areas. In 1994, the new programme incorporating environmental education entered into force for elementary schools (European Commission, 1997).

In 1997, a Government document set out two important objectives for schools: systematic continuing training for teachers, with a view to raising the level of their environmental competences and their capacity to impart environmentally-oriented training content, and the institution of an environmental evaluation system for schools.

In the context of continuing training for skilled workers, it is primarily short courses that are offered on solar technologies. The Association of Energy Consultants holds short courses lasting one to three days. The National Institute of Development (SIFU) and Engineer Training (STF) also offer short courses taking account of use of renewable energy sources. Self-assembly groups assembling solar collectors occasionally organise seminars or short courses providing basic information on the use and possible applications of alternative energy sources and practical skills for assembling solar collectors.

The most important environmental training course at university level is the master's course in 'environmental engineering', which takes either two or three years. Three-year courses available focus on the energy market (University of Härnösand) and bioenergy (University of Umeå), and a three-year course in eco-technologies is offered by the University of Östersund. The Universities of Katrineholm and Västerås offer two to three-year short courses in energy and environmental technology. The Universities of Västerås, Karlstad,

Härnösand, Kalmar, Gävle and Umeå offer energy engineering courses of the same length.

The first university-level course in solar engineering began in August 1999, the one-year master's course at the European Solar Engineering School. This course enables graduates of engineering colleges to acquire comprehensive training in solar technologies.<sup>20</sup> The one-year course covers six subjects/modules: *advanced solar heating*, a further course in *advanced solar heating*, *advanced photovoltaics*, *solar architecture/passive use of solar energy*, *utilisation and management of solar energy*, and *advanced use of solar energy for tropical climates*.

Students must complete four of these six subjects and then write a dissertation. The teaching consists of lectures, seminars, discussion groups, practical sessions, computer training for the solar engineering field, and study visits. It is intended that on completion of the course, students should be capable of independently supervising all activities associated with use of solar energy. They should also be capable of understanding scientific reports on this subject. These teaching units can also be followed individually, as two-month courses.<sup>21</sup>

In 1991, the LO, the Swedish Trade Union Federation, developed its own environmental programme, in which environmental protection requirements are closely linked with occupational health and safety. A number of the LO's sectoral trade unions offer information courses on this subject in the workplace. The TCO, the white-collar workers' trade union, is implementing a project on 'the environmentally adapted office' in conjunction with national authorities and other organisations. This project is designed to promote environmental awareness in the workplace. TCO has developed a transnational evaluation system, by means of which energy consumption and materials are assessed via EDP. This system is currently the only one of its kind and is in use at international level.

<sup>20</sup> Telephone interview with S. Gustavsson, SEAS, Stockholm/Thessaloniki, 18.8.1999.

<sup>21</sup> European Solar Engineering School. <http://www.eses.org>

In cooperation with the social partners (SAF and the LO), the Swedish Labour Welfare Council has developed materials in which occupational health, corporate environmental protection and global environmental correlations are tackled jointly (including 'Kretslopp – ett måste i framtiden' in 1996 – 'ecocycles – a must in the future').

The EU-sponsored project, *Sustainable Energy and Environment (SEE)* aims to develop and hold a one-year course<sup>22</sup> for unemployed women. In the first part of the project, SEE ADAPT, the specific skills requirements in the local construction sector in the field of energy and the environment were identified. The structure of the second part, SEE NOW, was developed on the basis of these findings. Unemployed women from the construction sector, with university-level training (architects and engineers), are being equipped with sound knowledge in the field of energy and the environment in the context of the construction sector. The aim is to equip course participants to work as environmental and energy consultants in the construction sector once they have completed this training (Axelsson, 1999).<sup>23</sup>

As regards renewable energy sources, the market for bioenergy is highly developed in Sweden. New fields of application have joined traditional forestry concepts. The market is also expected to increase considerably in the coming years. At present, the solar energy market is still very small.

### **Luxembourg**

Less progress has been made with incorporating environmental education into general education and vocational training in Luxembourg than in Denmark, Austria and Sweden.

In 1990, general environmental education was added to the curriculum of primary schools. Environmental education has been incorporated into biology lessons in secondary schools. The training of biology teachers includes ecology, and they are given an introduction to environmental education in the course of their teacher training. For all other teachers, only a few in-service practical training measures are available (European Commission, 1997).

The entire field of school-based vocational training is covered by technical secondary schools. Training is divided into three levels: the school-based component of apprenticeship/training (supplementing in-company apprenticeship/training, similarly to the dual system in Germany and Austria), and middle and higher school-leaving qualifications based on vocational training. Within technical secondary schools, as yet only nursing and social work training includes an environment-oriented subject (*environmental education and health education*). As from the summer of 2000, it is planned that the subject 'technology, environment and health' will be introduced into business training, in the form of two hours a week for class 10. In the context of the school-based element of apprenticeship/training, one hour a week will be devoted to *environmental education and health education* in classes 10 or 11.

The question of incorporating environmental education into chemistry and physics teaching at technical secondary schools is currently under discussion. However, in the course of this discussion, in which the social partners have been involved, misgivings have been expressed as to whether these subjects can really provide subject-oriented and general environmental education in line with the holistic approach aimed at.<sup>24</sup>

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<sup>22</sup> The precise duration of the course is 50 weeks.

<sup>23</sup> Harriet Axelsson was the coordinator of the SEE NOW project and presented an initial interim report on the course to the *Conference on Environmental Education and Training in Europe* (European Commission) on 4.5.1999.

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<sup>24</sup> Until recently, the Biology Programme Committee had sole responsibility for vocational environmental education in schools. Now changes in school curricula in the field of environmental education are also discussed with the social partners. Telephone interview with P. Petry, Ministry of Education, Luxembourg/Thessaloniki, 4.10.1999.

As regards continuing training, the social partners associations organise continuing training courses at the request of companies. These are then implemented by public or private continuing training providers. Large companies implement their own continuing training initiatives (e.g. the Luxembourg steel companies). The Chamber of Trade and Industry is the most important body providing environment-oriented continuing training courses.

As regards general education and vocational training and continuing training, Luxembourgers often take advantage of training options available in the neighbouring countries of Germany and France, as it is not efficient for a country with a population of just over 300,000 itself to provide all relevant specific education and training. In addition to university education, this also applies, in particular, to many continuing vocational training measures. It is not uncommon for environment-oriented and other continuing training courses to be implemented in cooperation with providers of German training activities. The ten-month course in 'landscape conservation and environmental protection' and the two-year course in 'waste recycling and water treatment' are two important examples of such initiatives. The courses are tailored to the requirements of companies in Luxembourg and Germany and include a specialised theoretical and practical training content, which is taught in Luxembourg's continuing training centres and German training centres (Kress, 1999).

## **2. Innovations in environmental vocational education and training, illustrated by selected cases**

### **2.1 The concept of innovation in system theory and vocational training**

In the classical system theory of Talcott Parsons, systems of action possess four basic functions: pattern maintenance, integration, goal attainment and adaptation. In developed societies, these four functions are further dif-

ferentiated into specialised subsystems, in order to increase the ability of the social system to adapt to new system environments (Parsons, 1975).

From the point of view of system theory and, in particular, according to more recent formulations, innovation can be defined as the product of reactions of the system to altered influences of the system environment. Social systems react to influences from outside the system by continuously adapting structural segments within the system to the new requirements. This is intended to ensure the continued existence of the entire system (Wilke, 1993).

In this restructuring and reorganisation, new innovative structures and products are shaped from existing elements. These are intended to maintain or improve the efficiency of system functions. However, only social systems have the capacity for self-reference and conscious reflection on and evaluation of their own actions, and hence the capacity to introduce innovations. Hence only by means of the self-reference of social systems can new, appropriate, independent products and structures be developed out of existing elements (Loos, 1994).

From the point of view of system theory, the concept of innovation is of importance to vocational training insofar as it brings to the fore the process of adapting structures within the system to altered conditions outside the system. Innovations in vocational training systems are to be understood as 'successful' reactions to changes in systems surrounding the training system or closely associated with it. Trade and industry and the labour market are particularly relevant here.

However, innovative vocational training practices resulting in improvements in vocational training in a particular occupation or sector in one state do not necessarily have the same positive impact within another national vocational training system. Before good practice is transferred, therefore, the framework conditions determining the efficiency of the vocational training innovation in the Member State concerned must be analysed. An

assessment must then be made of whether the specific economic, legislative and social structures in the other Member State can facilitate similarly successful implementation.

The European Commission's *Green Paper on Innovation* cites two approaches to assessing innovations:

1. the innovation process;
2. the result and consequences of the innovation.

In the first approach, the investigation focuses on the process leading to an innovation. The form and design of the process are analysed to determine the extent to which they contain new and efficient structures. In the second approach, the result and consequences of the innovation are analysed (Geers, 1998).

To achieve a comprehensive assessment of the efficiency of transferring innovative vocational training practices to other Member States or candidates for accession to the EU, both dimensions should be included in the analysis.

In the following descriptions of innovative vocational training practices, the analysis focuses on the second aspect. Both aspects will be incorporated in full in the report on the Cedefop project '*Observation of innovations in vocational training*'.

## **2.2 The potential of the selected cases for innovation**

In the descriptions given in this chapter, the selected cases will, in particular, be examined to determine to what extent they constitute vocational training innovations for the country concerned. The selection, however, was primarily based on cases that are also innovative for other Member States. The question of the specific potential of the individual cases for innovation transfer will be discussed in more detail in Chapter 3.

In the first subject area, innovative education and training measures in the field of use of solar and geothermal energy, the potential for innovation lies above all in the efficient and application-oriented design of course content

(comprehensive training in relevant theoretical knowledge and practical skills) or in the provision of comprehensive course modules and trans-occupational (particularly in the field of plumbers and electricians, but also in associated fields) modular training courses with project work of practical relevance and certification on completion of the course. This applies in particular to the initiatives in Austria and to those getting under way in Greece.

In this context, Denmark's innovation potential lies in particular in the creation of short courses with a final written test and certification as a solar engineer, together with agreement of the players involved in the solar technology market that only solar heating and PV installations undertaken by a certified solar fitter will receive financial aid from the State.

Only some elements of the actual teaching method used are innovative (e.g. project papers for the final examination). In Austria, however, an LdV project<sup>25</sup> aims to develop a new teaching method with greater involvement of alternative teaching and learning approaches for training in solar technologies and geothermal energy.

In the context of problem groups of the unemployed, in both the Danish production schools and the SEE NOW project from Sweden described earlier the innovation potential lies in the alternative teaching and learning approaches employed. In the Danish production schools, in the case of low-skilled young people, they are intended, in particular, to help motivate them to learn and, as regards content, to provide young people who find learning difficult or are less willing to learn with skills of their own choice, relevant to practice.

In the context of initiatives by the social partners, the agreements of the social partners in Austria, their translation into law, and the importing of the content of the environmental skills into dual training in occupations in the electrical, energy and metal sectors, which is compulsory nationwide, constitute an in-

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<sup>25</sup> This will be described in more detail in Chapter 2.3.



novation. Both the process leading to legal implementation and the content of the vocational training measure are innovative.

The innovative aspect of the RSCs is, in particular, the alternative approach to learning or the transmission of knowledge, which acquires additional dimensions thanks to their composition (trade unionists, workers, scientists). The group discussions provide all participants with new knowledge and open up a wider perspective for understanding of environmental issues within and outside the enterprise.

The innovative aspect of the two local initiatives in Luxembourg also lies in alternative learning concepts.

### **2.3 Use of solar and geothermal energy in Greece, Austria and Denmark – training initiatives for skilled workers and market development**

#### *The situation in Greece*

##### *a) Training initiatives*

In Greece, training initiatives for skilled workers are lagging behind the skills requirements in this growth sector. In the context of initial vocational training, as yet skills linked to this sector are imparted to only a limited extent (Fissamber, 1996).

As yet, there is no special training programme at skilled-worker level for solar technologies and other technologies involving the use of renewable energy sources. If such a programme were to be set up in the context of initial vocational training, this would represent an important innovation for this field of vocational training.<sup>26</sup>

The Technical University of Athens, in cooperation with the First Viennese Solar School, is planning an important innovative measure to develop training in solar technologies in Greece. It is planning to set up a solar school, to provide interdisciplinary training in solar

technologies (solar heating and photovoltaics) and technologies for the use of geothermal energy, in accordance with the three training modules developed in the LdV 'European Solar School' project.<sup>27</sup> Theoretical knowledge and practical skills are to be imparted in a well-coordinated and comprehensive fashion for all three areas. The main target group is skilled workers (BFI of Vienna, 1998).

Some Regional Energy Centres<sup>28</sup> hold courses for the unemployed on technologies for the utilisation of renewable energy sources, which contain innovative elements.

Here, aspects that are innovative for Greece are the increased incorporation of provision of practical skills, the interdisciplinary training content (solar heating, photovoltaics, passive solar energy use and, to a certain extent, geothermal energy), and the project paper for the final examination. An important example of an institution holding such courses is the Regional Energy Centre of Macedonia/Thessaloníki. In the past year, it has held six courses on energy-saving measures for buildings and on the use of renewable energy sources. Two courses are currently in progress, and others are planned for the autumn. Fifteen to twenty participants take part in each course. Courses are offered for skilled workers and for those with higher technical skills (TEI or university graduates). The content is adapted to suit the relevant target group in each case, but the courses share the common structure outlined below.

The courses involve 300 hours of classes. Some 200 of these are devoted to theoretical instruction and 100 to practical instruction. An energy audit of selected construction projects is performed in the context of the practical instruction. This involves performing cost/benefit calculations on site for energy-saving measures and installations. In the skilled-worker courses, solar collectors are installed.

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<sup>27</sup> Telephone interview with F. Roiz, Head of the First Viennese Solar School, Vienna/Thessaloníki, 16.8.1999.

<sup>28</sup> The Regional Energy Centres are coordinated by the regions.

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<sup>26</sup> Telephone interview with V. Fissamber, Athens/Thessaloníki, 17.8.1999.

While much of the training content covers solar technologies, one day of the course is devoted to an introduction to technologies for using geothermal energy. The course ends with a project paper (performing an energy audit of a building). The main difference between these courses and the usual KEK<sup>29</sup> courses lies in their more extensive practical component and the project paper.

In the context of continuing vocational training, as yet usually only short courses are offered, and there is a lack of comprehensive training measures. Local KEKs occasionally offer continuing training courses on renewable energy sources. They are usually accessible only to unemployed school or university-leavers. These courses last for 300 hours and do not normally involve a final examination. Participants are merely issued with confirmation of participation. The course level depends on the commitment of the institute concerned and the relevant teachers. Generally speaking, it needs to be improved (Fissamber, 1996).

#### *b) Market development*

As regards developing the market, Greece leads the EU by a long way in terms of the use of solar energy for heating.<sup>30</sup> Solar systems began to be used more widely to heat water 25 years ago. The large increase in electricity prices in the 1970s and the oil crisis played a crucial part in the sector's rapid growth.<sup>31</sup>

At present, 22% of all Greek households have solar heating installations.<sup>32</sup> On some Aegean islands the proportion is as high as approxi-

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<sup>29</sup> The KEKs are the State-recognised continuing training institutes. Continuing training courses for the unemployed run by the KEKs are co-financed from the public purse.

<sup>30</sup> Both in terms of the overall area of solar collectors installed to date and in terms of the percentage of households with solar heating installations.

<sup>31</sup> The first simple technical system for using solar energy for heating was developed by Archimedes over 2000 years ago.

<sup>32</sup> Telephone interview with A. Dimoudis, Centre for Renewable Energy Sources (KAPE), Athens/Thessaloniki, 16.8.1999.

mately 50%. The area of collectors installed to date is 2.4 million m<sup>2</sup>. No comparable market has evolved to date in other EU countries with a similarly favourable climate, particularly Spain and Portugal.

On average, approx. 85% of the annual hot-water requirement can be covered in households with solar systems. Large numbers of new systems are installed each year, although the figures have fallen back slightly in the past few years. It can be assumed that large numbers of new systems will continue to be installed each year in the future (Zervos, 1998).

There is still considerable sales potential in the field of private households. In the context of buildings used for business purposes, the hotel sector constitutes an important customer segment. In new buildings in particular, solar heating proves more cost-effective than conventional fossil-fuel energy sources (in a long-term cost/benefit calculation taking account of the average amortisation term)<sup>33</sup>. Tax concessions associated with the purchase of a solar system are a statutory regulation designed to promote expansion of the solar heating market. A planned law stipulating that pipes should be provided for in the planning and construction of new buildings, to facilitate later installation of solar systems, was not ratified.

Although the annual rates of new installations are now lower than the peak values of ten years ago, the market for installations in existing buildings has not yet reached saturation point. In this context, it is interesting to compare Greece with Cyprus where, with similar climatic conditions, over 60% of all households (92% of all houses)<sup>34</sup> have solar heating installations (Chamber of Trade and

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<sup>33</sup> The amortisation term is dependent on a household's hot-water consumption. In the Mediterranean region, it averages five to six years. It is shorter than this for households with higher consumption (e.g. a family with two or more children), and also for hotel and holiday facilities operating only (or principally) in the summer.

<sup>34</sup> However, the proportion of houses, which constitute the most important market segment for solar systems, is higher in Cyprus than in Greece.

Industry, Nicosia, 1999, Statistics on the solar heating market)<sup>35</sup>. Installation of solar systems in new buildings will also be a dynamic market in the long term. In future, installations combining solar water heating and part-solar space heating will play an increasingly important part.<sup>36</sup>

Greece is also the market leader in exports of solar collectors within the Single European Market. Over 50% of all solar systems using solar energy for heating installed in the EU were produced in Greece. The high quality of current products is a fundamental factor in the large market share held by Greek solar collectors. Some years ago, the 'Dimokritos' research centre and the Centre for Renewable Energy Sources (KAPE) effected major quality improvements and expanded the range of possible applications, in close cooperation with the production companies.

There also appear to be considerable opportunities for developing the photovoltaics market in the near future, although here development is only just beginning. As yet, the tax concessions for PV installations, which are around the same level as those for solar heating systems, have had little impact on buying behaviour, in view of the fact that they are considerably more expensive to buy than solar heating systems. The same applies to installations utilising geothermal energy.

### ***The situation in Austria***

#### *a) Training initiatives*

In the context of initial vocational training for skilled workers, some initiatives have been launched in the past few years involving the provision of skills relating to solar technology. A number of vocational schools and training enterprises provide basic knowledge and skills in this field. Training in sanitary engineering and heating technology actually stipulates provision of this basic knowledge, both at vocational school and in the enter-

prise. However, the definition in the job profile remains a general one and does not stipulate comprehensive occupation-specific skills training measures. Thus it is essentially up to the individual enterprise or vocational school to take the initiative.<sup>37</sup> The Hallein vocational school in Bundesland Salzburg offers an extensive training programme for skilled workers in the field of solar heating.

Since 1995, the First Viennese Solar School at the BFI of Vienna has offered an important and innovative continuing training programme teaching skills in the field of solar technology and geothermal energy to skilled workers, but also to interested persons in other occupational groups (e.g. graduates of higher technical training institutions and architects). As a continuing training institution for skilled workers in this field, it serves as a model both for Austria and, in conjunction with two initiatives in Germany, for the whole of the EU.

The particularly innovative aspects of the First Viennese Solar School's training programme are the good combination of theoretical knowledge and practical skills and, in terms of content, the comprehensive interdisciplinary training. All the stages in the work (planning, installation, commissioning and inspection of a system) are imparted to course participants in a comprehensive and detailed manner through a combination of various measurement, assembly and laboratory exercises and theoretical instruction. The actual learning content is primarily traditional, but the measurement, assembly and laboratory exercises (particularly in combination) also involve a project-oriented aspect. In addition, to complete the course, a commissioned final examination must be taken and a project paper produced.

The interdisciplinary training in the field of solar technology takes the form of three course modules: *photovoltaics* (electrical engineering), *solar heating* and *heating pumps* (both from the field of heating technology), together with optional modules. These include *EDP interpretation of heat-load calculation*, *economic*

<sup>35</sup> The data relates to the Republic of Cyprus.

<sup>36</sup> In Austria, in 1998 combination systems of this kind already accounted for almost 50% of all solar installations.

<sup>37</sup> The relevant amendment of the job profiles was the result of an initiative of the social partners.

and ecological construction engineering and home technology, and automatic refrigeration for air-conditioning and refrigeration systems. People without prior relevant specialised training must complete the basic modules *heating technology* and *electrical engineering* prior to the main modules. The main and optional modules involve 40-50 hours of instruction and can be covered in the form of a one-week full-time course. The whole course, excluding the basic modules and the project paper, involves 200-220 hours of instruction. In the five years the course has been running to date, almost 500 participants have trained as solar specialists ('Solarteur'). However, far more people have completed one or two of the three course modules or one or more of the optional modules, for the purpose of continuing training in their occupation (Loos, 1997).

As from the year 2000, the BFI of Vienna plans to add to the course the one-week module 'electromobiles', as an additional (optional) module. This module aims to provide theoretical and practical knowledge about e-bicycles, e-scooters and e-cars for the disabled. This module will be the first of its kind to be offered by an Austrian continuing training institute, and will thus constitute another innovative element in the Viennese Solar School's continuing training programme.

The planned introduction of this course unit is a response to the market expansion of these products in the past few years. In addition to private individuals, who are showing an increasing interest in e-bicycles and e-scooters, several municipalities (including the city of Vienna) are interested in buying electrically-driven municipal vehicles following their voluntary accession to the Climate Alliance.<sup>38</sup>

In the past few years, two LdV projects have developed innovative initiatives involving transnational dissemination and application of the Viennese Solar School's modules on the use of solar and geothermal energy, and restructuring of the course content in line with skills requirements at EU level.

<sup>38</sup> Telephone interview with F. Roiz, Head of the First Viennese Solar School, Vienna/Thessaloniki, 30.6.1999.

In the LdV 'European Solar School' project (1996-98)<sup>39</sup>, training modules for standardised and comprehensive continuing training of skilled workers in solar technologies throughout the EU were developed on the basis of the First Viennese Solar School's course modules. These are already in use in courses in training institutes in two of the partner countries (Germany and Italy). The Greek project partner, the Technical University of Athens, is currently making plans to introduce this continuing training course (BFI of Vienna, 1998).

In the current LdV project, 'model of an expanded heat pump installation and use as a fixed component of initial vocational training' (1998-2000)<sup>40</sup>, the First Viennese Solar School at the BFI of Vienna, Kreishandwerkerschaft Waldeck-Frankenberg and partners from Spain and Greece are developing a training module and learning aid (handbook and CD-ROM) for skills training in use of geothermal energy via heat pumps. This project is also aimed at developing a new learning concept involving increased use of alternative approaches (group discussions, role-play, etc.), to transfer knowledge in the field of solar technology and geothermal energy.

#### b) Market development

As regards developing the market for renewable energies, Austria is in second place behind Greece at EU level as regards the use of solar energy for heating<sup>41</sup>. Solar heating is very highly developed in the field of low temperatures in particular, and has long been a genuinely marketable commodity. This sector is experiencing steady growth. The Bundesländer are also providing aid to promote this market's rapid expansion. Some 1.7 million m<sup>2</sup> of solar collectors have been installed in Austria to date.

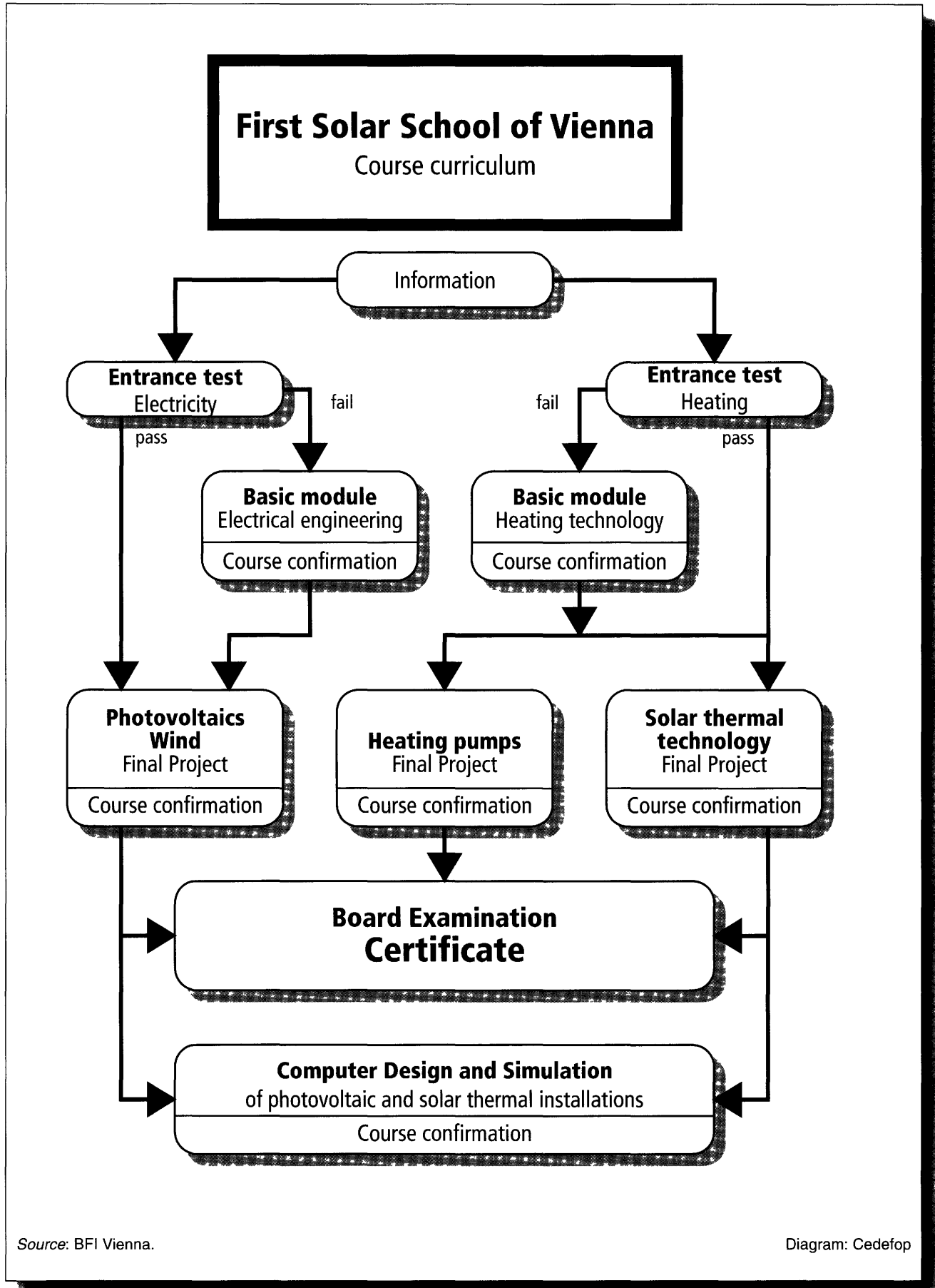
In the 1980s and the first half of the 1990s, self-assembly groups played a crucial part in

<sup>39</sup> BFI Vienna (First Viennese Solar School) was the product coordinator.

<sup>40</sup> Kreishandwerkerschaft [local skilled tradesmen] Waldeck-Frankenberg is the project coordinator.

<sup>41</sup> Calculated on the basis of the overall area of collectors installed to date.

The modular structure of 'Solarteur' training



Source: BFI Vienna.

Diagram: Cedefop

stimulating the solar heating market in Austria. They came into being as the result of an initiative by environmentally aware and committed citizens. In the early years, their activities were largely restricted to the Bundesland Styria, but later on similar initiatives were also launched in other Bundesländer. This citizens' initiative in Styria gave rise to the Renewable Energy Working Party, an organisation which, in addition to many other activities, is currently providing basic training for municipal environment officers for the Land Government of Styria.

Following a brief period of basic training, members of self-assembly groups themselves assemble solar collectors out of the individual components. They then install them, with the aid of a specialist engineer. The groups' basic training usually consists of a one to two-day seminar, normally led by expert members of the Renewable Energy Working Party. In addition to teaching the specific and relatively simple stages involved in assembling the collectors, the training also provides information on possible applications of solar energy and other alternative energy sources in the context of household energy consumption.

Self-assembly groups have declined in importance in the past few years, as thanks to the strongly expanding market, the costs of having solar collectors installed by companies have come down and there is now only a minimal cost advantage.

Photovoltaics, the generation of electricity from solar energy, has not yet really become a marketable commodity. At present, it can only be developed and launched more widely on the market by means of an extensive programme of subsidies. Even if the low operating costs and Land subsidies are taken into account, the investment costs are still significantly higher than the costs of electric energy from traditional power stations<sup>42</sup> (Austrian Ministry for Economic Affairs, Energy Recovery Agency, 1998).

<sup>42</sup> It should be noted that in Austria, almost 65% of electricity production from conventional power stations is based on another 'traditional' renewable energy, water power.

## ***The situation in Denmark***

### *a) Training initiatives*

In 1992, the players involved in production and sales of solar collectors introduced innovative measures to stimulate the solar heating market and to provide training for skilled workers. The State energy agency and production and sales companies agreed that only trained fitters with a solar heating certificate may install State-subsidised solar heating. This was designed to ensure that the systems installed functioned correctly. As a result of these compulsory quality criteria, there was a significant increase in activity on the solar heating market.

Since 1993, as a result of these agreements, three-day training courses in solar heating have been held at the technical secondary schools at Søborg and Herning, in cooperation with the DTI, the Danish Institute of Technology. The course provides participants with theoretical knowledge and practical skills, and ends with a written test. To date, 700 fitters have completed this continuing training course and acquired the relevant certificate.<sup>43</sup>

In 1998, the Danish Government decided on a programme of support for the installation of PV systems on buildings in business use. SMEs receive cofinancing of up to 40%. These subsidies have made the installation of PV significantly more attractive to companies.

In order to assure the quality of PV systems, in 1998 the players involved introduced an innovative measure to stimulate the PV market similar to that introduced in 1992 for the solar heating market. The PV industry, sales companies and the authorities signed an agreement laying down compulsory quality criteria both for the products and for training for skilled workers. The aim is to avoid the errors made in the 1980s in the field of solar heating, which severely damaged its image for a time.

The agreement lays down that only trained electrical fitters with a PV certificate may install PV systems. PV systems installed by

<sup>43</sup> Telephone interview with L. Buhl, DTI, Tastrup/Thessaloniki, 17.8.1999.

workers not fulfilling these criteria do not receive State subsidies. A three-day course at a technical school must be completed in order to obtain the PV certificate. The training content involves theoretical knowledge and practical skills, and like the solar heating course, ends with a written test. The course programme covers theory, practical examples and a check list for planning and installing a PV system. These training courses are currently provided at the craft school at Hadsten<sup>44</sup>, in cooperation with the DTI. The DTI's Centre for Solar Energy occasionally carries out quality checks on installations.<sup>45</sup>

#### *b) Market development*

In the 1980s, following several years of market expansion, the Danish solar heating market experienced a significant decline in installations. This was because systems were not functioning properly. As a result of the agreements on quality assurance described, the declining trend was successfully reversed.

For a number of years, Denmark's solar heating market has experienced fairly significant growth, but its size is not comparable with that of the market in Austria or Greece. Unlike the solar heating market, the market for photovoltaics is still relatively small, though it too is growing.<sup>46</sup>

### **2.4 Integration of unemployed women and young people into the labour market via environment-oriented continuing vocational training – Sweden and Denmark**

#### ***Integration of unemployed young people into the labour market in Denmark***

Many production schools (produktionsskole) have been set up in Denmark, to promote labour market integration of unemployed low-

skilled young people. Young people normally attend the production schools for 12 months, but they can leave the school at any time if they have found a job or a training place. Over 5000 young(er) unemployed people currently attend the 107 Danish production schools.<sup>47</sup>

The innovative aspect of the production schools is the fact that teaching and training do not take the form of a fixed curriculum or modules, but follow outlines, in which training is tailored to students' individual needs. The basic concept involves learning jobs and activities by carrying them out, i.e. learning by doing. At the point when problems arise in a work stage, subject-specific theoretical instruction is provided, with the aim of solving or overcoming the problem. For example, if there is a problem with calculating quantities of wood or different measures for pieces of wood and items of furniture, a mathematics lesson is provided.

Many production schools offer students outlines that are strongly oriented to the environment. For example, a combination of practical training and theoretical instruction is offered in agriculture and forestry, landscape conservation, tourism, the textile industry, and assembly of solar collectors (assembling the components).

The fields of work and activity are often selected in collaboration with companies. Activities are learned and then routinely carried out. This training is often combined with teaching of multimedia skills and languages. Areas of instruction covered by all production schools, to a varying extent, in the context of this problem-oriented approach to learning are Danish, social studies, mathematics and current affairs. Students at many production schools can undergo a period of practical training in (local) public or private companies. In addition, student exchange visits within and outside Denmark are organised as part of the schools' activities. These visits focus on basic academic knowledge, history and culture, so-

<sup>44</sup> Craft schools are part of the technical schools.

<sup>45</sup> Telephone interview with I. Kattnik, DTI, Taastrup/Thessaloníki, 24.8.1999.

<sup>46</sup> Denmark leads Europe in the use of wind energy.

<sup>47</sup> Telephone interview with A. Hiss, Director of the coordination office for production schools, Vejle/Thessaloníki, 10.9.1999.

cial skills, and skills specific to the occupation or sector.

The production schools cover approximately one fifth of their financing requirement through services and by manufacturing products for the local market. The remainder of the funding is provided by the State (Foreningen for Produktionsskoler og Produktionshøjskoler, 1997).

Examples of production schools with a strongly environmentally-oriented teaching and training content are the Nature School at Roskilde, the Environment and Nature School at Ringsted, and the Pile Mølle production school at Ishøj.

At the Pile Mølle production school, young people are offered outline training in *nature and environment*, *children and environment*, craft outlines in wood and metal processing, and a tourism outline with a strong element of transnational teaching and training activities (Foreningen for Produktionsskoler og Produktionshøjskoler, 1999).

The *nature and environment outline course* covers the routine tasks involved in biological horticulture (growing vegetables and flowers), in the school's own garden, and provides instruction in the theory of biological agriculture and in overcoming all the problems arising in the context of work in the garden (growing, harvesting, storage). An example of activities in the *children and environment outline course* (also known as the *pedagogic outline*) is the planning of a kindergarten, taking account of environmental principles, which was then set up. Participants also undergo periods of practical experience in kindergartens. Theory classes are held on the basis of fundamental environmental correlations, particularly as regards issues relating to child rearing. In the tourism course, practical classes are held in the municipality's own beach area. Theory classes cover local history, tourist services and foreign languages.

In addition to carrying out other activities, the production schools' EU Centre coordinates two projects subsidised by the EU, focusing on training-related transnational youth exchanges.

### ***Integration of unemployed women into the labour market in Sweden***

The EU-subsidised project *Sustainable Energy and Environment* (SEE) was aimed at developing and then holding a one-year course<sup>48</sup> for unemployed women.

The particularly innovative aspect of the project lies in the high level of harmonisation of the course content with current skills requirements in the local and regional construction sector, and the strongly project-oriented course design, attuned to the main individual interests. In addition to providing course participants with the appropriate skills required in the construction sector, this was also aimed in particular at supporting increased development of key competences.

In the first part of the project, SEE ADAPT, skills requirements in the local construction sector in relation to energy and the environment were identified in direct collaboration with companies. The structure of the second part, SEE NOW, was developed on the basis of these findings.

In the SEE NOW stage of the project, unemployed women from the construction sector, with university-level training (architects and engineers), were equipped with sound knowledge in the field of energy and the environment in the context of the construction sector. The aim was to equip course participants to work as environmental and energy consultants in the construction sector once they completed this training course.

Once the curriculum had been developed, a one-year pilot course was launched with 13 unemployed women. The course ended in the summer of 1999. The participants in the course had already completed their training, but had little or no professional experience.

The course structure was very flexible and project-oriented. The emphasis was on implementation of individual projects on the basis

<sup>48</sup> The precise duration of the course is 50 weeks.



of the participants' own proposals and interests. It was not uncommon for participants to work in a local/regional enterprise for a short period. Examples of this are work on planning for a 'zero energy house'<sup>49</sup> in the town of Falkenberg and work on an environmental management system in a regional enterprise (Axelsson, 1999).

The recently completed course has not yet been fully evaluated, but five women left the course before it was over because they had in the meantime found jobs as environmental and energy consultants (Axelsson, Halmstadt University, 1999).<sup>50</sup>

## **2.5 Environmental training initiatives of the social partners in Austria and Sweden**

### ***Incorporation of occupation-specific environmental skills into apprenticeship/training in the metal, electrical and energy sectors in Austria***

As a result of the steady increase in environmental awareness in the population, an increasing number of customers are interested in environmentally sustainable products and, in particular, in alternatives to traditional energy systems. Environmental skills and competences have therefore become considerably more important in many industrial sectors.

In 1996, following an initiative by the metal/mining/energy trade union (Gewerkschaft Metall – Bergbau – Energie, GMBE) of the Austrian trade union federation (Österreichischer Gewerkschaftsbund, ÖGB), after a number of rounds of negotiations, the social partners agreed that environmental skills should be incorporated into the job profiles of

various training occupations in the metal and electrical sectors.

The first agreements were concluded in February and March 1996 and related to incorporation of environmental skills into the job profiles of the training occupations *communications electronics engineer, sanitary and heating engineer, and production engineer*. In subsequent years, there followed agreements by the social partners for other occupations and an agreement on incorporating general environmental knowledge into all occupations in the metal, electrical, energy and related sectors.

The innovative aspects of this initiative by the social partners are the commitment expressed by the social partners and the specific agreements made by them on incorporating environmental skills into the job profiles of the sectors concerned. However, other innovative aspects are the content of these vocational training measures and, in particular, the fact that following their translation into law, they are obligatory for both vocational schools and enterprises. Similarly to the situation in Germany, under the dual system in Austria, teaching of the skills laid down in the job profile is compulsory for apprenticeship/training (Loos, 1996).

The relevant amendments to the law in accordance with the social partners' recommendations have now been implemented by the Ministry of Economic Affairs, which has competence in this field.<sup>51</sup>

The provision of general environmental knowledge and global environmental correlations is now a compulsory feature of apprenticeship/training in all training occupations in these sectors. For four occupations, the provision of occupation-specific environmental content during training is also a compulsory feature, both in vocational schools and

<sup>49</sup> This means that the all the energy consumed by the house originates from renewable energy sources.

<sup>50</sup> Harriet Axelsson was the coordinator of the SEE NOW project and presented an initial interim report on the course to the *Conference on Environmental Education and Training in Europe* (European Commission) on 4.5.1999.

<sup>51</sup> In Austria, agreements of the social partners carry great weight. Joint recommendations by the social partners in the field of apprenticeship/training are usually translated into law by the Ministry of Economic Affairs.

in enterprises<sup>52</sup>. For the training occupation sanitary and heating engineer, for example, one of the four occupations concerned, this means incorporating basic knowledge from the fields of solar heating, photovoltaics and geothermal energy into the training.

However, the definition in the job profile does not stipulate that extensive job-specific skills training measures must be implemented. Thus the form the initiative takes is essentially left to the individual enterprise or vocational school. However, it is compulsory for every enterprise and vocational school to teach general environmental knowledge and basic environmental correlations.

The main objectives the trade unions expect to achieve by means of these regulations are improved job security as a result of new orders and tasks and, in some cases, the creation of new jobs. The industrial associations focus on more efficient customer service from skilled workers with energy-saving products and services. Only with their aid can industry optimally open up new markets for environmental technologies and products (Loos, 1997).

### ***Research and Study Circles for corporate environmental protection in Sweden***

The main innovative aspect of the Research and Study Circles (RSCs) lies in the alternative approach to learning or the transmission of knowledge, which acquires additional dimensions thanks to their composition (trade unionists, workers, scientists). The group discussions provide all participants with new knowledge and open up a wider perspective for understanding of environmental issues within and outside the enterprise.

University scientists and workers meet in the RSCs at regular intervals (usually once a month) to discuss environmental topics (e.g.

<sup>52</sup> Definition in accordance with job profile: *basic knowledge of enterprise measures relating to sensible use of energy in the area of work relevant to the occupation.*

local or corporate environmental problems). The group draws up new proposals for improving local or corporate environmental protection. The participation of a scientist in the group's meetings is designed to bring in new findings and possible solutions. The exchange of opinions and the discussions provide workers with an extensive and deeper understanding of corporate environmental protection and global environmental correlations. The discussions also encourage the workers' communication skills and make them better able to take action and solve problems on their own account. Thus the knowledge and skills provided by the RSCs go beyond environmental topics and corporate environmental protection in the narrower sense of the words.

In the 1970s, the RSCs dealt in particular with occupational health and labour law. In the 1980s, the RSCs increasingly disappeared, because the universities lost interest in working with them.

The RSCs were not really reborn until 1997. Their rebirth was triggered by the LdV'Environmeth' project when scientists from the University of Lund, trade unionists from the LO and workers from the KappAhl company initiated new RSCs. A crucial part was played by the good cooperation from the local management of the KappAhl company in Lund<sup>53</sup>.

However, the close cooperation between scientists and blue-collar workers in the RSCs' discussions has consequences going beyond learning and changes of attitude on the part of the workers. It also equips scientists with values derived from social experience and affects the selection of research topics for projects (Axelsson, 1999).

### **2.6 Local environmental education and training initiatives in Luxembourg**

Luxembourg offers no examples relevant to the four subject areas addressed above. Two regional examples have therefore been selected for description. The two local initiatives

<sup>53</sup> KappAhl is a commercial chain with a workforce of 2300.

in Luxembourg described constitute important innovations for the country itself, but in comparison with the other examples, they are less important in the context of transfer to other States.

The technical secondary school at Dübelingen implemented a model initiative at local level, in cooperation with the local authority. Within the framework of an EU-subsidised project, electrical fitters were taught general and job-specific environmental skills during their training.

The particularly innovative aspect of the project is that the interdisciplinary and subject-specific training content it developed is used in different subjects at this school (workshop classes, electrical engineering, electrical systems, environmental and health education, language classes). As teacher-centred teaching dominates education even more strongly in Luxembourg than in some other Member States, this interdisciplinary approach represents an important experience for the students and teachers involved in the project.<sup>54</sup>

The medium-sized company Ewald Giebel Luxemburg GmbH (steel band galvanising plant with 116 employees) has ISO14000 certification and implements internal and external continuing training programmes for its employees in the field of environmental protection.

The in-house continuing training measures in particular are innovative, as regards the structure of both their organisation and their content. Every three months, a workshop lasting several hours is held in the workplace, coordinated with the shift changeover to ensure that all workers can attend. The content of these workshops covers the specific environmental protection problems arising in the relevant workplace, such as deal-

ing with wastes or safety measures for dangerous work processes. General knowledge of environmental correlations and environmental protection measures is deepened by means of company excursions twice a year to other companies in the same sector. Around 50% of the workforce participate in the excursions. The Chamber of Commerce arranges other external continuing training events (Kress, 1999).

### **3. Skills requirements in environmental vocational training – transfer of innovative good practice**

#### **3.1 Skills requirements in environmental vocational training at skilled-worker level in the use of renewable energy sources**

##### ***3.1.1 Skills requirements in the use of renewable energy sources at skilled-worker level***

The environmental knowledge required to exercise an occupation can basically be divided into two fields:

1. general knowledge relating to environmental problems, environmental correlations and environmental cycles;
2. occupation-specific knowledge to the extent necessary for the relevant job.

Every environment-oriented job involves a fundamental need for general knowledge about environmental problems, environmental correlations and environmental cycles. The importance and fundamental relevance of general environmental knowledge should not be underestimated. A lack of understanding of environmental correlations and cycles reduces or even completely prevents efficiency in environment-oriented job activities. They are of particular importance in customer advisory services. For example, if a skilled worker in a firm of fitters or electricians does not possess the appropriate level of environmental understanding, he will not be able to

<sup>54</sup> Pauly M. et al., 1998. Strom sparen – Umwelt wahren. Ein Umweltprojekt für Elektroinstallateure in der Ausbildung. [http://www.ltnb.lu/webmast/web/LTNB\\_Projets/stromsparen/index.html](http://www.ltnb.lu/webmast/web/LTNB_Projets/stromsparen/index.html)

advise customers interested in ecological products and services efficiently.

An example from Austria, which makes the negative consequences of inadequate environmental knowledge particularly clear, is that of the motor vehicle mechanic, in relation to the use of biodiesel as an alternative fuel for cars. In Austria, several RME plants<sup>55</sup> have been in operation for some years in the four Bundesländer (Upper Austria, Lower Austria, Burgenland and Styria), producing rapeseed oil diesel. These Bundesländer now have an efficient sales network with many filling stations selling biodiesel.

When interested customers ask if biodiesel is suitable for their car, the majority of motor vehicle mechanics in regional workshops reply that this fuel can only be used for tractors. In addition to the lack of *job-specific knowledge* (biofuel can be used in most newer car types), many mechanics lack *general environmental knowledge*. They do not know about the links between natural CO<sub>2</sub> and the biodiesel cycle. They do not know the fundamental difference between emissions resulting from fossil fuels and those resulting from biodiesel. They do not know that RME diesel represents a renewable energy source.<sup>56</sup> The result of this lack of knowledge is that customers interested in biofuel are informed that this is no better for the environment than fossil fuels (Loos, 1997).

Thus a general understanding of the environment and knowledge of environmental correlations and cycles constitute the basic knowledge on which specific environmental knowledge important to the occupation concerned can build. They are important to all occupations, as all jobs exert specific influences on the environment and environmental cycles. Their importance will increase further in future.

<sup>55</sup> Plants producing rapeseed oil methyl ester diesel.

<sup>56</sup> The difference lies in the fact that the CO<sub>2</sub> released by biodiesel was previously assimilated from the atmosphere by the rape plant during its growth process, and the atmosphere is therefore not subjected to additional CO<sub>2</sub> accumulation.

The skills required in the context of use of solar energy can be divided into two areas. In addition to knowledge and skills relating specifically to *solar heating*, this field requires basic knowledge of hydraulics. In *photovoltaics*, in addition to knowledge and skills relating specifically to this field, a basic knowledge of electrical engineering is required.

In the context of use of geothermal energy<sup>57</sup>, in addition to specific geothermal knowledge, the skilled worker must have a knowledge of and skills relating to hydraulics and electrical engineering.

In order to provide for quality assurance of products and services in the field of solar technologies, it is very important, at skilled-worker level, for general environmental knowledge and the appropriate occupation-specific basic knowledge to be imparted in initial vocational training. This relates to knowledge of environmental correlations, solar-heating knowledge and skills in dual training for fitters (gas/water fitters) and photovoltaics skills in electricians' training (electrical fitters). It is also desirable for trainee fitters to be equipped with knowledge relating to installing heat pumps. This is a relatively sophisticated task, as it requires not only considerable knowledge of hydraulics, but also electrical knowledge. Skills training should consist of theory classes and practical sessions in an enterprise or training workshop. In continuing vocational training, skilled workers in enterprises in these sectors selling and installing solar-technology products should acquire more extensive skills via continuing training courses.<sup>58</sup>

Environmental skills can also be divided into the fields of reactive and preventive environmental protection. Knowledge on the subject of environmental protection exclusively limited to reducing local environmental pollution

<sup>57</sup> Minimal-depth heat pump installations primarily involve utilisation of solar energy.

<sup>58</sup> Telephone interview with F. Roiz, Head of the First Viennese Solar School, Vienna/Thessaloníki, 30.6.1999.

that has occurred or to efficient handling of wastes can be classified as reactive environmental protection, in terms of content. Environmental knowledge which also involves preventive measures for avoiding waste, saving energy or using alternative energy sources can be classified as preventive environmental protection. Only in principle can the two fields of skills be completely separated. However, it should be borne in mind that an understanding of preventive environmental protection also includes basic knowledge of reactive environmental protection, while it is possible to have a basic knowledge of reactive environmental protection dissociated from the context of preventive environmental protection (although this is not desirable).

### ***3.1.2 Transfer of innovative good practice***

In Austria, the First Viennese Solar School offers a comprehensive and interdisciplinary programme of continuing vocational training in solar technologies for skilled workers and graduates of higher technical training institutions. The establishment of a similar training institution in Greece would be very significant, as the solar energy market is already highly developed, but continuing training initiatives for skilled workers are lagging behind market development. The University of Athens, partner in the LdV 'European Solar School' project, coordinated by the First Viennese Solar School, plans to set up a training establishment of this kind. In this context, the heating pump module in particular would be completely new to Greece. This field is suffering even more than solar energy utilisation from the absence of a comprehensive continuing training programme for skilled workers.

It would also be desirable for a training establishment modelled on the European Solar School to be set up in Denmark. Both the full 'Solarteuer' training and training in one of the modules would open up new prospects for interested skilled workers. Workers who complete the three-day courses in solar heating and photovoltaics in particular could use this continuing training programme to extend their knowledge and skills.

A transfer of innovation to the Member States bordering the western Mediterranean (particularly Spain and Portugal) could play a major part in developing the considerable market potential. Well-qualified skilled workers would awaken customers' interest and trust by giving them expert advice and offering efficient installation. State or regional subsidies similar to those in Denmark, offered on condition that the solar fitters possess the appropriate course certificate, could provide crucial support for market development and for the implementation of vocational training measures.

In Sweden, it remains to be seen how the market develops and whether it is worth making this continuing training provision for the relatively small market. The university-level initiative launched in August 1999 could help to stimulate the market. Given the small size of the market for solar technology in Luxembourg, it is not worth implementing a European Solar School there at present.

## **3.2 Skills requirements for environmental vocational training measures to integrate specific target groups into the labour market**

### ***3.2.1 Skills requirements for environmental vocational training measures to integrate low-skilled young people and unemployed women into the labour market***

Environmental training and continuing training courses can help to better integrate young people with few skills into the labour market. (Continuing) training courses for unemployed young people and younger participants in the labour market should be geared to practice as much as possible, although knowledge of theory in the context of the planned occupation should also be imparted. Occupational fields particularly suitable for this group are agriculture and forestry, landscape conservation, eco-tourism, wood-processing and the production of environmental engineering products. Waste disposal and recycling activities are another possible field, provided that measures are in place to protect workers' health.

### **3.2.2 Transfer of innovative good practice**

Environmental vocational training plays a key part in the Danish production schools. The transferability of this model to other Member States in which no similar initiatives exist would result in new job prospects and motivation for low-skilled young people. The issue of financing, however, is the main stumbling block. The costs that public establishments would incur could be reduced through increased cooperation with local/regional enterprises. At the same time, direct sales of products and services to customers should be increased.

The increased revenue anticipated from direct sales could motivate young people to learn how to make more complex products or to offer more extensive services. The high level of motivation and the good working atmosphere in the Danish production schools show that the conditions for implementing this project would be good. Consequently, the concept of the production school as a training workshop and profit-oriented enterprise for marginalised young people could be expanded somewhat. Legislative provisions similar to those in Denmark would also have to ensure that the schools were permitted to undertake business activities on this scale, and that the young people themselves benefited from them.

With regard to the Swedish SEE NOW project, similar sector-specific initiatives for unemployed female graduates would help to increase their job-related skills and competences and to reduce unemployment. The content of the project-oriented approach in this pilot project should be attuned to the skills requirements in the relevant country or region.

## **4. Creation of a new employment volume and new jobs at skilled-worker level in the environmental sector**

The new fields of activity and markets in environmental protection and environmental technology have created a considerable quan-

tity of employment, and this is set to expand further in future.

However, this development does not always mean that the net volume of employment in an enterprise, a region, or even the economy as a whole increases on the same scale, as sometimes it involves 'only' a shift from work on less environmentally sustainable products and services to work on more environmentally sustainable products and services: the increase in the volume of employment as a result of environment-oriented activities does not primarily create new jobs, but makes existing jobs more secure as a result of the increased utilisation of the enterprise's capacity (Loos, 1997).

The extent of the impact on employment varies from one field of environmental technology to another and one sector to another. Furthermore, the short and long-term effects may also be just as varied, for example the effects and consequences on individual industries and industry as a whole in respect of workers with different skills. Jobs are also dependent on the mode of functioning and flexibility of markets and the intensity of competition on them. Since the impetus for strengthening environmental protection does not come only from market signals, its impact on employment is also determined by the framework conditions of national and international environmental policy (Pfeiffer et al., 1999).

It is not possible for this report to discuss these issues in detail or to provide quantitative data documenting the scale of the effects on employment for the individual environmental technology sectors. At the time when this report was completed, relatively little quantitative data was available in this field. In the next stages of the Cedefop project 'Observation of innovations in vocational training', the data currently available will be compared and assessed.

Three key areas of environmental technology at micro-level will be discussed in more detail below. The aim is not to conduct an overall assessment of these areas, but rather to indicate the most important issues to be taken into account in a comprehensive analysis.

## **Solar technologies**

A firm of fitters or electricians that expands its service range to include solar technologies acquires new markets and utilises the capacities of its employees more fully as a result of new orders. The jobs concerned become more secure. The enterprise profits financially from the new orders and at the same time acquires a new segment of the market, which helps to ensure both that the enterprise is profitable and that employees' jobs are secure in the longer term. Only rarely does the net volume of new employment in smaller business enterprises in this sector increase as a result of these new activities to such an extent that new employees have to be taken on. However, in larger firms in particular, production and sales of solar collectors can, with an appropriate increase in demand, create a considerable potential for new jobs (Loos, 1997).

An increase in demand would also create new jobs in solar collector production. The number of jobs would depend on the size of the increase in sales. So far an important production market has evolved in Greece, within the EU, and in Cyprus, one of the candidates for accession (Nicosia Chamber of Commerce, 1999, Statistics on the solar heating market).

## **Environmental protection within companies (corporate waste and recycling management)**

As a result of new statutory regulations in various Member States, corporate environmental protection has greatly increased in importance, particularly as regards larger companies. Companies are also increasingly willing to implement environmental management systems voluntarily, in order to improve their image in the public eye and with customers, and to be more economical in their use of resources and thus save the company money.

This trend has generated a quantity of new employment in many companies. Occasionally this has also resulted in the creation of new jobs. However, the emphasis is mainly on creating new tasks and activities for existing jobs, rather than actual job creation.

Company surveys in Austria have shown that in a medium-sized company a company environment and waste officer spends on average 20-25% of his working hours on tasks associated with this function. The industrial sites of large companies usually have one (or sometimes two) environment and waste officer(s), carrying out this activity as a full-time job, while their deputies spend only part of their working hours on it. Irrespective of whether the activities are full-time or part-time, these work duties constitute a new net quantity of employment, since they do not replace other tasks or activities either within or outside the company (Loos, 1997).

## **Local-authority advisory activities on the environment and waste**

In recent years, in many Member States there has been a substantial increase in the importance of advice on the environment and waste for local inhabitants from advisers appointed by local authorities. Innovative legislative measures, such as those in the Austrian Land of Styria, where all municipalities with over 30 000 inhabitants have a statutory obligation to employ an environment and waste adviser (to advise citizens and those managing local-authority activities in this field), help to increase the numbers of those active in this area. Irrespective of legislative measures, however, increasing numbers of local authorities are showing an interest in employing such advisers voluntarily, as a contribution to the Climate Alliance (Loos, 1997).

## **Local-authority and private enterprises in the waste disposal and recycling sector**

In many Member States, local-authority waste disposal has broadened its traditional waste collection activities to include separating waste into types (paper, glass, metal, residual and hazardous waste). However, this has created virtually no new jobs.

On the other hand, many new jobs have come into being in recent years in private recycling enterprises and, in some cases, local-au-

thority<sup>59</sup> recycling enterprises. Even in Member States where expansion of this sector has already made great strides, there is still potential for development in the shape of types of recyclable waste not yet, or only very rarely, included in the recycling process. In Austria, for example, there are 240 private enterprises whose sole activity is recycling. They employ 1,500 people. However, there are many other enterprises manufacturing both new and recycled products (Austrian Ministry of Economic Affairs, Energy Recovery Agency, 1999).

Only in some cases do the new employment that has been generated in this sector and the new jobs that have been created constitute net gains, as in the business and product cycle they reduce the quantities of secondary materials (paper, glass, metal, synthetics) and hence also the work input associated with their production. However, it would be wrong to equate this completely with the resulting loss of employment volume. Although there is a reduction in production of secondary materials (paper, glass, some types of metal, some types of synthetics) from raw materials, this being replaced by production of secondary materials from recycled wastes, the numbers of work activities generated by recycling are higher than the numbers associated with the conventional production process.

However, only some of the additional volume of work is generated in production itself, as many production processes operate automatically. Other linked activities are often more important, in particular administrative office work and transport. This effect is intensified by the numerous enterprise start-ups in the recycling sector and the predominantly small-scale industrial structure in this sector in some Member States. An important growth sector has come into being in this field, but as yet no other enterprises have closed as a result. It can be assumed that new jobs will continue to be generated in this field in the future. There is a particularly significant potential for new jobs and a new employment

volume in this sector in Member States which is only just setting out along this path.<sup>60</sup>

However, without a doubt, quite apart from the important ecological dimension, the primary importance of the new environmental work activities and markets lies in the increase in the utilisation of workforce capacities in the companies concerned, as a result of innovative products and new services, and hence in improved job security and support for the dynamics of business processes.

## 5. Conclusions

The structure of vocational training in the environmental sector varies in the countries discussed. The specific national framework conditions of the vocational training systems have also given rise to different approaches to environmental vocational training in the individual countries. However, the development trends, initiatives and provision structures of environmental vocational training in the individual countries also share many common features and similarities.

Denmark and Austria in particular have adopted similar approaches to incorporating environmental skills into apprenticeships/traineeships. In both countries, an attempt is made to achieve blanket incorporation of environmental skills into the dual system.

In Austria, in the metal, electrical and energy sectors, the social partners in particular have launched major initiatives. However, agreements by the social partners and subsequent legislative action, as in Austria, are tailored to the specific structures of the dual training system, and if they were to be transferred to other Member States, they would have to take account of the specific training structures in the country concerned.

EU directives, EU training-subsidy programmes and project partnerships subsidised

<sup>59</sup> In many EU Member States, the majority of recycling is carried out by private enterprises.

<sup>60</sup> Interview with T. Schulze-Bauer, Association of Austrian Waste Disposal Companies, Vienna, May 1996.



by the EU help to achieve an increase in training initiatives with similar basic structures in the Member States. An example of this is the EU directive on authorised persons for hazardous goods, which Member States must incorporate into national law within a set transitional period. Among other things, the directive lays down comprehensive training measures in accordance with common criteria. However, the form specifically taken by the relevant training courses is laid down at national level. 'Synchro', an LdV project managed by the BFI of Vienna (with partners from Greece, Germany and the United Kingdom), is currently attempting to develop standardised transnational modules for training for authorised persons for hazardous goods.

In the field of training for skilled workers in solar technology and geothermal energy, Austria's First Viennese Solar School offers interdisciplinary training providing theoretical content and practical skills on a large scale. In Greece, the market leader for solar collectors (both at national level and in terms of exports within the Single European Market), some specialised institutions of higher education offer a fairly comprehensive training content in this field, but in the context of initial and continuing vocational training for skilled workers, the training offered primarily consists of training measures for the unemployed in the form of short courses. These courses do not usually involve a final examination.

If the BFI of Vienna's training concept and the interdisciplinary solar-technology training course developed by the LdV 'European Solar School' project on the basis of the BFI modules were to be transferred to Greece and implemented there, this would considerably raise the skills level of skilled workers in this field. The relevant skills requirement essentially exists. This applies both to current tasks and to innovative products and services in this field, such as solar heating/part-solar space heating combination systems, or energy audits for buildings. Depending on the main skills requirement, the BFI modules could be offered individually or in combination, as interdisciplinary training. There is currently a greater need for the

former, but interdisciplinary training in solar heating, photovoltaics and geothermal energy is becoming increasingly important. The current LdV project, 'model of an expanded heat pump installation and use as a fixed component of initial vocational training', under the project management of Kreishandwerkerschaft Frankenberg (with partners from Austria, Greece and Spain), could also help to ensure that appropriate initiatives for initial vocational training of skilled workers are launched.

The one-year Master's course, 'European Solar Engineering School', introduced at a Swedish university for the first time in September 1999, shows that solar-technology training initiatives are also being launched in Member States where market development is at a very early stage.

In 1992, in Denmark, the State energy agency and production and sales companies agreed that only trained fitters with a solar heating certificate may install State-subsidised solar heating. This was designed to ensure that the systems installed functioned correctly. The three-day training courses in solar heating have been available since 1993 at two technical secondary schools, in cooperation with the Danish Institute of Technology. A similar agreement was concluded in 1998 to assure the quality of photovoltaic installations.

The Danish production schools offer special training courses for unemployed young people (and younger labour market participants) and, in particular, specific problem groups among them. These courses are designed to (re)activate or reinforce participants' motivation to learn. Particular use is made of alternative approaches to learning to impart knowledge and skills. Thanks to cooperation with industry and sales of their own products and services, the production schools are able to cover some of their operating costs themselves. It could be made possible or easier to transfer this model to other countries by means of efficient cooperation with local companies and sales of the school's products and services bringing in the greatest possible return for the school and the young people themselves.

The SEE NOW project, designed to provide unemployed women graduates with sound training qualifying them to work as environmental and energy consultants, stands out in particular by the way in which it has coordinated the course content with the skills requirement in local and regional companies and the project-oriented learning and work. As a result of cooperation with industry (periods of practical experience in companies and collaboration with companies in the context of projects) during the pilot course, the training was even more strongly geared to application-oriented content. At the same time, the project-oriented approach was designed to help participants to develop increased competences in the areas of independent planning, working and decision-making. In addition to the strong emphasis on the current needs of industry for subject-specific skills, the fact that this course initiative imparts these core or key skills gives it an additional fundamental dimension as regards developing the skills and competences of the unemployed women participating. Similar initiatives could help to increase the integration of unemployed graduates in this sector in other countries and regions, particularly if the course content is effectively tailored to local and regional skills requirements.

Increased use should also be made of alternative forms of teaching and learning in the provision of knowledge and skills. Project-oriented learning and work in small groups are particularly suitable here. However, this concept must be adapted, as regards content and skills level, to suit the different training courses. A purely project-oriented approach, as practised in the Danish production schools, is a suitable form for this skills level. In the SEE NOW energy-consultant training, despite the obvious success of the course, the project manager believed that not all the effects of the absence of any signs of a rigid course structure were positive. Therefore the aim should be to achieve a balance in the

forms of provision, designed in accordance with the specialist field and skills level, but also including different and, in particular, alternative forms of learning. Furthermore, for many initiatives it is important to strongly integrate the learning of practical skills with theoretical knowledge, in a well-coordinated combination.

The transfer of innovative products developed via transnational projects and project partnerships can play a crucial part in improving the skills of employees in the Member States. It is not uncommon for LdV projects to develop modules and learning aids that could considerably increase the efficiency of initial or continuing vocational training in particular occupations or groups of occupations, only for them not to be implemented in vocational training owing to an inefficient dissemination strategy.

The commitment of the social partners to disseminating products developed in LdV projects can result in increased implementation and application of these innovative practices in vocational training, but this commitment needs to be appropriately encouraged, inter alia by the project managers. In particular, trade unions and employers' associations should also be addressed at the relevant sectoral or occupational-group level, and they should be actively integrated into the dissemination strategy. Higher project budgets and compulsory documentation of the success of an efficient dissemination strategy can open up prospects for improved implementation of project findings.

The LdV projects on improving skills in initial and continuing vocational training for skilled workers in the metal, electrical, energy and transport sectors discussed in this report are good examples of commitment on the part of the representative institutions of employees and employers both to project management and to the dissemination of the results.

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# Company-based learning in the context of new forms of learning and differentiated training paths

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**Peter Dehnostel, Gisela Dybowski**

## **Abstract**

*It is widely agreed that education and, in particular, vocational training should enable young people to design their careers and their working and employment conditions. Individuals must learn to cope with open processes and uncertainties and to take decisions on their educational pathways. In a general perspective, vocational training has to be extended to cover larger periods of working life. The continuous updating of knowledge and abilities is a challenge for an increasing number of workers.*

*The results of OECD's VOTEC project reveal a common educational strategy in a number of countries, by increasing both 'flexibility' and 'differentiation', e.g. by creating fluid transitions from training to work or to continuing training and by implementing approaches to improve transparency on training opportunities. These are the strategies which have to be considered when creating an autonomous and equivalent vocational education and training (VET) system.*

*At the enterprise level, principles of linking learning and work are gaining ground to improve the quality and development of vocational training. Approaches to connect work and learning, to integrate experiential learning, informal learning and intentional learning and to foster self-organised learning are becoming important.*

*New forms of organisation, work and learning within enterprises could improve and link in-company learning with school-based learning and higher education. The concept of 'learning enterprises' leads to more demanding forms of learning than is the case with traditional enterprise training activities. However, the relevance of firm-based learning for the modernisation of vocational training and for a closer link between education and work has always to be measured against its realisation of new forms of learning and whether these are considered as a core competence of firms. This includes knowledge management, i.e. the question of how to identify new knowledge and how to integrate it in the production process.*

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## Overview

It is widely agreed today that education and, in particular, vocational training must put young people in a position to play an active part in shaping their own career development paths and their own working and employment conditions. For, in times of rapid change, it becomes ever harder to predict the future with any certainty. Hence those concerned must learn to deal with open-ended processes, to cope with uncertainty, and to take decisions about their own training paths. Vocational training will increasingly extend across lengthy phases of working life, in order to cope with the challenge of ever greater pressure of competition in trade and industry, science, technology, communications and cultural life, because constant updating of knowledge and skills is a requirement faced by ever greater numbers of workers.

This need for lifelong learning, which is currently arising in similar form in all advanced industrial nations, is also becoming increasingly important in the debate on the restructuring and reform of national vocational training systems in Europe. In this context, comparable problems are crystallising, over and above particular characteristics of national vocational training systems. It can currently be seen that in many European countries a formal initial qualification is becoming increasingly important for access to the labour market; its level is also rising, and its content is becoming broader. However, rapid changes in economic, technical and social conditions are making it difficult to make vocational training 'fit' employment. National standards are too general for this, or they are adapting too slowly to be able to meet the relevant requirements in good time. On the other hand, vocational training is unattractive because of inadequate career paths. This brings with it the risk of further reinforcement of trends towards 'mediocratic' training.

This is because as long as young people or young adults fear that entering initial vocational training will take them into a blind alley, as regards other training options and future working careers, they will prefer to follow

academic educational paths. Conversely, if education continues to expand, companies will tend to avoid a worsening of the standards of potential applicants by giving preference to young people with a higher level of general educational qualifications, as very clearly demonstrated, for example, by the trend in France (cf. Koch 1998a, p.336).

To counter these trends towards 'mediocratic' training, which in the past were not only widespread in France but have also had an effect in other industrialised countries in Europe, there is an urgent need to replace existing vocational training structures and develop new ones. The question is whether this transformation process can be controlled by policy, i.e. channelled in such a way that the traditional links between the systems of general education, vocational training and employment can be broken down and that stabilisation and development of vocational training can be assured.

In a project that ran from 1991 until 1994, 'The changing role of VOTEC', the OECD carried out a detailed study of the question of the capacity of vocational training systems to respond to socioeconomic structural change. Although the OECD project was essentially based on national reports, but not on systematic comparisons, the results of this project and the discussions at many European conferences and seminars (cf. OECD 1994; Koch and Reuling 1995; Fraunhofer-Gesellschaft 1996 etc.) revealed that the thrust of education policy in many European countries was moving in the same direction: key answers are being sought via an increase in the capacity of systems to respond via increased flexibility and in a new quality for vocational training via 'differentiation'.

As outlined in section 1, the objectives of increased flexibility and differentiation are being pursued by means of a variety of tools, depending on the architecture of the relevant systems. An attempt is being made to reorient vocational training policy to create more fluid transitions from vocational training to employment or continuing training, and to work towards more uniform procedures that will make access to the range of training avail-

able more transparent. This involves simultaneously setting out fundamental development prospects, which need to be debated with the aim of achieving an equivalent independent vocational training system.

Below the level of structural approaches and tools aimed at differentiating and individualising vocational training, at company level principles of linked learning and work are becoming ever more important to the quality and further development of vocational training. These trends, described in section 2, are based on changes in work, which are primarily due to the introduction of new corporate concepts and the associated corporate reorganisation and restructuring. As a result of new corporate forms of work and learning, wide-ranging changes are looming for vocational training practice and research, and are of crucial importance as regards the future prospects of initial and continuing training.

As the relevant features of these forms of learning show, there are considerable differences in their aims, structures and level of dissemination, yet they combine working and learning in a systematic way, over and above learning by experience.

Approaches involving greater integration of learning by experience, informal learning and deliberate learning are becoming important in the context of vocational training in companies, as we show in section 3. Here, a theory of learning is defined and these concepts are categorised in the context of other types of learning and knowledge in companies. As many recent surveys have shown, independent learning has an important place in the context of new forms of learning. The possibility of increasingly combining, with the aid of independent learning, informal learning experiences from all areas of life with organised learning experiences in vocational training and continuing training is not only likely to create a new impetus for learning, but is also proving to be a better route, specifically as regards new forms of learning.

New forms of organisation, work and learning in companies involve the assumption that it is now easier than it used to be to achieve

improvements and create possible links between learning in companies, in schools and in the higher-education sector. For the idea of the 'learning company' involves concepts of learning more demanding than those that have hitherto characterised vocational training and continuing training activities. However, according to the prospects set out in thesis form in section 4, the value and importance of company training work to modernisation of vocational training and to closer dovetailing of the training and employment systems will increasingly be measured in accordance with the extent to which it is actively involved in the development and dissemination of new forms of learning and makes this its core competence. This core competence will then also include the structuring of knowledge management, i.e. the question of how new knowledge is identified and incorporated into the relevant processes.

## **1. Framework conditions for forms and quality of learning**

Education and vocational training systems are today increasingly expected to be responsive as regards new forms of greater flexibility and individualisation. Differentiated solutions are required in order to realise and implement these aims, owing to the different education and training systems in Europe. There is extensive agreement on the subject of creating links and a high level of interchangeability and of developing vocational training into a transparent overall system. In this context, the European debate is attaching increasing importance to requirements and approaches such as:

- ❑ closer dovetailing of initial and continuing training;
- ❑ expansion of modular, flexibly designed skills training paths;
- ❑ models combining qualifications obtained through vocational training and general education (dual qualifications);
- ❑ expansion of vocational training options via 'supplementary qualifications' facilitating individual routes to vocational development.



Their particular contribution to the modernisation of education and training is seen as lying in the fact that these tools make vocational training more attractive and raise its status in relation to general education.

The common challenges outlined underline the urgent need for vocational training research at European level, which relates to overall transnational issues and can provide an innovative impetus for the further development of vocational training, via comparative research. A number of transnational projects recently implemented or currently in progress (cf. Koch 1998a; Reuling 1996, 1998a; Manning 1996a, 1996b; Hanf 1999) are providing initial information on concepts and tools for distinguishing vocational training courses and individualising the range of training available, as regards current practice in the European Union. Here, important aspects are instruments for modular training, dual qualifications, supplementary qualifications or relevant equivalents applied by national policies.

We must briefly outline what we mean by the terms on which we shall be focusing in the remainder of the text: 'individualisation', 'differentiation' and 'increased flexibility'. Individualisation describes the increasing reference to the various capacities, inclinations and interests of individuals, in place of traditional ties and standards. Individuals are increasingly determining their own life and career plans and are themselves responsible for them. In the case of vocational training, individualisation means recognising the differing training and skills development of every individual, and gearing skills concepts or programmes to this. This involves differentiating training and skills training, and here a distinction must be made between 'internal' differentiation (e.g. the method involving working in small groups) and 'external' differentiation (e.g. new training courses). More generally, differentiation should be seen as expressing the service and knowledge-based society that is developing, and at the same time it is a typical feature distinguishing the latter from the comparatively clearly and transparently ordered structures of the industrial age. Lastly, in-

creased flexibility describes the creation of structures and processes in such a way as to make it possible for persons and systems to react rapidly to unforeseeable developments, changes and requirements. At the same time, increased differentiation may lead to the development of increased flexibility. This applies to only a limited extent to measures involving external differentiation.

### **1.1 Individualisation and differentiation of vocational training and development paths - specific national examples**

The following review of structural approaches to differentiating and individualising vocational training relates to an evaluation of research in the United Kingdom, the Netherlands, France, Germany and Denmark.

#### ***United Kingdom***

In the United Kingdom, individualisation and increased flexibility have long been the basis of education and training organisation. Formal open access to different qualifications and fields of employment is part of the national system. Characteristic of this is the integration of vocational training of young people and adults: levels of vocational qualifications are distinguished from standards, and can be achieved in the context of both initial and continuing training. Two recent developments are worthy of note: the introduction of general vocational qualifications (GNVQs) and modern apprenticeship. Both can be seen as a response to criticism of the NVQ system, qualifications that were little used because of their high level of specialisation (Reuling 1996).

The GNVQ programmes provide individuals with a basis for broad occupational fields and for access to further education. In principle, it is possible to enter the employment system direct, with no formal qualifications. GNVQs make the transition easier, but still necessitate lengthy periods of vocational adjustment. In order to establish a link with the skills required in the workplace, combinations involving NVQ units - as 'supplementary qualifications' - are recommended. 'Modern apprenticeship' is a programme created to

reinforce work-oriented learning paths. It is essentially based on level ISCED 3 NVQs. Within this framework, additional units above this level can be selected. In the case of both GNVQs and modern apprenticeship, key qualifications are offered in separate learning units, in order to ensure a transfer of vocational competences and skills.

In 1996, an expert committee set up by the British Government put forward a national skills framework, relating qualifications obtained in general education and vocational training to one another and establishing formal equivalents according to levels of difficulty. Within this reference framework, at horizontal level the various qualifications are assigned to one course of general education and two courses of vocational training.

In the past, the individual courses of education and training in England were developed in isolation and at different times, so that this qualification framework constitutes the first quasi-official outline of a coherent system of education and vocational training. This statement must be qualified by adding that the qualification framework relates only to qualifications for 16-19-year-olds, which covers the acquisition of qualifications at levels of difficulty 1, 2 or 3 (Reuling 1998a).

In this system, the acquisition of GCSEs, certificates obtained at 16 on completion of stage 1 of secondary education, constitutes the typical point of transition to the various training paths. The question of which of the three educational paths, at which level, holders then embark on is largely dependent on the number of subjects passed and grades obtained at GCSE level. It is important to note that young people aged 16 or over have the opportunity to increase the number of subjects passed and/or average grade, in order to improve their chances of access to relevant courses leading to general or vocational qualifications at the various levels.

In this system, the vertical qualification paths are clearly mapped out. Five GCSEs (i.e. certificates in five different subjects) with grades of A to C are sufficient to take courses leading to AS (advanced supplementary) and A (advanced) levels, roughly equivalent to the German *Abitur*. This system also provides for horizontal qualification paths. For example, it is both possible and reasonably common for people working towards a GNVQ to obtain, at the same time, general qualifications in individual subjects (GCSEs or A levels). In this way, they can supplement their GNVQ or repeat examinations for general qualifications in order to improve their grades. They can then decide whether they wish to obtain further general qualifications or general vocational qualifications (Reuling 1996, 1998a).

In principle, there is also open access to the various NVQ levels. Trainees can enter at any level and seek to acquire the relevant NVQ. In practice, however, there are some problems in going up from second to third level NVQs, one reason being that in general NVQ qualifications are designed to relate to very specific occupations, and do not take account of the importance of acquiring broad vocational background knowledge. Therefore it is likely to be more difficult to implement horizontal qualification paths from GNVQs to NVQs, because there are very clear differences between the purposes of the relevant qualifications (general vocational knowledge and skills in school-based courses versus occupation-oriented skills preferably acquired in companies).

Moreover, it is also difficult for elements of different training paths to be made interchangeable because, under the current system, the examination units and qualifications in the various educational paths are structured in very different ways. This means that there is only limited scope for combining examination units from different educational paths in the sense of an integrated or mixed curriculum (Oates 1998), and reduces the room for manoeuvre as regards individualising training paths.

**The Netherlands**

In the Netherlands, a new law on adult education and vocation training (WEB) was introduced in 1996. This law sets out to structure various forms of vocational education and

training and adult education in a more coherent fashion (van Lieshout 1997; van Cleve 1998). Its core consists of provision for a uniform national structure of vocational qualifications, based on four levels of difficulty as regards jobs and four related training levels. The criteria for a job's level of difficulty are the extent of the responsibility borne by an employee, the complexity of the job and the extent to which it is transferable to different situations.

At each training level, courses leading to a vocational qualification are offered. Their duration is laid down in accordance with the number of years it takes a participant on average to acquire a certificate, with each year representing 1,600 hours of real learning time (theoretical/practical instruction, homework, examinations). Ultimately, the level of qualifications for admission, which are laid down for access to each level of difficulty, is the determining factor as regards the concrete length of the course taken to achieve a vocational qualification at the various levels. There are currently a total of some 700 vocational qualifications at the various levels of difficulty, designed and supervised by the 22 sectoral organisations (LBO - *Landelijke Organe Beroepsonderwijs* [national vocational training authorities]). The State regards public responsibility as consisting in ensuring that over and above profiles of requirements in individual sectors of the economy, account is taken of developments affecting companies in general, i.e. that the principle of 'professionalism' is applied, and that when vocational qualifications are established, it is ensured that they have labour market relevance (Reuling 1998b).

Every vocational qualification consists of a number of part qualifications, which are described as learning objectives or workplace-oriented skills. The options for combining individual part-qualifications are limited. The majority of them are compulsory qualifications, with a minority being optional. However, it is planned to offer more supplementary qualifications at the higher levels of difficulty, equivalent to the level of specialised institutions of higher education. There are clearly defined entrance requirements for

the acquisition of vocational qualifications or part-qualifications at the various levels of difficulty, as well as options for transition to higher levels of difficulty or training courses (including the level of specialised institutions of higher education).

Every part-qualification involves a certificate based on tests, which may be implemented in a variety of ways (internal, external, internal with external legitimation via a State-recognised test body). External legitimation of certification is stipulated for 51% of part-qualifications. As a rule, this relates to those part-qualifications that cover the core of the occupation. A quality assurance system is laid down both for external test bodies and for regional vocational training centres. However, companies can also carry out tests by agreement with the vocational training centres, with the certificates being issued by the latter.

The concept of part-qualifications in the Dutch system has two aims. Firstly, trainees who switch to another form of training or break off training prematurely obtain certificates for elements already completed, in which they have passed a test. Secondly, the combining of different part-qualifications is intended to create more of a distinction between qualifications and thus make it easier to enter the labour market. Hence, in addition to a modular approach, the new WEB also attaches particularly great importance to the so-called regional training centres (ROCs) (cf. Kutscha 1999). On the one hand, this is a question of institutional integration of the players into a regional network developing qualifications structures and, on the other, this involves mutual coordination of the content and organisation of training courses 'on the spot'. It is hoped that this regionally based infrastructure will improve links between the education and employment systems, with its greater decentralisation, reinforcement of the autonomy of regional and local players, and enhancement of the room for manoeuvre of players in the private sector.

As yet, little can be said about the results and effects of the new structures, as the law on adult education and vocational training has

been in force only since January 1996. However, it can be assumed that the regulatory framework now in place will be able to bring about significant innovations in vocational training, particularly in terms of increased flexibility and differentiation within the system and as regards its orientation towards the external situation. In this context, the concept of creating modules must be seen as an element of a strategy of political innovation.

### **France**

In the past, the French education system was characterised by the fact that once a vocational training path had been embarked on, either by choice or owing to problems at school, this largely determined the future educational path pursued and hence also future options for vocational development. Against the background of the efforts made in recent years to make vocational training more attractive to better pupils also, formal interchangeability within the education system has been significantly expanded.

To facilitate transition between the vocational and general branches of secondary education (stage II), 'bridging' classes (*premières d'adaptation*) have been established at the upper stage of secondary education, to make it possible for holders of a BEP (diploma in occupational studies) to achieve a technological or general baccalaureate. However, major hurdles have to be cleared before the transition can be effected, as virtually no account is taken of previously acquired knowledge (Chalendar 1988, p.148). As a side effect of the need for school achievements to be comparable and capable of being taken into account with respect to the transition between general, 'technological' and vocational education paths, vocational training has been more strongly integrated into the logic of the functioning of the overall school system.

Since 1985, there has been a training course following on after completion of training as a skilled worker, leading to a dual qualification, the vocational baccalaureate. In addition to this form, which is akin to further education, the vocational baccalaureate can also be acquired in the context of phased skilled worker

training, and apprenticeship in particular. It is intended that it should be possible to acquire all vocational training qualifications up to and including the vocational baccalaureate via differentiated raising of training levels, in apprentice training centres (CFAs) in particular. The training course leading to the vocational baccalaureate is combined with a significant company-based element (16-20 weeks of the two-year training period). This corresponds to the principle of alternation, under which systematic/school-based training and practical instruction in the workplace are combined (Rothe 1994). Training is divided into 25 different subject areas (1991) and includes a programme based on fundamental general subjects: history, geography, mathematics, French and economics.

The training path may also extend beyond the level of secondary stage II. Specialised study (in *sections de techniciens supérieurs* [STS - advanced technician departments]) at *lycées d'enseignement général et technologique* [colleges of general and technological education] leads to the BTS qualification (*brevet de technicien supérieur* - advanced technician's diploma), and at *instituts universitaires de technologie* (IUT - university institutes of technology) a *diplôme universitaire de technologie* (DUT - university technology diploma) can be obtained. However, holders of the vocational baccalaureate face strong competition from holders of the general or technological baccalaureate for admission to these highly selective training courses. Moreover, those who have followed the vocational training route run an extremely high risk of failing owing to the major theoretical demands these courses make. If several successive qualifications are obtained, much of the content is repeated at the next higher level, because previous work is not taken into account.

In the past ten years, a number of measures have been implemented in an attempt to individualise vocational training and make it flexible, over and above the State system. Individualisation has fundamentally been promoted by:

- the extensive introduction of modules into programmes following on from State school

training, facilitating flexible acquisition of qualifications;

- the development of teaching software for individual, autonomous use;
- intensive counselling on vocational training.

An essential tool for increasing flexibility is the option, backed by legislation, of validating knowledge and occupational experience and accumulating credits for this, in order to obtain a qualification in stages. Finally, regulations have been put in place for taking account of vocational qualifications in national diplomas. To complement national diplomas, qualifications have been designed that equip employees to perform certain tasks and at the same time to adapt to changing situations. In the French system, these serve as supplementary qualifications. In this context, the following types can be distinguished:

- *FCIL* - these are primarily offered at ISCED level 2 or 3, on the initiative of companies or schools under local State supervision, for young people who are still studying at a vocational school or who are working for a company under a training contract. They may involve specialisations or enhancement of the initial qualification;
- *CQP* - these are qualifications specified exclusively by the social partners in the relevant sectors. They are strongly geared to job classifications (job profiles) and make no distinction between training and continuing training;
- *'Titres homologues'* [equivalent qualifications] - these serve to provide State recognition and inclusion of vocational qualifications acquired outside the system of State diplomas. The process can be regarded as an example of transparency of proof of qualification.

### Germany

The German vocational training system has, for many years, been confronted by increasingly heterogeneous trainees, as regards their

social origin and prior education. In the wake of the expansion in education, holders of the *Abitur*, the school-leaving and university entrance qualification, are also increasingly seeking vocational training in the dual system (combined work and training). At the same time, training places are also being sought by young people who are disadvantaged owing to social problems and learning difficulties, or who come from a different culture, based on a different language and education.

As in other industrialised nations, technical and socioeconomic changes are also resulting in rapid changes in specialist knowledge and in a trend in the structure of qualifications involving increasing demands on the one hand while, on the other, new standards are being set. Above all, however, it is subject to rapid change. Even now, vocational occupations are increasingly 'saturated' with information, i.e. they primarily consist of the obtaining, assessment and processing of data and information, for which general education and supplementary vocational qualifications are becoming ever more important. Thus with regard to the structuring of vocational training and its content and the modernisation of vocational training practice, there is a need to develop approaches and produce plans that take account of this increased dynamic.

Since the early 1990s, these trends have also given rise to a lively debate about the future of the dual vocational training system and about the structural reforms required in the vocational training system as a whole. For the scope of the reform possible in the vocational training system has been significantly increased in recent years because companies have increasingly been reducing their training provision and attempting to cover their future skills requirements in other ways that are cheaper and more efficient, and/or some of those seeking training are now turning away from dual training, because other training paths offer better employment and career opportunities.

The groups in society responsible for vocational training do not currently see prospects for reform as lying in a largely nationalised

and school-based vocational training, analogous to the training model implemented not only in France, but also in the majority of EU Member States. However, the trends outlined make it necessary to consider more comprehensive forms of increased flexibility for and differentiation of vocational training paths, new combinations of school-based and dual vocational training and continuing training, and increased interchangeability between general education and vocational training.

The first stage of the reform is aimed at modernising existing vocational training courses in the dual system and creating new training profiles for innovative fields of employment (e.g. the information and communication sector, the printing industry and the media, the transport sector). A fundamental principle in the context of modernising existing training profiles and creating new ones consists of making training courses more dynamic and flexible. Key features are:

- the acquisition of broad basic skills in the first 18 months of training, with differentiated and dynamic skills profiles building on these. This internal differentiation enables skills to be built up in a wide variety of areas and also ensures that training occupations cover a very varied range of products and activities;
- a combination of compulsory qualifications (key qualifications) covering the entire range of future fields of activity and optional qualifications (c.f. *inter alia* Lennartz 1997).

The second stage of the reform is aimed at developing self-contained, standardised 'building blocks' (modules) which build on one another and can be completed, as 'supplementary qualifications', either during initial training or immediately afterwards. They are aimed at making vocational training more attractive, in that they make it possible for individuals to make their own choices and decisions as regards future career development paths, and make training better adapted to differentiated requirements. At the same time, the intention is to create more fluid transitions between initial and continuing training, in terms of both timing and content.

However, it is not yet clear how these supplementary qualifications can be combined with traditional vocational and/or general qualifications, or who will offer and provide them. Even if the basic strategy pursued consists of listing these supplementary qualifications acquired in a portfolio (vocational training 'passport'), the question of transparency and of the value of the achievements described will arise (Kloas 1997). Thus there is a need for an analytically based certification system, covering both initial and continuing training and enabling these qualifications to be countable and interchangeable. The introduction of credit systems may be a first stage in transparently documenting final qualifications, job experience, and part and supplementary qualifications. They also serve to make management of the qualification and development process autonomous, although careful consideration must be given to their usefulness and to the work involved. Thus experience of and trends in modular approaches to vocational training, as apparent in the UK and to some extent also in the Netherlands, are also becoming increasingly important in connection with modernisation of the German vocational training system.

Research is also required into the possible value of these modular concepts for continuing training and the structure of qualifications in further education in Germany. For in view of the need for lifelong learning, in Germany too there is an increasing need to look at the question of the usability and countability of part qualifications acquired in training or at work. Here, the English and Dutch concepts demonstrate a way of developing flexible but nonetheless coherent continuing training structures. As experience to date demonstrates, a precondition for this is effective training counselling, which informs individual trainees of the options available as regards part qualifications and of the consequences of the relevant options in terms of acquiring a nationally recognised continuing training qualification.

### ***Denmark***

In many respects, the structures in Denmark are similar to those in Germany. This applies

in particular to the organisation of vocational training, in which here too the most important pillar is dual vocational training. Unlike Germany, however, Denmark has successfully implemented a direct link between school and company-based forms of vocational training. These structures promote interchangeability between the systems and also support the claim to equivalence of vocational training and general education.

Since the Vocational Training Act was passed in 1991, those completing the nine-year period of compulsory education (*folkeskole*) have been able to go straight on to a vocational school. Young people who start on initial vocational training can, if they are suitable, switch to a vocational school in the second year. Conversely, students at vocational schools also have the option of continuing their initial vocational training in the dual system. The law on the higher business examination (HHX) and the higher technical examination (HTX) integrated these qualifications from vocational schools into the reformed system of initial vocational training and thus, at the same time, strengthened these schools' position and made them equal to schools providing general education. Both qualifications serve as entrance qualifications for higher education institutions, but also directly qualify holders to enter employment.

In addition to purely school-based vocational training, young people who have completed their compulsory education also have the option of dual training in 85 occupations, with over 200 specialist subject areas. Unlike the situation in Germany, however, these dual training courses no longer include only traditional training, but also courses whose duration can range from under one year to 5<sup>1/2</sup> years. Dual training courses are organised in blocks, with periods at vocational school alternating with training periods in companies. However, work is currently being done on another reform of vocational training, due to take effect in the 1999/2000 training year. This is characterised by a framework for qualifications, a modular structure, and local/regional autonomy for vocational training institutions. Individualisation and increased

flexibility will be universal principles in the new structure and organisation.

In future, initial vocational training will be organised in two stages for everybody:

1. In the *basic course*, there will be a drastic reduction in the number of training courses hitherto available. The basic course can take between 6 and 18 months, depending on previous education and the combination of modules. During the course, it will also be possible to select units facilitating access to more advanced training courses. In all cases, the compulsory element will involve 15 weeks of key qualifications and can be supplemented by optional modules on the basis of an individual plan. It ends with an examination which constitutes a condition for entry to the main course.
2. In the *main course*, specialisation takes place. Here too, there is a compulsory element and an element in which individuals can choose options on a modular basis. The optional units are offered in both initial and continuing training - most colleges are active in both fields (Hanf 1999).

In Denmark there are close links between initial vocational training, continuing training and skills training for the unemployed. On the one hand, this method of organisation makes it possible to coordinate the systems as regards the content and recognition of qualifications. On the other, the modular forms of provision which have already been prevalent in continuing training for many years allow scope for adapting the training available to meet the needs of specific target groups. Most continuing training programmes are divided into relatively small learning units. In virtually all the programmes, certificates are issued for individual courses, and depending on individual ability, participants can also acquire a nationally recognised general or vocational qualification by combining individual building blocks in a series of courses over a shorter or longer period. Building blocks from general education leading to a school-leaving qualification can also be combined with building blocks from continuing training alongside employment (labour mar-

**Figure 1: Tools/approaches for individualising and distinguishing vocational training and development paths**

Countries	UK	Netherlands	France	Germany	Denmark
<b>Tools/approaches</b>					
Modules	++	++			+
Dual qualifications				+	+
Supplementary qualifications/ interweaving of initial and continuing training			+	++	+
Interchangeability with courses of general education	+	++	+	+	

ket training). The certification of individual courses, and not simply of one overall course, also makes it possible to continue adding qualifications later precisely at the point where earlier studies were broken off.

The original fears of the skilled workers' trade unions that these part qualifications in the context of continuing training could be detrimental to qualifications acquired in dual training have proved to be unfounded. It has instead proved to be the case that sectors extensively involved in continuing training alongside employment also have large numbers of trainees. In addition, the introduction of modules into continuing training alongside employment (labour market training) and the increased flexibility have also provided a major impetus for the reform of initial vocational training, which is also to be organised in modular form in the year 2000 (cf. Nielse 1996).

### 1.2 Starting points for an independent and equal vocational training system

The above overview is based on the results of surveys in countries in which there are significant variations in the degree of individualisation and differentiation of vocational

training paths. As the generalised summary in *Figure 1* shows, the objectives of differentiation and increased flexibility are pursued with the aid of a variety of tools. Vocational training is being made more flexible, in an attempt to create more fluid transitions to employment or continuing training and to make processes more uniform, in order to make access to the range of training available more transparent. The compromise between State regulation and market orientation aimed at in this process leads both to common features and to a variety of features specific to particular countries, which can be summarised as follows:

- The trends in the *UK* towards a wholly modular vocational training system are closely linked to the concept of individualised and lifelong learning. The use of modules enables those responsible for training to gear the training they offer more markedly to the aspirations and motivations of individual trainees, via varying combinations of modules. Examination units and credits are becoming increasingly important as tools for achieving increased flexibility, differentiation and interchangeability. However, it still proves difficult to bring later coherence to fragmented qualifica-



tions, and also to eliminate the existing diversities between and within qualifications from general education and vocational training. For differences in the delimitation of the subject canon in courses of general education and in the occupational fields in GNVQs and NVQs, differences in learning and test modalities, differences in assigning test units and qualifications to levels of difficulty within the qualification framework and, last but not least, differences in the responsibilities and regulation mechanisms for the qualifications in the various education and training courses are still making it difficult today to provide options for learning in different educational paths, which allows for opportunities to switch between general education and vocational training, and makes them interchangeable.

- *The Netherlands* sees its modular vocational training system as an innovative system geared to future requirements as regards lifelong learning, increasing Europeanisation, and rapid industrial change. The system's modular nature makes flexible switching between school-based and dual vocational training courses possible. At the same time, trainees have a free choice of and can expedite entry to the various learning modules, depending on their existing knowledge. Training modules are also seen as offering a further benefit, in that they make occupational structures transparent, identify a quality system, and increase flexibility via differentiation. An important part is played in new forms of organisation by regional cooperation networks, which both coordinate initial and continuing training and also undertake coordination of the range of training offered with labour market requirements. Methodological concepts for vocational teaching are also elaborated, in order to provide effective modules constituting vocational training geared to industrial change.
- In *France*, a number of initial reforms have significantly extended the formal interchangeability of the education and vocational training systems. In practice, how-

ever, it is still very difficult even now to relate separate qualifications systems to one another. In addition, owing to pressure from the expansion of education, for some time a strategy of increasing the value of vocational training has been pursued. With the introduction of the vocational baccalaureate, an independent vocational training path has come into being, which in principle opens up the possibility of moving across to a higher education institution. Efforts are also being made to introduce further dual vocational training courses into the education system. To some extent this has been done in the form of 'alternance' training. However, these dual training forms have little in common with the German model of dual training, because in them company-based training and school-based training are consecutive rather than being simultaneous. Owing to the national policy of decentralisation, the regions have acquired important responsibilities and powers in the vocational training field in recent years. These are used to promote close links between schools and companies on a lasting basis, and increasingly to supplement national qualifications with additional local/sectoral qualifications. However, there are still socio-cultural obstacles in the way of promotion of dual training courses, because even today vocational training has less social prestige in France, since it is the path followed in particular by students unable to go on to higher education.

- In *Germany*, the emphasis is, firstly, on concepts and tools relating to 'internal' differentiation, the intention being to use them to promote greater dynamism and flexibility in vocational training courses. Secondly, the aim is to individualise vocational qualifications and to create more fluid transitions from initial training to continuing training, by offering a wider range of 'supplementary qualifications' in vocational training. However, the growing need for workers with qualifications of varying levels and the increasing challenges faced by vocational training, in terms of training both increasingly better educated young people and disadvantaged

young people, are also making it necessary to adopt an approach involving 'external differentiation' and greater interchangeability between the paths to qualifications based on general education and vocational training. Organised training courses over and above the dual system (dual qualifications) are also being tested in pilot projects currently in progress. In addition, efforts are being made to introduce more interchangeability between vocational training and education by making qualifications obtained in vocational training equivalent to those in general education.

- One of the primary aims of vocational training policy in *Denmark* is to ensure that vocational training offers young people a broad, varied and comprehensive education, and provides them with options for more advanced training. Care is therefore taken to ensure that young people who have chosen to follow a course of vocational training also receive a comprehensive general education. The access paths to vocational training courses at secondary stage II, leading to a dual qualification (qualification for an occupation plus entitlement to enter higher education), have also been coordinated with the access paths for initial vocational training in the sandwich system. This means that it is possible for students/trainees to switch from one course to another following basic vocational training. Vocational training as a whole is currently being reformed on the basis of a uniform framework. Key features of the reform are modular structures, compulsory and optional building blocks, relative autonomy for training providers and closer links between initial and continuing training.

The current efforts to modernise vocational training bring up the question of development prospects. A question that is becoming ever more urgent in all European countries is that of the properties and quality vocational training systems need to possess in order to remain attractive in future. It is now acknowledged that benefits and transparency for the players involved are fundamental criteria of such attractiveness. It is becoming apparent

in respect of those seeking training in particular that this attractiveness is increasingly being measured in terms of the options training paths offer as regards opportunities for vocational and personal development and the potential employment prospects they offer.

It is apparent throughout Europe that the boundaries between general education and vocational training have recently become more fluid: the increasing importance of languages, mathematics, science and politics and the undisputed importance of technology and economics as integral elements of modern vocational training have brought about a variety of interconnections between courses of general education and vocational training. However, as yet education policy has not taken this approximation of content and structures sufficiently into account, for even now

- qualifications and certificates acquired in vocational training frequently do not constitute entitlements and 'career opportunities' equivalent to those acquired in the school/university system;
- qualifications acquired via continuing vocational training and job experience are inadequately recognised in terms of certification, and are rarely adequately credited in a switch to further education;
- at best, vocational training paths in companies and the civil service end with admission to a middle level of seniority. Considerably more importance is attached to a university degree, as a formal entitlement in the context of appointments and promotions, than to a skill acquired via vocational training.

In comparison with school-based academic education, initial and continuing vocational training therefore still means 'second best' to many today, or a time-consuming change of direction in order to achieve access to traditional academic courses and qualifications. In addition to strategies for making it easier to switch from vocational training to general education, it will therefore be necessary in future to change the emphasis and develop

convincing plans, if the aim is genuinely to achieve parity of esteem, and vocational training is really to be made more attractive.

Since all previous experience has shown that neither adaptation of vocational training to general education nor switching to traditional school-based academic education brings about equivalence of vocational training and general education, there is a need to give more thought to developing a plural system of vocational training paths, which extends from initial training via continuing training through to qualifications in the tertiary sector (higher education institutions). Construction and expansion of such a plural system offers the potential for an independent vocational training system genuinely to create an alternative of equal value to the school-based academic education route. From the viewpoint of organisation and teaching methodology, it is easier now than it was in the past to realise a plural system of vocational training paths from initial training through to higher education qualifications. For even where large areas of vocational training are organised in the dual system, it is apparent that owing to new forms of organisation, work and learning in undertakings (cf. section 2), it is easier than it was before to create links and connections between learning in companies and learning in schools and in higher education.

However, models of an independent vocational training system geared to the future do not go far enough if they are restricted to new forms of training and a new quality. What is needed is, rather, consistent expansion of job-based continuing training options, which facilitate subsequent acquisition of additional skills or updating of existing qualifications in working life. 'In many countries, the absence of new organisational concepts for continuing training are still today preventing stronger links between the content of initial and continuing training and, in many fields, career planning beyond vocational training' (Schmidt 1998, p.144). However, vocational training becomes attractive only if, following initial training, senior skilled worker positions and middle management positions can be achieved via continuing training.

A transnational comparison makes it clear that in addition to regional and sectoral continuing training qualifications, the existence of national standards for generally recognised continuing training qualifications constitutes an important cornerstone in terms of making vocational training attractive. To combat the risk of increasing 'emigration' of ambitious and better-performing young people from vocational training, there are strong arguments in favour of the option already realised in individual cases, namely of building up and expanding the provision of continuing training with dual organisation, e.g. along the lines of the English colleges of further education or the American community colleges.

Furthermore, access to more advanced general education courses and to higher education in particular must be improved for those completing vocational training. Thus there is a need to expand the early moves in this direction in individual European countries, aimed at linking particular vocational training courses with qualifications entitling holders to enter more advanced general education courses or even higher education in universities or institutes of higher education. However, there is an even more urgent need to expand provision of academic continuing training at higher education institutions for holders of vocational training qualifications and, in addition, to establish job-based courses of study at these institutions. But this can be successful only if there is a change of thinking within these institutions, and if they develop, in close cooperation with undertakings, suggested plans for the design of the content, method, teaching and organisation of academic continuing training provision and/or of basic courses of study, which must be job-based (i.e. a new combination of working and learning). Because of their proximity to practice and owing to economies of time and cost, such possibilities could offer many young people, but also undertakings, much more convincing solutions than conventional paths involving a laborious reorientation to traditional school-based academic paths. Job-based courses of study at higher education institutions therefore require ways of reducing their length via crediting of existing vocational qualifications. The periods aimed at should

be between two years (bachelor) and four years (master), based on international standards and higher education qualifications. In addition, the organisation and provision of these courses of study should make intensive use of multimedia learning options and thus be geared to the needs of students with jobs.

## **2. Models and forms of company-based learning**

The scope and quality of learning in modern work processes have become increasingly important for the restructuring of company-based training work and the development of initial and continuing training. In particular, it is a matter of answering the questions of the forms in which learning takes place at work, what it comprises, and the learning orientations and teaching methods involved. It must be assumed that learning in modern work processes is very different from pedagogically organised learning. However, as yet almost no analyses are available. The key question is whether the learning is limited to economic and technical goals or whether the work opens up learning potential and learning opportunities that also promote personal development and training processes.

Critical assessments take as their starting point the fact that today's world of work is characterised by the disintegration of social ties and a reduction in the scope for identity. Accordingly, de-traditionalism and de-standardisation are occurring, and traditional value-oriented and social ties at work and in the job are disintegrating, to be replaced by a capacity for work as a function of the work process, geared to flexibility and mobility. This is derived from pressures and dynamics in the industrial and economic systems compelling ever more comprehensive and ever faster production, so that the work process has to be made ever more elastic and flexible. Sennett (1998) sees flexibility as the dominating factor in modern work processes, virtually doing away with personality-oriented development options and dependable social relationships. And more than ten years ago Beck had already established that in the wake of 'de-standardisation of paid work' the traditional

principle of an occupation that provided meaning had become obsolete. 'Just like the family, the occupation has lost its former certainties and protective functions. With the occupation, people are losing the backbone of their lives, which came into being with the industrial age' (1986, p.222). Beck regards 'a society of plural activities' as a possible future scenario, in which he sees the current 'individualisation' and 'de-standardisation' of work as the counter-principle to its standardisation (1999, pp.62ff.).

This contrasts with jobs that combine modern concepts of work and organisation with new social ties, improved opportunities for learning and education, and dynamic professionalism. Learning in new forms of work and learning in particular is acquiring a new quality, and in this context, according to the most far-reaching assumptions, new forms of work become equivalent to forms of learning. For example, in a recent empirical study on 'forms of learning integrated with work', carried out to supplement the data on continuing training in companies obtained in the context of the FORCE European action programme, work-based learning was categorically re-evaluated. In the study by the skills-development-management working party (1998), in addition to 'autonomous learning' and the 'learning workshop', new forms of work organisation such as teamwork and project work were, per se, categorised as forms of learning (pp.29ff.). Other authors speak of a change of conception and concept in company-based learning and continuing training in companies in the context of modern work and production planning and the associated informal, self-organised forms of learning. According to them, traditional deliberate forms of learning in training institutions are obsolete. 'Qualification' should be replaced by 'competence', which would bring the 'actual individual's own organisation into the picture' (cf. Erpenbeck and Heyse 1996, p.110).

These views supported by empirical studies are based on changes in work that are primarily due to the introduction of new corporate concepts and the associated reorganisation and restructuring. With new forms of work and learning in companies, extensive changes

are looming for vocational training practice and research, and are critically important to the future of initial and continuing training. In what follows, we shall first describe basic work-related learning models and then go into newly developed forms of learning in companies.

## 2.1 Work-related learning models

In what follows, work-related learning in initial and continuing vocational training should be seen from the European perspective (cf. also Dehnhostel and Dybowski 1998; Greinert 1997; Greinert/Wiemann 1992, pp.66ff.; Koch 1998b; Koch and Reuling 1995). The term 'work-related learning' first needs to be defined and broken down. 'Work-related learning' describes learning processes within and outside companies whose subject is the content and structures of work and work processes. On the one hand, it relates to a narrow field that is learning-venue- and task-specific and, on the other, it must be understood as involving a methodological approach that relates learning and work to one another. In the context of the relationship between learning venue and work site, on the basis of experience to date in Germany, work-related learning can usefully be broken down as follows:

- learning tied to work;
- learning connected with work;
- work-oriented learning.

Learning tied to work is distinguished by the fact that learning venue and work site are identical. Learning takes place in the workplace or in the work process. On-the-job training, group learning in the work process and company learning islands are examples of this. In learning connected with work, the learning venue and the actual workplace are separate, although they are directly connected in terms of space and work organisation, as for example in quality circles, learning workshops and technology centres. Work-oriented learning takes place in central learning venues, for example in vocational schools, vocational training centres and training workshops. In some cases, commissioned work is

carried out in environments very similar to actual workplaces.

A look at the basic forms of work-related learning in Europe shows that, typologically speaking, five models can be distinguished, to which concepts and systems are assigned in the overview that follows, by way of example: learning by working in the actual work process (1); learning via instruction (2); learning via integration of learning through experience and deliberate learning (3); learning via exploration and practical training (4); learning in simulated work/production processes (5). *Figure 2* shows the five models with specimen concepts, systems and forms of learning assigned to them. It also shows the kind of work-related learning each of the models involves.

### 2.1.1 Learning by working in the actual work process

Learning in the actual work process is the oldest and commonest form of vocational skills training. In this form of learning, the workplace is also the learning venue. In craft training and traditional side-by-side training, in which the trainee is assigned to a skilled worker, company- or occupation-specific work activities are learned by imitation. The trainee learns in the company's working situation, by watching, copying, joining in, helping and trying out or simulating what is seen. The result of the learning essentially depends on the following factors: the specialist and teaching competence of the trainer or the skilled worker doing the training, the work tasks, the organisation of the process and structure, the workplace equipment and the corporate culture. Learning is stimulated by working, and motivation and identification come into being because the products or results of the work are useful and their meaningfulness is directly apparent.

This form of training is found in German-speaking countries in particular, but also in France, and has also recently been evolving again in Central European countries such as Poland and Hungary. In continuing training in companies, a similar form is found, adapted and integrated into work. Traditional training concepts, adaptation of skills in compa-

**Figure 2: Work-related learning models**

Basic work-related learning models	Examples of concepts, systems, forms of learning
(1) Learning by working in the actual work process (learning tied to work)	Craft training; traditional side-by-side training; on-the-job training; group learning in the work process; some training programmes and dual study courses
(2) Learning via instruction, systematic instruction in the workplace (learning tied to work)	In-company training; four-stage method; some training programmes and dual study courses
(3) Learning via integration of experiential learning and deliberate learning (learning tied to or connected with work)	Quality circles; 'learning places'; learning islands; order-based learning; cognitive apprenticeship; coaching; constructive learning; interactive learning
(4) Learning via exploration and practical training (learning tied to or connected with work)	Supplementing school-based vocational training courses, skills training in training centres, study courses; school-based preparation for an occupation
(5) Learning in simulated work or production processes (work-oriented learning)	Schools of production, order-based work in training centres

nies, and learning in modern forms of work organisation usually come under this model of work-related learning.

### **2.1.2 Learning via instruction, systematic instruction in the workplace**

Systematic instruction takes place in the context of traditional dual training in a company and in the context of skills training for starting a job or changing jobs in a company. In this training, the master craftsman, the journeyman or the skilled worker providing training has a key role in applying and carrying out the instruction. He selects the work tasks, plans the work organisation and work processes, instructs the trainees, monitors the progress of the work and evaluates its results. One method of instruction is the four-stage method, i.e. preparation, demonstration, imitation and practice. This and similar methods of workplace instruction, such as analytical work instruction and instruction based on work rules, have acquired only limited importance, as training for complex work activities in industrialised countries with company-based training has increasingly been trans-

ferred to training workshops. Training systems in these countries initially reacted to the change in skills requirements in production and service processes primarily by modernising training methods in learning venues away from the workplace.

### **2.1.3 Learning via integration of experiential learning and deliberate learning**

In the field of training, decentralised forms of learning such as learning islands and learning from commissioned work have acquired great relevance. They are characterised by the fact that they combine learning through experience and deliberate learning via work. One fundamental reason for this integrated learning lies in the specific learning requirements of reorganised undertakings. Continuous processes of improvement and optimisation, customer and business-process orientation, and a high capacity for innovation necessitate the integration of work and learning. The concept of the 'learning undertaking' can be regarded as a synonym for this integration-based approach.

In Germany, new learning schemes have been developed in numerous State-sponsored pilot projects for in-company training; these schemes have promoted the integration of learning through experience and deliberate learning, as regards teaching and organisation. Examples are the pilot projects for new methods such as the project and team methods and learning from commissioned work (Schmidt-Hackenberg et al. 1989), and pilot projects on decentralised learning and the learning-island concept (Dehnbostel et al. 1996). Innovative approaches of this kind have been developed in similar fashion or, in some cases, adapted, in other countries with company-based training systems.

#### **2.1.4 Learning via exploration and practical training**

Exploration and practical training in undertakings constitute a work-related learning concept in which actual practice in the company is integrated into wholly school-based training, into skills training programmes in a centre for initial and continuing training, and into training in institutions of higher education. While practical training usually takes place alongside school-based training courses and training in higher education institutions, specifically targeted exploration frequently supplements skills training in initial and continuing training centres. With both forms, the main aim does not generally consist of acquisition of workplace- or occupation-specific qualifications. Instead, it is to give trainees an insight into the reality of work and company life, and to increase the motivation to learn via actual participation in the work of a company. The latter relates to periods of practical training in particular, while trainees systematically master subjects such as work organisation, skills training, economics or social skills via exploration of specific issues.

The model of work-related learning via practical training is particularly widespread at international level. In many countries, school-based training has recently been expanded by the introduction of practical training stages in companies. A typical example is the so-called *alternance scolaire* in France.

On the basis of a national framework regulation on training objectives, schools conclude agreements with companies on the nature of practical training for each student. The school is also responsible for monitoring the teaching quality of the practical training. In reality, however, the systematology and quality of practical training vary widely, since schools have only a limited influence on the structuring of practical training in companies.

#### **2.1.5 Learning in simulated work or production processes**

Work-related learning in simulated work processes takes place in (skills) training centres and, in particular, in schools of production or training production units. The aim is to create a learning situation that approximates as closely as possible to reality and facilitates the acquisition of complex skills and experiences and reflection on these. As the setting up of quality circles and learning islands in vocational schools and skills training centres shows, this form of work-related learning overlaps with model (3) in Figure 2, with its combination of learning through experience and deliberate learning. However, here there is no authentic learning through experience, although in contrast to didactically structured learning in training institutions, learning is strongly influenced by the criteria of production technology, work organisation and economics.

In Western Europe, schools of production have primarily been set up to integrate the disabled or the socially disadvantaged. No explicit vocational training takes place in them - as in Denmark, for example. On the other hand, in the countries of Central and Eastern Europe, vocational schools with their training workshops also undertake skills training on the lines of the production-school model, without the function of integration into society. They often work as suppliers for companies or produce simple goods directly for the market. One important reason for this is to safeguard their existence, owing to inadequate State resources. The majority of this skills training can be classed as training for simple jobs.

## **2.2 Forms of company-based learning geared to the future**

In the tabular depiction of models of work-related learning, in Figure 2 under (3), quality circles, learning islands and coaching, inter alia, are listed as examples of new forms of company-based learning. Research carried out by the Federal Institute for Vocational Training (BiBB - *Bundesinstitut für Berufsbildung*) between 1996 and 1998 under the research project 'Company strategies for innovation and learning' (cf. Dehnpostel and Dybowski 1998; Dybowski et al. 1999) showed that in modern undertakings, equivalent future-oriented forms of learning have come into being on the basis of changing organisational forms and skills requirements. They are of crucial importance both for skills training, including in-company training, and for the initiation and implementation of innovations and improvement processes. This is consistent with research and the results of projects implemented in the context of the Leonardo programme and the FORCE programme mentioned earlier (cf. ACEA Learning Network 1996; 1997a; 1997b; QUEM working party 1998; Brown 1997; European Communities 1999).

In the BiBB research project, pilot studies and case studies were carried out in ten medium-sized and large undertakings. A key criterion in selecting companies was that they should be carrying out restructuring and reorganisation measures or should have already done so. New learning orientations and new forms of work and learning organisation were of crucial importance to the empirical and qualitative research. The approach and significance of the future-oriented forms of learning examined in this context are outlined briefly below. As the brief descriptions of these forms of learning show, there are considerable differences in their objectives, structures and level of dissemination, but they combine work and learning in a systematic form that goes beyond learning through experience.

### ***a) Instruction/coaching***

This form of learning is used in all the undertakings examined, and may involve individual

instruction or group instruction. The instruction is provided by colleagues, group representatives, superiors, trainers and staff development workers. In contrast to traditional methods of instruction such as vocational adjustment, briefings and the four-stage method, instruction is primarily regarded by undertakings as skills training alongside the work or production process. Coaching, which focuses on simulating and developing staff, team representatives and leaders, is an example of this.

### ***b) Quality circles***

Quality circles, as a tool to involve employees in corporate problem-solving processes, were tried out in some of the undertakings examined as far back as the 1980s, when new production concepts were emerging. The fundamental aims of quality circles have today been transferred to forms of work organisation such as teamwork and project work. Objectives such as participation, cooperation, problem solving and improvement of skills can obviously be realised at least just as well in these forms of work organisation as in separately instituted circles.

### ***c) Learning workshops***

The learning workshop as a form of learning is aimed at resolving company problems connected with production and cooperation and at acquiring specialist knowledge and improving work productivity. Learning in a learning workshop, connected to work and based on experience, is aimed above all at acquisition of skills and competences directly required in the work process. The undertakings examined are familiar with the learning workshop as a form of continuing training, but do not use it as an independent form of learning. Instead, in some cases project work is geared to the learning workshop model, particularly with regard to communication, problem solving and the exchange of experience.

### ***d) Decentralised learning/learning islands***

Learning islands and other decentralised learning venues such as learning stations and



skills centres were initially set up in the context of the series of pilot studies mentioned earlier. In the majority of the undertakings studied, learning venues of this kind have been in existence for only a few years. The concept of decentralised learning provides for a shift from centralised, formal and systematic learning structures in favour of increased flexibility, more open structures and work-related learning, and for orientation in principle towards dynamically structured professionalism. At the same time, learning in decentralised learning venues is combined with learning in central learning venues, with the aim of optimising learning potential and the benefits of learning.

### ***e) Order-based learning***

This form of learning was originally developed in the craft trade and in small industrial companies, in which there were virtually no organised forms of learning. The research has shown that customer orders within and outside the company are implemented in the form of order-based learning in the training of some medium-sized and large companies. Orders are planned, implemented and evaluated in coherent fashion. They are didactically and methodically processed, with the emphasis on customer orientation as a communication and structuring process and on holistic implementation. Order-based learning may also take place in the context of other forms of learning, such as instruction or learning islands.

### ***f) Interactive learning***

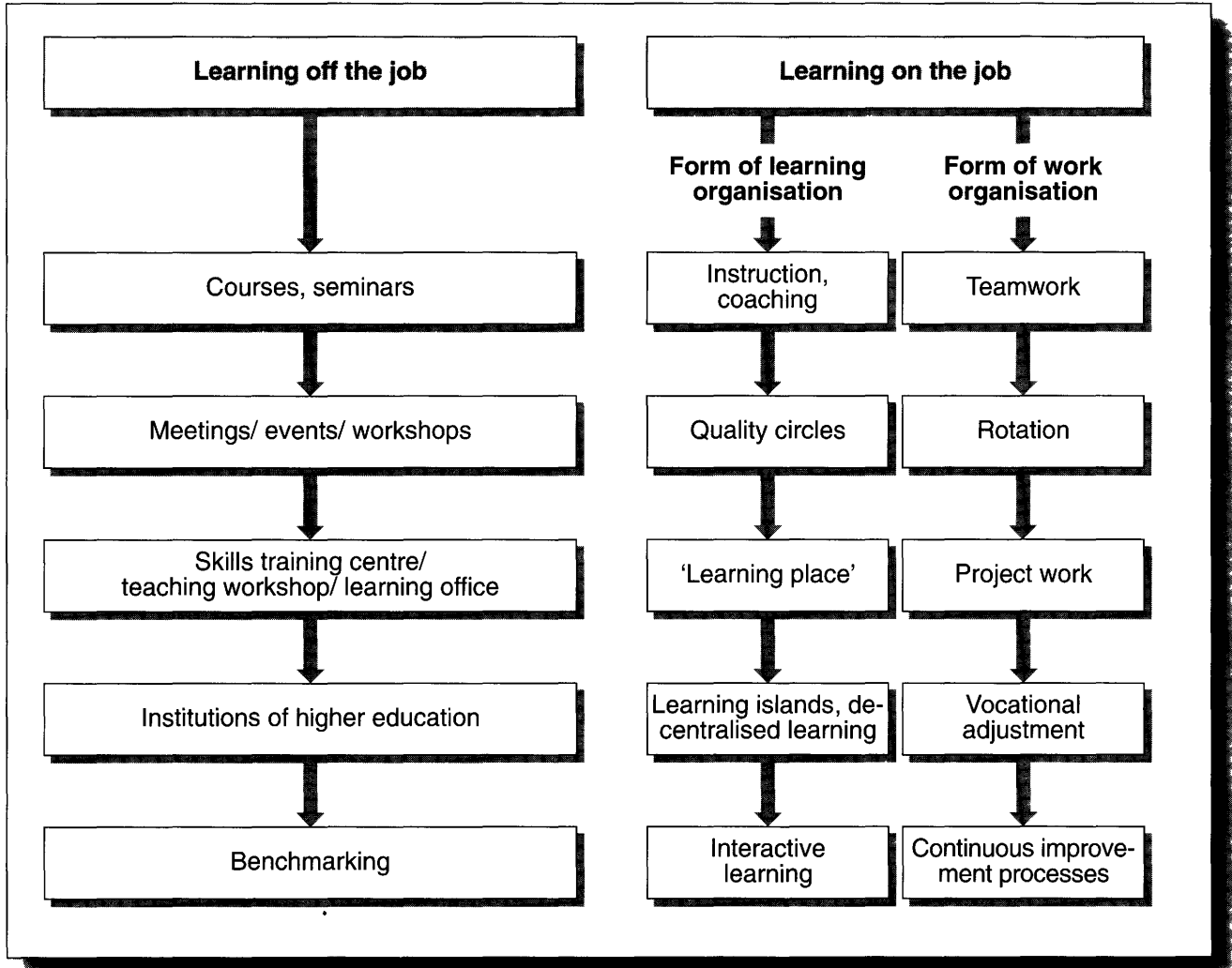
Interactive learning has been postulated for many years as an innovative form of learning for modern work processes. Research has shown that it is used as a form of learning, either on its own or in combination with other forms of learning, but that it has not gained widespread acceptance. In principle, interactive learning at work takes place on both an individual and group basis, and organising and controlling the learning processes oneself are an important element. Software learning materials used according to the learning requirement arising in the job concerned can accordingly be regarded as teach-yourself media.

These six forms of learning or, to be more precise, forms of learning organisation, can be regarded as symptomatic of modern industrial work processes. They have in common the fact that jobs and work processes are expanded and enriched from the point of view of systematic learning and work education, achieving a favourable starting situation for restructuring, of proven quality, of in-company learning concepts. Learning based on experience and integrated into work activities is specifically combined with deliberate learning.

A fundamental distinction can be made between forms of in-company learning aimed at the acquisition of competences that specifically include deliberate learning and go beyond the relevant job-oriented requirements, and forms in which skills and competences are acquired informally and remain limited to work requirements dictated by the situation. The forms of learning outlined, as forms of learning organisation specifically introduced and involving the addition of a learning infrastructure to the workplace, fall into the first category. A distinction must be made between these and the second category of in-company learning, modern forms of work organisation, in which learning through experience plays an important part, for instance in order to implement continuous processes of improvement and optimisation, but learning is not specifically incorporated in organised fashion.

Research into company strategies for learning and innovation has shown that learning through experience is extremely effective in the following forms of work organisation: project work, rotation, vocational adjustment and continuous improvement processes. Thus learning at work can in principle be traced back to two different types of organisation: forms of learning organisation, in which deliberate learning and learning through experience are specifically and systematically combined, and forms of work organisation, in which learning takes place informally and on the basis of experience. According to the undertakings studied, independent forms of learning organisation are apparently not considered necessary if sufficient learning takes place on the basis of experience, in modern

**Figure 3: Organisational typology of learning in the company**



forms of work organisation, and can be utilised to optimise work processes.

The BiBB research has also shown that another type of in-company learning, learning off the job, is undergoing significant change. It is consistently apparent that the scope and teaching and methodological investment of previous forms of off-the-job learning are not being maintained. Priority is clearly being given to learning on the job, related to and associated with the job. There are accordingly fewer traditional, systematically structured specialist courses and seminars. Work-related events such as support workshops for teamwork and project work are increasingly being offered and implemented. In general, skills and vocational training measures in central educational establishments and institutions increasingly relate to social and methodological topics. In addition, benchmarking repre-

sents a new form of in-company off-the-job learning. *Figure 3* shows the various types and forms of in-company learning.

### **3. Reorientation of learning and the changing role of training staff**

The models described and, in particular, the new forms of in-company learning show that learning processes are increasingly important in modern forms of work and organisation. Learning is aimed at developing the competence of individual employees and social groups. From the companies' point of view, the primary aim is to facilitate and expedite processes of improvement, optimisation and development. Learning potential in the workplace is utilised and in some cases com-

bined with systematic learning. The particular advantages of learning in modern work processes are:

- ❑ the seriousness and binding nature of the work process;
- ❑ the fact that the workplace is the learning venue serves to orient and motivate;
- ❑ the modernity, openness, concrete nature and contingency of the work content; and
- ❑ the opportunities for experience-based learning, organised by the individual.

The need to deal with new skills requirements and a world that is changing both within and outside work is the starting point for reorientation of learning and for topical teaching methods in vocational training. In recent years, not only have new forms of learning and learning orientations come into being, but comprehensive teaching concepts and a change in the foundations of learning theory are also emerging, such as learning through doing and constructive learning in particular. New learning potential, structuring possibilities and forms of learning at work give rise to the question of the extent to which the company itself can become the starting point for new learning and teaching orientations.

In this context, it is apparent that in principle new learning orientations and forms of learning necessitate expansion of traditional teaching theories and models. Informal and experience-related learning processes at work and in other places with no organised system of learning are not taken into account in traditional teaching methods. These relate only to deliberate learning, i.e. systematic and organised learning. In addition, the prevailing didactic understanding of individual learning processes takes virtually no account of the learning of social groups and organisations. Inclusion of them compels vocational training to implement didactic processes and developments that take more account of real experiences and subjective concerns, and distinguish training courses and living patterns. As demonstrated in the new forms of learning in the previous section, integration of

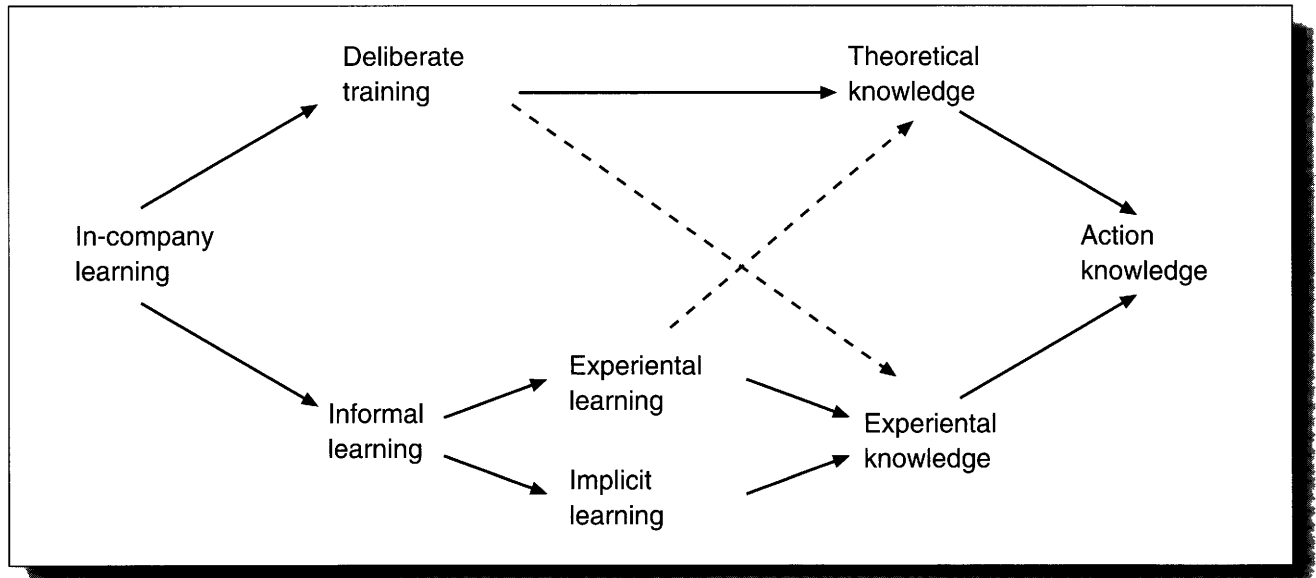
learning through experience and deliberate learning is crucially important. It is a constituent of forms of learning in companies and accords with self-organised learning and life-long learning. For teaching staff, these learning orientations also involve a fundamental change of function and role.

### **3.1 Integration of experiential learning and deliberate learning**

In general, learning through experience takes place via reflection on experiences that are always preceded by action. In practice, experience-based knowledge appears in the form of intuition or a feeling for materials, machines, work processes and social situations. A distinction must be made between action based on experience and experience-based knowledge, and technically/rationally based action. Experience-based learning, which has traditionally been very important, is becoming even more important in the context of new corporate concepts and the new forms of learning described. For new corporate work and organisational concepts necessitate processes of optimisation, communication and learning for which learning through experience at work is essential. Dewey (1993, in particular pp.186ff.) saw reality as disclosing itself via experience-based learning on the basis of the learner's own self-determined activity, in real courses of action. The sequence 'action - experience - reflection' and its ongoing continuation, taking account of previous processes of experience and realisation, is then seen as 'evolutionary progress', on condition that learners take action to learn on their own initiative and, if possible, of their own accord. On this basis, reality will disclose itself to individuals via processes of learning and experience. This approach is correctly seen as a forerunner or precursor of the constructive learning approach (Gerstenmaier/Mandl 1995, p.882; Reich 1996, pp.197ff.).

To aid understanding of the concept, it should first be noted that a distinction must be made between experience-based learning, informal learning and learning by implication. Informal learning is the overall term for experience-based learning and learning by implication. Informal learning must be understood

**Figure 4: Types of learning and knowledge in companies**



as meaning learning that is not organised and has no formal framework, in the world of life and work. It is people’s fundamental, ‘natural’ self-teaching, which, according to Dohmen (1999), has the following characteristics:

- ❑ it does not take place in particular educational institutions remote from everyday life and work;
- ❑ there is no planned curriculum and it is not professionally organised, but tends to be triggered by events or to arise by chance and sporadically from situations of changing practical requirements;
- ❑ it is not arranged in a pedagogically conscious way, with a system of subjects, examinations and entitlements, but tends to be unaware, casual, a holistic response to a problem, and related to coping with situations and with life in general;
- ❑ it does not involve stockpiling learning remote from practice, but is directly experienced in its ‘natural’ function of supporting life and survival.

To make a rough distinction between the two subordinate concepts (they can, in any case, only be distinguished in analytical terms), experience-based learning and learning by

implication, it can be said that experience-based learning, as understood by Dewey, takes place via reflective processing of experiences, while learning by implication tends to occur without reflection or awareness. As Fischer (1999) says, learning by implication is ‘a learning process of whose course and result the learner is unaware, or which at least cannot immediately be put into words’. Relevant examples of this are recognising a face in a crowd without knowing why, or learning to ride a bicycle without knowing the underlying rules and laws.

If we look at in-company learning, the types of learning addressed, in combination with other types of learning and knowledge, can be classified as follows, as shown in *Figure 4*: in in-company learning, a fundamental distinction needs to be made between informal and deliberate learning, with the latter being organised and formally geared to the provision of set learning content and learning objectives. While deliberate learning is from the outset aimed at achieving a specified result, with informal learning a result becomes apparent without generally having been deliberately aimed at. Of course this does not mean that the actions on which informal learning is based are unintentional. They are simply geared to corporate and entrepreneurial objectives and purposes, and not to learning options.

The experiential knowledge built up via informal learning and the theoretical knowledge built up via deliberate learning are brought together in practical knowledge. As the overview shows, experiential knowledge is acquired not only via learning through experience and learning by implication, but also via deliberate learning. This is due to the fact that informal learning takes place, even if by the way, in virtually all life and work situations. Conversely, theoretical knowledge is enriched by knowledge acquired from learning through experience, which evolves into theoretical knowledge via reflection on experiences.

Experience at work relates to sensory, cognitive, emotional and social processes. The extent to which each of these is brought to bear is essentially dependent on work duties and objects, process and structural organisation, social relationships and the corporate culture. Here, clear boundaries are set by the logic of entrepreneurial business and organisational processes. Opportunities and scope for experience are tied to technical and economic objectives and intended purposes. Even if these boundaries are extended by the learning options in modern work processes mentioned, ultimately experience-based learning and structuring of work and work organisation so as to promote learning are subject to business calculations. The extent and boundaries of experience-based learning are crucially dependent on the extent to which economic and pedagogical objectives approximate to one another and overlap, a question which is virtually unanswerable in view of the change companies are currently undergoing.

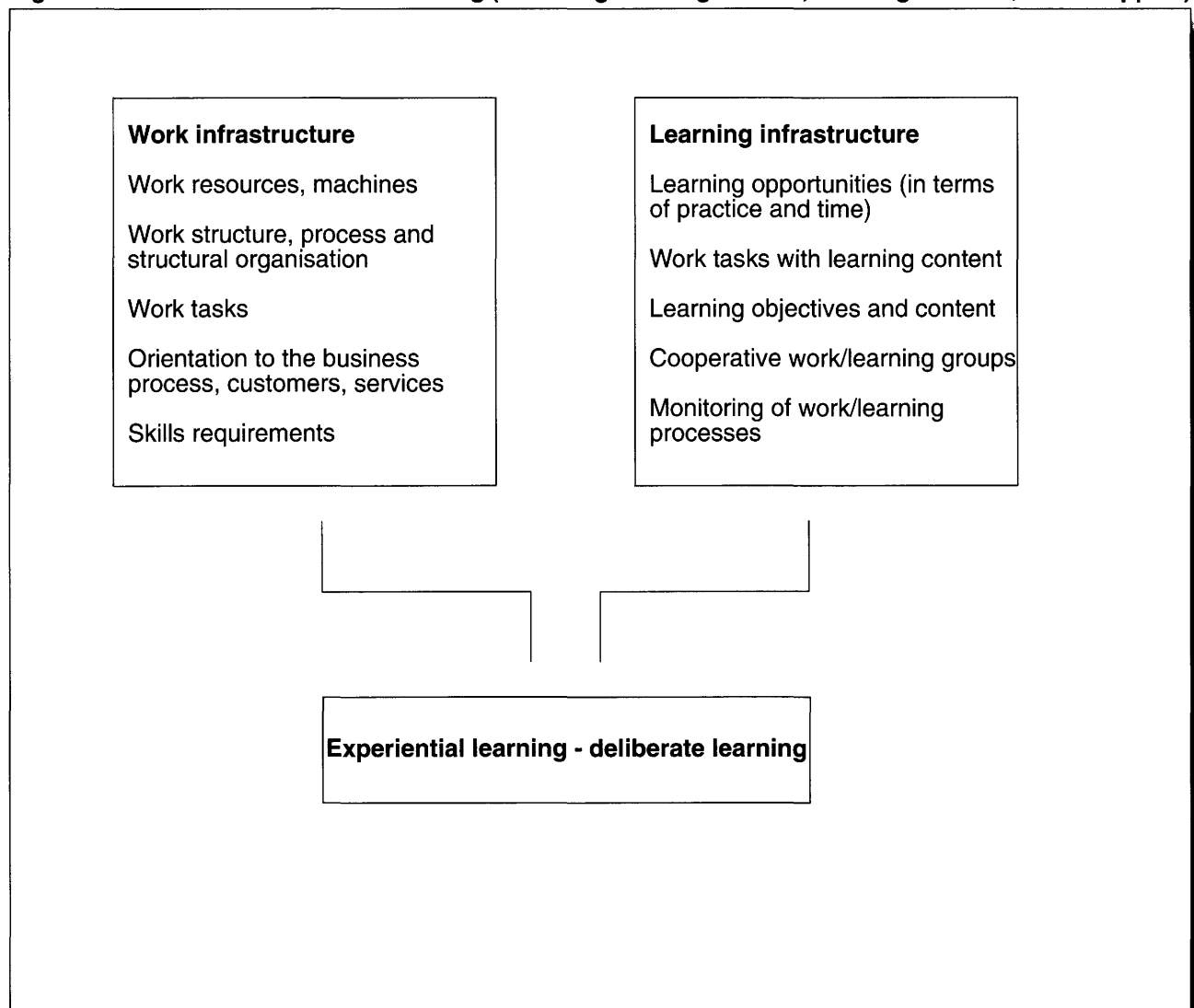
Another restriction on experience-based learning lies in work processes that are increasingly characterised by information and communication technology. It is apparent that experience-based learning is no longer taking place in the way that it did in traditional industrial and craftwork environments. Some of the external experiences constituting a precondition for reflection are being changed by the application of new technologies, and some are disappearing. In particular, active work activities governed to a great extent by the sensory organs of sight, hearing and touch are increasingly being reduced. On the other

hand, in sophisticated work organisation and in modern work and organisational concepts, both the need for learning and opportunities for it are increasing. The question of the extent to which this also involves an expansion of external experiences and experience-based learning cannot be answered at the current stage of development. In any case, new experiences are coming into being. Although these essentially relate to mediated work activities geared to cognition, they still involve sensory and practical elements.

It is now characteristic of forms of learning such as quality circles and learning islands that they do not remain bound to learning through experience and the possible restriction on learning that this implies. They are characterised by the fact that they combine experiential learning with deliberate learning, even if in varying forms and with varying objectives. An example of this concept is 'learning islands', the new form of learning that has a number of points in common with other decentralised forms of learning such as quality circles and learning workshops. Learning islands are used for both initial and continuing training, although they were originally developed in the context of initial training. Learning islands and other decentralised forms of learning supplement the work infrastructure of traditional workplaces with a learning infrastructure, i.e. equipment, learning materials and audiovisual media are added to workplaces, and learning processes are specifically monitored at work. Similarly to the situation described in respect of different forms of teamwork, the distinctions are not always clear, or alternatively no clear distinctions can be drawn at the current stage of development. The common features of these forms of learning are summarised in *Figure 5*.

The traditional model of learning in the workplace is considerably expanded by the integration of deliberate and experiential learning in decentralised forms of learning, and new learning paths are opened up. The relevant place of work is structured in accordance with principles that promote learning, such as authenticity, an appropriate situation and social bonds. It is true that the learning is tied to work, but it is not restricted to expe-

**Figure 5: Decentralised forms of learning (including learning islands, learning stations, skills support)**



rience-related learning processes or on the job training. Work activities and the related reflection are interrelated with the expressed objectives and content of in-company training work. Experience-based learning processes are systematically combined with deliberate learning.

These new forms of in-company learning illustrate a change of perspective in corporate skills concepts. Linear and hierarchically determined patterns of thought, behaviour and orientation are being replaced by independent, participatory and process-based approaches to activities and learning. It is becoming possible for processes and developments increasingly to incorporate real expe-

riences and subjective concerns and to take account of differing training paths and lifestyles. At the same time, this is combined with a change in the balance between teaching and learning: learning is acquiring greater importance in relation to teaching, and teaching is understood and implemented in the sense of monitoring and moderating. This will be explained in the last part of this chapter.

The extent to which these new learning options are brought to bear is essentially dependent on work tasks and objects, the process and structural organisation, social relationships and the corporate culture. Improvement, optimisation and design processes in modern work processes necessitate learn-

**Figure 6: Principles of instruction-based and constructive learning and teaching**

Instruction-based learning and teaching	Constructive learning and teaching
Learning is receptive, and is largely linear and systematic	Learning as an active/constructive, self-governed, situation-based process, the results of which cannot be predicted
The teacher teaches, demonstrates, explains; the learner imitates, takes in	The learner plays an active, largely self-determined part; the teacher is an adviser and helps to structure learning processes
Learning content is seen as closed systems of knowledge or elements thereof	Learning content and knowledge are not self-contained, they are dependent on individual and social contexts

ing as a situation-based process organised by the individual. Active learning becomes necessary, linked to previous action, experience and reflection. In particular, this involves adding constructive orientations to traditional instruction-based teaching and learning. The focus is on the learner, as an active subject, reflecting on himself. On the basis of individual activity and self-determination, reality is opened up by individual processes of learning and experience. This means that in principle, experiential learning also involves the development of general competences, stimulating personal development. *Figure 6* compares the instruction-based and constructive principles of learning and teaching.

In the new forms of learning, and in modern work processes in general, active learning with individual reflection will take place in complex contexts, but to only a limited degree. Receptive learning will also continue in certain work situations, for example when new technical systems are introduced or work organisation processes are changed. Complementary deliberate learning processes have also proved to be necessary, as ultimately opportunities and scope for experience are tied to technical and economic objectives and intended purposes. In general, it will not be possible to acquire comprehensive vocational competences solely or primarily via experiential learning in a restricted situation.

### **3.2 Learning organised by the individual in new forms of work and learning**

‘Self-organisation’ and learning organised by the individual are a fundamental, constitutive function of new forms of work and learning. In this context, self-organisation should not initially be understood as being based on theoretical principles of learning or teaching, but as a key organisational principle of modern work and organisational concepts. Consequently, pilot projects on decentralised learning and the institution of learning islands carried out in the Federal Republic of Germany were characterised by an understanding of decentralisation which involves increasing self-organisation and autonomy. Here, decentralisation is understood as being a process of transferring and delegating tasks and competences from central, management and work-preparation areas to operational areas and areas providing added value. In these areas, the scope of work, structuring options, decision-making powers and responsibilities are increased, in order to improve quality and performance standards, development and innovation processes and, at the same time, the opportunities to identify with the work.

‘Self-organisation’ in this sense also involves learning organised by the individual, irrespective of whether it takes place on the basis of

experience or deliberately. In the forms of work and learning cited, self-organised learning takes place in the process of work and in organised team meetings. Processes of self-organisation are an important precondition for implementing processes of continuous improvement and optimisation and for stimulating the development of knowledge and a capacity for innovation. For example, if one considers semi-autonomous teamwork, it can be seen that it involves a broad spectrum of learning. Regular team meetings, internal co-ordination and rotation, representation of the team by a spokesperson, and high levels of autonomy, scope for decision-making, and responsibility involve a potential for social and methodological learning that is almost never found in traditional work processes. From the point of view of teaching and learning theory, teamwork involves many individual and collective learning processes. Collective learning in groups also requires self-regulatory learning processes, via discussions and reflection (Dubs 1993, p.451), processes that are an element of corporate knowledge management. However, where teamwork is organised in a less complex and comprehensive way, and in other forms of work, there is a risk that self-organised learning will be reduced to learning based on adaptation to the work function. This risk can be combated by combining the learning with deliberate learning or with central learning venues with organised teaching.

Self-organised learning was already playing an important part in initial and continuing training in the 1970s, in other words at a time when preliminary academic study and closed curriculum concepts were to the fore. In vocational training, three approaches to self-organised learning in particular were developed and tested: the project method, the key text method and the team method. Sometimes these methods were understood as supplementing traditional methods such as the four-stage method, the side-by-side method and the teaching discussion, and sometimes they were seen as alternatives to them. These methods, cited as examples, can briefly be characterised as follows:

❑ **Project method:** learning is geared to holistic work tasks and projects that can be

realised in practice, which are mainly planned, implemented and checked on one's own responsibility and under one's own control.

- ❑ **Key text method:** learning is imparted by texts on dealing with a task, so that as much as possible is learnt independently. These 'key texts' consist of key questions, a work plan and check sheets, and basic principles.
- ❑ **Team method:** learning in a group, which usually carries out work tasks or projects in a self-organised and cooperative way.
- ❑ **Four-stage method:** teaching and learning via practical work-based instruction in the company in a process comprising the following stages: preparation, explanation and demonstration, imitation and practice.
- ❑ **Side-by-side method:** learning via impressions and experience at work that are not specifically and systematically organised.
- ❑ **Teaching discussion:** learning by absorbing issues and factors raised in in-company vocational training, in order to impart skills content via discussion.

The traditional methods were rapidly proving incapable of coping with the emerging objectives of comprehensive vocational competence, integrality, and the acquisition of key skills. The new methods, aimed at self-organisation, cooperation and integrality, anticipated much of what modern work processes require in the way of comprehensive skills, which are increasingly being realised.

Differentiated work and job processes necessitate individual profiles of skills and competences and devotion of more time to continuing training, in the context of lifelong learning. This lifelong learning extends to all forms of organised and informal learning. The structuring and organisation of training and learning phases is to some extent dependent on individual preferences. Consequently, individual organisation of one's own learning processes is proving to be an increasingly important competence, in order to structure



learning not only individually, but also continuously. The possibility of increasingly combining, with the aid of self-organised learning, informal learning experiences from all areas of life with organised learning experiences in initial and continuing vocational training is not only likely to create a new impetus for learning, but is also proving to be the better option, specifically as regards new forms of learning.

As many recent studies have shown, self-organised learning has an important place in the world of work. Surveys in the context of the continuing training reporting system (BMBF [German Ministry of Education, Science, Research and Technology] 1996) and the latest European FORCE survey show that in Germany, for example, the overwhelming majority of people in paid employment frequently acquire further vocational skills by teaching themselves and trying things out in the workplace, and also regard this kind of learning as the most important way of acquiring knowledge (Grünewald 1997).

However, the search for efficient forms of learning has also for some time characterised the efforts of many companies to reorient and develop their own initial and continuing training activities. This is because new forms of work and organisation make increased demands on the ability of skilled workers to direct their own work and take responsibility for themselves. Strategically speaking, new forms of participation and empowerment of employees are becoming increasingly important to safeguarding the competitiveness of undertakings. Today, willingness and ability to learn and participate on the part of employees and groups of employees are regarded as essential, in order to achieve continuous improvements, assure quality, have a market presence geared to customers, and produce intelligent products and services.

These new company requirements for self-organisation make it necessary to use learning on the job more consistently and systematically than hitherto for skills training of all employees and to promote company organisation processes. The efficiency and comparatively cheap nature of this skills training

mean that it is increasingly proving its worth in organisational forms such as self-organised learning, which is acquiring growing importance both directly within the work process and in the context of company projects, continuous improvement processes and other models of participation, as a learning and development process not only for individuals but also for groups and organisations.

A fundamental aspect of self-organised learning lies in the fact that by solving work-related problems, specialist and social competences are gradually built up and developed. This happens on the basis of a high level of responsibility for oneself in the skills acquisition process, which promotes personal involvement and the right to a say. Learners should act on their own account within set framework conditions and utilise these in accordance with their own objectives and concerns. At the same time, it is necessary to acknowledge and decide what is required in the way of specialist knowledge and/or what specialist questions require experts to be consulted. Thus people do not learn by applying rules and regulations, but instead they learn to solve problems independently or jointly, in groups, and in the process they learn to cope with uncertainties in social situations.

Lastly, it is also necessary to look at the many misgivings expressed about self-organised learning in a differentiated way. For example, Lipsmeier draws attention to disadvantages and problems of self-organised learning, such as 'encouragement of anonymity because learning becomes very private', 'learning difficulties and also the risk of failure become private/re-privatisation of the continuing training risk', 'isolated learning with little in the way of contact', resulting in 'loneliness and resignation' and 'lack of immediacy, transparency, situational and practical relevance' (Lipsmeier 1991, pp.111 f.).

Furthermore, there are some grounds for fearing that with strict financial calculations in the field of continuing training, and in view of strong pressure on job performance, self-organised learning in the workplace leads to a reversion to simple basic skills. For if insufficient time is made available, virtually no

reflection phases and development periods are allowed, and no specific help is provided, for example in the form of coaching or advice from experienced in-house or external experts, self-organised learning is largely reduced to principles of learning by doing, or learning by watching. However, this type of learning is virtually incapable of developing the capacities required for independent working, dealing flexibly with changing work tasks and, last but not least, independent continuing learning.

### **3.3 Changing tasks and role of training staff**

Company trainers and other skilled workers involved in initial and continuing training play a key part in initiating and designing new forms of learning and realising new learning concepts. The forms of learning described above, self-organised and lifelong learning, and the integration of experiential and deliberate learning are topical and important examples of these new tasks. Staff involved in initial and continuing training in inter-company and external training centres and teaching staff in vocational schools are also confronted with these new tasks, although in a different form. The comments that follow concentrate on training staff in companies, following on from the preceding sections.

The new tasks facing staff involved in initial and continuing training can be clearly seen in the context of changing company skills requirements and objectives such as the acquisition of comprehensive vocational competence and orientation to customer, business and improvement processes. There is a considerable increase in the demands made on training staff as a result of technological and work-organisation developments, the increasing mediatisation and tertiarisation of work, and changing starting conditions and interests on the part of learners. In undertakings with a long history of training, it is also apparent that the hitherto clear divisions between trainers, trainers in continuing training and staff development workers are no longer sustainable. In line with the general integration of tasks, job enlargement and job enrichment in work structuring, the tasks and

role of training staff are expanding. This is particularly apparent for 'traditional' trainers, in that they have to take on additional continuing training tasks and are involved in various ways in tasks that are part of company organisational development. In individual cases, for example in imparting additional skills and monitoring learning islands, the form involved integrates initial and continuing training. Overall, this means that the quality and scope of skills training for trainers must be expanded and that new training concepts must be implemented. Against this background, the prospective structuring of skills training for full-time trainers and other skilled workers whose tasks include skills training must be geared to two conceptional requirements:

1. firstly, integration of specialist, social, personal and work- and occupation-related teaching content;
2. secondly, a structural link with real work, organisational and corporate processes, with processes of organisational and staff development being particularly important.

This integrated and work-oriented concept means that the trainer's job is fundamentally enhanced in the sense of the relationship to work as defined in 2.1. The tasks and functions of the full-time trainer no longer unilaterally relate to learning sequences in the training workshop, organised into systematic training and vocational education, but in principle involve orientation to teaching and learning processes in real work tasks and real work processes. This involves a range of tasks extending from new teaching methods via supplementary coordination of learning organisation to turning company workplaces into learning venues. There is a radical change in the previous 'teaching' and 'instructing' activity: this is partially replaced by processes of monitoring, moderation and coaching. As explained in section 3, these methods should be regarded as complementing traditional training and teaching methods, even if they are predominant in some innovative forms of learning and work, e.g. in learning islands and semi-autonomous teamwork.

In principle, these tasks also apply to skilled workers providing training and to other skilled workers involved in initial and continuing training on site. In European countries in which vocational training has made little headway or is less developed than is the case in the Federal Republic of Germany and in Austria, skilled workers involved in skills training on site have an important role in any case, and here too there is a need for skills training for these skilled workers to change and be enhanced (Attwell 1997; Brown et al. 1994; Schön 1983; Young and Guile 1997). Among other things, the emphasis must definitely be on opening up the workplace and structuring it as a learning venue. This task, which involves creating functional learning environments at work, is not without tensions and contradictions. On the one hand, activities in the workplace are subject to economic criteria and calculations but, on the other, the workplace, as a learning venue, must also be assessed in terms of the objectives of work and vocational education. Or to put it another way, the specialist vocational activities of skilled workers on site continue to be based on economic objectives, while the activities involved in work and vocational education are committed to providing comprehensive skills and vocational training.

This area of conflict affects not only trainers and skilled workers whose tasks also include provision of initial and continuing training, but increasingly also people in companies whose jobs involve moderating and coaching tasks in modern work processes, i.e. team leaders and team spokespersons, project managers, quality assessors, organisation development workers, etc. In comparison with full-time trainers, whose numbers are in any case decreasing in modern undertakings, this group, which includes skilled workers providing training, is larger and certainly more important. To give an idea of the relative sizes of the groups, the relative proportions of trainers and skilled workers providing training in the Federal Republic of Germany are, for example, as follows: an up-to-date representative survey by the Federal Institute for Vocational Training has established that there are some 70,000 full-time trainers registered with the chambers, but also around three and a

half to four million skilled workers involved in training activities in the workplace (Schmidt-Hackenberg et al. 1999).

It is all the more important to implement new training measures for a broad-based target group. The new forms of learning and work, which integrate deliberate and experiential learning, and promote and require experience-based work processes, must be monitored by appropriately qualified skilled workers. To date, concepts of training for trainers have taken virtually no account of this group of skilled workers, i.e. primarily team leaders and team spokespersons, and project managers and master craftsmen. There is now a need for training measures that equip people to open up learning potential and learning opportunities on site, to structure learning environments and to develop learning approaches in the context of job tasks and job experiences. The training of full-time trainers and other skilled workers involved in training needs to be coordinated and in some cases implemented jointly. The training concept must be geared to the needs of an integrated and work-oriented concept, as mentioned above.

The new Regulation on the 'training of trainers' (*Ausbildung der Ausbilder*, AdA) that entered into force in Germany in November 1998 addresses this need above all by structuring the activities of trainers into seven fields of action (Hensge 1998). The previous subject-based system is dropped, and the emphasis is on promoting competence as regards action, methods and planning, and on building up a new competence for trainers based on action-oriented roles. However, the Regulation has little relevance for other skilled workers, even though there is a justified demand for skilled workers involved in training to be included in the new regulation on suitability of trainers (Steinborn 1999).

An example of a programme targeting other skilled workers is the continuing training on work-oriented learning, for skilled workers involved in training, developed by Bayer AG in Leverkusen (Dehnbostel and Dybowski 1997/98, pp.121ff.). This programme developed out of the pilot project 'Continuing train-

ing of part-time and full-time trainers in company applications against the background of changing training requirements', and having been developed in the first half of the 1990s, has been successfully applied in many medium-sized companies. It provides for opening up of the workplace via workplace analysis and the embedding of training of skilled workers involved in training in the framework of company staff and organisational development. The latter has proved to be necessary in other approaches to continuing training for company training work, as opposed to training geared solely to work and vocational education. For training for new or expanded tasks is always associated with questions of status, promotion and remuneration, and the new tasks are usually interwoven with staff and organisational development processes and results.

The continuing training programme consists of the following four blocks, each of which lasts a maximum of two days:

1. conditions and structures for 'job-oriented learning', the role of the company and of part-time trainers in initial and continuing training (Block 1);
2. analysis of jobs and activities, tools and processes and their application in the seminar (Block 2);
3. methodological procedures for guidance on 'job-oriented learning' (Block 3);
4. specimen work analyses in the company, structuring of 'educational arrangements' in the workplace (Block 4).

In the programme, the training is closely linked to the skilled workers' vocational experience. One key task consists of reflecting company and work situations and, by exploring their own workplaces, identifying and opening up the learning potential and learning opportunities inherent in them. As this workplace exploration is not restricted solely to the tasks arising in the workplace, but also includes the source and objectives of the tasks and the work organisation, it gives rise to a good overview of company correlations and

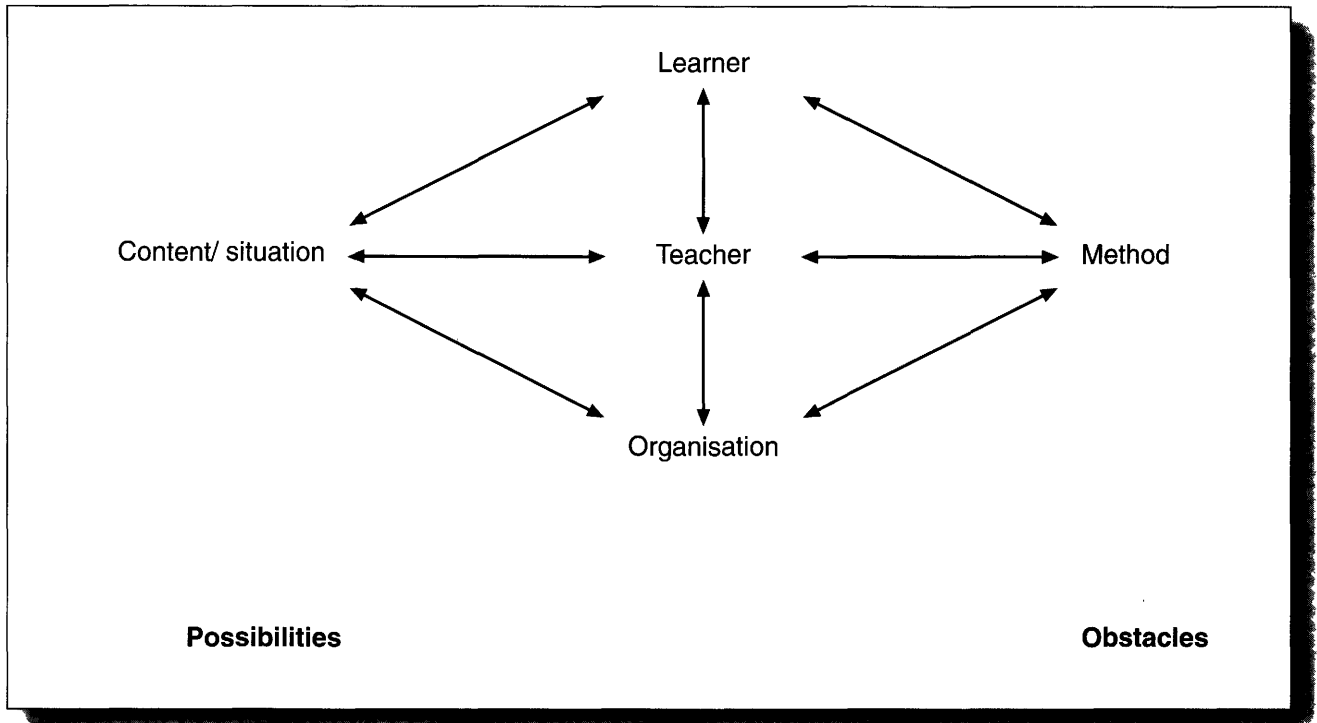
systems. This facilitates rapid and specific action when problems arise and in the event of sudden faults in the process and structural organisation. In the framework of the exploration, systematic thinking and understanding of the context are acquired or at least improved in association with experiences.

Exploration of one's own workplace and of the learning situations inherent in it is unusual and has no history. Therefore trainers and other skilled workers must learn to make situations that cannot usually be systematically planned manageable via workplace analysis, and to structure them as learning tasks. It is helpful to use methods derived from principles of experience-driven learning. Here too, the importance of experiential knowledge and experiential learning is as great as it is in the context of the new forms of learning and work described earlier. In addition, it is crucial for participants to elaborate the content for themselves. This ensures that it is based on experience and is transparent, and can be transferred to situations in the company. It also means that productive use is made of participants' skills and their specific personal qualities.

In continuing training, in addition to workplace exploration and workplace analysis, business issues are addressed, e.g. the need to be aware of quality and costs, and in this way a deeper insight into the overall life of the company and its business is acquired. Teaching and methodological exercises are carried out in order to equip skilled workers to deal with learners and so that they develop competence in structuring teaching/learning arrangements. This may be done, for example, from the angle of discovery-based learning, in which work tasks are performed at various workplaces in the company, followed by systematic reflection on them in evaluative discussion. Overall, the teaching methodology of the training programme ensures that different methods, such as individual and group work, visualisation and presentation, are used in such a way as to serve as examples of the actual initial and continuing training activities of skilled workers.

The experience gained in developing and testing this training programme makes it clear

Figure 7: Pedagogic arrangement



that learning on the job goes further than all three elements of the classic didactic triad of 'content - teacher - learner'. Here, the limitations of school-based teaching, as mentioned earlier, are clearly apparent. The teaching content can no longer be restricted to the subject content of a particular field, but must follow the trend of being oriented towards events in the company and work organisation as a whole. The person doing the teaching must be in a position to take on the role of 'arranger' of work situations with learning content, in addition to those of instructor, moderator and monitor of learning processes. Thus, the role of learners also becomes more constructive: they acquire an opportunity to master tasks relatively independently, depending on their experience, and to learn from this.

Training in the workplace requires a pedagogic arrangement, in the structuring of which all those involved make a specific contribution, as *Figure 7* shows.

To prevent misunderstanding, it should be pointed out that the arrangement of the factors, separately and in relationship to one another, should by no means be seen in a rigid and schematic light. On the contrary, the

'pedagogic arrangement' is a field of action, which has its own dynamic and its own independent context, and whose situation is governed by the work process. The person doing the teaching is in the centre of the diagram because of the high level of demands he faces. But this positioning should also be seen as dynamic, as the teacher, both as skilled worker and as trainer providing initial and continuing training, must endeavour to give the learner an increasing active, independent role. Over time, his function increasingly becomes that of a 'learning monitor', who uses his specialised experience and his knowledge of work and corporate organisation to prepare job tasks in such a way as to facilitate an optimum learning process.

#### 4. Summary: in-company training work as an interface between the vocational training and employment systems

In modern work processes, action as an activity with a specific aim is undergoing a fundamental change. Action determined by planning and preparation of work in narrowly defined

tasks is being replaced by reflective, open and subject-oriented action. In the wake of this development, action-oriented learning and the acquisition of comprehensive vocational competence to act have become guiding principles of vocational training, set against the background of the changes in work processes and the world of work mentioned earlier. In the context of reorganisation and restructuring, work requires different skills, not only because of the regained breadth of fields of activity, but also as a result of structuring options involving open work processes, holistic work tasks and the fine structuring of work organisation. These tasks have in common that they represent renunciation of the Taylorist performance principle, reintegration of hitherto separated work functions, and a high level of control of and responsibility for their own work on the part of skilled workers. Teamwork and autodidactic concepts are a priority, and people are expected to work on their own initiative and to have opportunities to do their own planning and structuring.

The forms of learning outlined relate to action that is both product- and results-oriented and reflective, and is characterised by room for manoeuvre and responsibility. Learning which one organises oneself, which combines experiences and deliberate learning, is intended to make individuals and groups capable of taking advantage of the opportunities for structuring and control demanded. Integrated and self-organised learning, and also lifelong learning, are initially based not on pedagogic aims, but on business aims and aims relating to the development of corporate organisation. Unlike pedagogically based learning arrangements, the emphasis is not on the acquisition of subject-related knowledge and education, and on specific selected relevant activities, but on activities geared to business processes and profitability. Thus self-organised learning is strongly influenced by teamwork and by taking responsibility for work activities involving new skills, and lifelong learning is influenced by the dynamic of corporate innovation and by processes of continuous improvement and optimisation.

In-company training must take as its starting point the primacy of orientation towards

action and the subject and, above all, the needs of corporate processes of innovation and organisational development. The approach to the subject and to the relevance of training derived from the logic of economic and corporate conceptional considerations opens up new possibilities for vocational training in relation to work, and calls into question the traditional functional view of continuing training in the company. Continuing training in the company can no longer be seen as adaptation to work organisation and technology, while adult training is defined in terms of giving priority to relevance to the subject of training.

As we have shown, current forms of learning and learning arrangements in companies are distinguished by the fact that an important part is played by the relevance of the subject and the training. Even if the rebirth of learning in companies, with new forms and a new quality, is based on company considerations involving efficiency and reorganisation, this does not stand in the way of an increasingly humanistic justification for company training work and, at the same time, relevance to the company's operational interests and individual training interests. Not only do the new forms of learning and learning arrangements contribute to the relevance of company training work to the subject and to training, but so too does understanding of organisational development, an understanding aimed both at optimisation of productivity and performance and at increased opportunities for participation and work which stimulates personality.

Training work of this kind in the company has a key function at the interface between the vocational training and employment systems. It essentially relates to entitlement to skills in the sense of mastering the current and future needs of the employment system and to entitlement to training in the sense of autonomy and personal development. These entitlements come together in the guiding principle of the acquisition of comprehensive competence as regards vocational activity, and here the term 'competence' covers both the skills aspect and the subjective aspect of reflection and personal development. If the needs of the employment system are directly

brought to bear in forms of work and learning, the needs of the vocational training system are, in particular, met by means of starting points for learning, and vocational development paths.

As we said at the beginning, vocational training and development paths that are interwoven with the employment system are of particular benefit, since they are characterised by a marked capacity to adapt and react. The increased flexibility and differentiation required have their starting point in vocational training, and via a systematic combination of working and learning they point the way to prospects for development that are particularly apparent in dual and flexible training courses. These training courses bring the employment and vocational training systems together and assign in-company training work the function of a hinge between the two systems. The starting points for a vocational training system that is independent and of equal value, as discussed, and the development of a plural system of vocational training paths should be seen from this perspective.

However, as we stated at the beginning, insufficient account is taken of existing qualifications and certificates in vocational training as regards going on to more advanced paths in the higher education sector, and insufficient recognition and certification is given to skills and competences acquired through experiential and informal learning on the job. This is the case throughout Europe, although there are considerable differences, as established by Bjørnåvold (1999) on the basis of 15 national studies in Europe on 'non-formal learning'. According to these studies, in some European countries skills acquired informally are already recorded and certified at national level, in Finland and the UK, for example. The studies also show that there is a strong European trend towards developing and applying methods of identifying, evaluating and recognising learning outside formal vocational training institutions.

In order to recognise and certify experiential learning, the results and competences ensuing from this learning need to be recorded,

assessed and evaluated. The recording and evaluation must take as their starting point the fact that competences acquired on the job are extremely dependent on work situations and learning potentials. Thus simple, repetitive jobs offer minimal learning potential and opportunities to learn, and virtually no experiential learning takes place in them. On the other hand, in complex work situations full of variety, intensive experiential learning usually takes place, since there is great learning potential and work-oriented learning processes are necessary and possible. A system of evaluation and certification needs to be developed, covering both initial and continuing training, to facilitate transferability and interchangeability between these two fields of training, which have hitherto been completely separate. This is a key task for in-company training work in the operational field. Here, trainers and other skilled workers involved in initial and continuing training have a part to play that is just as important as their role in the opening up and structuring of the workplace as a learning venue, as described earlier.

In the context of new forms of learning, differentiated training paths and recognition of informal learning, attention must be drawn to two additional fields of research and development, which should be addressed as a priority in education and training policy and in structuring in-company training work: interweaving of initial and continuing training and interweaving of corporate organisational development and vocational training. It must be assumed that the clear separation of initial and continuing training in some vocational training systems will gradually be abolished and replaced by links and differentiated transition points, as described in this study. Future requirements cannot be exclusively or principally met within initial vocational training, for in a number of major fields of activity it is a long time since it was possible to learn a vocation and practise it throughout one's working life. Even with people who have been working in their occupation for a long time, their current vocational knowledge usually has little in common with the knowledge and skills they acquired in their training. From this point of view, initial training serves,

above all, as a basic prerequisite for entering a skilled occupation.

As a result of the importance new forms of learning and differentiated training courses have acquired in modern corporate and organisational concepts, vocational training could achieve a new strategic dimension for the development of the company organisation. For company reorganisation and restructuring processes are aimed at more than relocating competences downwards, with the desired effect being a dilution and levelling out of the hierarchy. They also involve, rather, a restructuring of forms of work and learning

and a redefinition of company learning and development paths, which make a change in company personnel development strategies essential in the medium and long term. This brings with it an opportunity to reposition vocational training in companies, although only on condition that company skills training acquires relatively independent significance in the interrelationship of technological development, changing activities and job-related skills. A corresponding linkage between in-company vocational training and organisational development is indicated in a number of reorganisation processes, and this needs to be intensified.



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