

# The relevance of the sectoral approach in European training cooperation

## **Herbert Tutschner**

Head of the Business-related occupations in the service industry unit, Federal Institute for Vocational Education and Training (BIBB), Bonn

## **Erik Heß**

Deputy Manager of the National Training Agency for Europe at the Federal Institute for Vocational Education and Training (BIBB), Bonn

## **Georg Spöttl**

Director of the Institute of Technology and Training, Bremen University

### **Keywords**

Domain, sector, classification, economic branches, qualification framework, specialisation

### SUMMARY

**In the debate on vocational training in Europe, the sectoral approach has been referred to for some time now, as the authorities expect that this will ensure, above all, a greater involvement of the social partners. But it remains unclear exactly what is understood by the term ‘sector’. It is used in discussions as a standard, pragmatic phrase rather than as the result of particular research. An attempt is made below to define this term for the purposes of vocational training policy and to demonstrate the opportunities offered by the use of sector references for European vocational training, including reference to the debate on the European qualifications framework (EQF) and the European Credit Transfer Systems (ECVET) for vocational training.**

## Introduction

The Copenhagen Declaration, signed by EU Education Ministers, the European Commission and the social partners in November 2002 is an important milestone on the road to a European training area. It expressly emphasises the sectoral approach and the relevant competences and qualifications. ‘Increasing support to the development of competences and qualifications at sectoral level, by reinforcing cooperation and co-ordination especially involving the social partners’ (ibid) <sup>(1)</sup> are two key themes of the Declaration.

On the surface, the sectoral concept is less politically explosive than the other Copenhagen objectives. However, it is worth noting the comment made in one of the calls for proposals that a significant number of projects had operated successfully at a sectoral level in the Leonardo period from 1995 to 2003 (Call, 2004). This approach should therefore be held up as a ‘testing ground’ for the development of qualifications and competences. The following were referred to as decisive advantages of the sectoral approach in the 2004 Leonardo call (ibid):

- Reference to a given sector gives those involved a clear indication of ‘qualification requirements’.
- On the basis of sectors, solutions for European and international approaches to training can be developed.
- Referring to sectors makes European cooperation in vocational training easier.

It should be added that projects that are clearly linked to sectors usually include the social partners. The benefits are obvious: they usually operate within individual sectors, typically have sector-specific know-how and know about the sector’s developments and requirements. In this respect, as key partners, on the one hand, they are crucial to the success of the project and, on the other, they are particularly important as experts above and beyond sector and national boundaries. The social partners are therefore key players when it comes to promoting the necessary dialogue on vocational training in Europe - an estimation confirmed in a study by Winterton, who says that the social partners around Europe are playing a formal role in the development of vocational training policy and are particularly involved in its implementation at a sectoral level (cf. Winterton, 2006).

---

(1) With the funding of European experiments (Fahle 2004) under the framework of the Leonardo da Vinci programme, those involved in vocational training have a useful tool to use reference projects in a *bottom-up approach*. The 2005-06 call for the last two rounds of calls in the Leonardo programme starts with this organisational potential and is therefore explicit in the Copenhagen objectives (European Commission, 2004).

In an empirical study carried out by Mulder, however, it was discovered, as far as the food and agriculture sectors were concerned – at least in the 60 Leonardo projects investigated (between 2000 and 2003) in this sector – the social partners had only very minor involvement, if any (Mulder 2006). In any case, social partner organisations did not take part in the projects. At the same time, however, those questioned in this study also confirmed that the involvement of the social partners contributed significantly to the success of the project.

To this end, following the meeting of the Leonardo Programme Committee in Bonn in December 2003, the European Commission underlined that the Copenhagen objectives of transparency, recognition and quality could only be achieved through the active and systematic involvement of those responsible at sectoral level (European Commission, 2003).

Since then, discussions carried out under the framework of the European E-Skills Forum initiated by the Directorate-General for Enterprise and Industry and in the CEN <sup>(2)</sup> 'Agreement on the ICT Skills Meta Framework' Workshop have made the subject even more relevant, because the development of a European sectoral qualification framework has now started.

There is therefore a real need for clarification over the issue of sectors. There is also the strategic question of whether and, if so, which sectors are particularly able to achieve, through the national authorities focusing on vocational training, relevant and convincing project results over the long term (cf. Heß, 2004). Finally, it is necessary to look at whether sector-specific projects financed by European funding can ever meet expectations.

## The sector concept – The history of an unclear term

### **Numerous sector models**

The terms industry and sector are often used interchangeably. An industry is an economic or commercial branch or a specialist field. The numerous types of economic and commercial branches and specialist fields can only be defined by identifying their contents, which usually depends very much on the situation. Terms like the electrical industry, construction industry, motor industry, etc., show that the term can be very broad, but also indicate that there is a need for a certain amount of categorisation, which is easier to achieve by using the term 'sector' because it can be defined.

Discussions over sectors usually revolve around macroeconomic structures. In his three-sector hypothesis, Fourastié, who describes the rise of the ser-

---

(2) The CEN (European Committee for Standardization) Workshop Agreement can be downloaded from the following address: <ftp://ftp.cenorm.be/PUBLIC/CWAs/e-Europe/ICT-Skill/CWA15515-00-2006-Feb.pdf>

vice society and the replacing of an industrial society with a knowledge society (cf. Helmstädter, 2000), defines the:

- primary sector (agriculture and forestry, fishing),
- secondary sector (production industry), and
- the tertiary sector (services) (cf. Fourastié, 1954).

In economics, the sectors are often also divided up according to economic branches under the following main categories:

- agriculture and forestry, fishing,
- production industry,
- commerce and trade,
- services (cf. Helmstädter 2000, p. 15).

There are also numerous other definitions of sectors, such as those using economic operators (companies, the State, households, etc.), management of the national accounts (cf. Becks, no year given) or the IAB model for analysing services (cf. Spöttl et al., 2002).

It is interesting that, for example, with the rise of the new information and communication technologies, attempts were made to introduce another, 'quarternary' sector. Such attempts fizzled out because the new information and communication technologies were used everywhere. It is not worth making any particular sectoral distinction here because it is simply a cross-sectional technology. A sectoral distinction here would restrict the distribution and examination of effects.

Examples have already shown that, depending on the actual task and the interest, sectors and sector concepts can be composed, defined and broken down in many different ways.

However, as far as the sector concept to be clarified here is concerned, a basis for vocational training and research fields has to be defined, which can be achieved at manageable expense and with clear incorporation into the vocational training landscape.

In order not to founder on the numerous references made to sector and industry models, it is necessary to come up with an understanding of the term 'sector' in two senses:

- (a) At a *macro level*, fields relevant to vocational training and which ultimately make up a vocational training system have to be identified. Research carried out in individual or in all such fields on matters of political and economic relevance, trends, qualification requirements, job profiles etc., help to increase basic understanding of the development of vocational training systems for use in vocational training policy. The primary aim is therefore to increase our understanding in order to provide a sound foundation for the further development of vocational training systems.

(b) At a *meso level* it is no longer necessary just to look at structural factors, as focused on at a macro level. It is a question of working out the changes in responsibilities and job descriptions in order to gain a first, practical understanding for the 'reconfiguration and further development of qualification initiatives' (cf. Spöttl, 2000), without going into the details.

The understanding of sectors on this second level is intended to classify data and, for example, vocational training initiatives in a clearly defined context to ensure that further research is valid. To do this, sector distinctions have to be clearly recognisable and delineated.

These are therefore the starting points for a definition of sectors allowing core questions relating to vocational training to be looked at with clear references to the fields contained in them (cf. Hanf, 2003).

### **Definition of a sector for the purposes of vocational training initiatives**

A sector in this sense is characterised by:

- a (specialist) field involving comparable or similar tasks and having similar production or service structures;
- data, statistics and studies that cover, both nationally and, as the case may be, internationally, the same (specialist) field and can be used to determine sector-specific developments;
- the defining of activities on the basis of economic branch classifications like NACE <sup>(3)</sup> (cf. NACE, 2004) and
- the analysis of products, customers, know-how, services and specialist tasks that are not structurally different from one another.

This definition means, for example with reference to the motor sector, that one must think very carefully about where to draw the line. At first glance, the 'motor sector' includes the entire manufacturing and supply industry and the servicing and repair industry, including petrol stations, hire companies, motorcycle companies, second-hand car dealers, etc. However, if the sector is looked at according to the above definition, a distinction can be drawn between manufacturing and servicing, repair and dealing. The first category, manufacturing, includes car manufacturers and their suppliers (who manufacture products) and the second includes servicing, repair and dealing; dealing, because it is directly linked to servicing and repair establishments. The second category is typically oriented very specifically to the customer, with whom contact is made directly. Second-hand car dealing can also be

---

<sup>(3)</sup> NACE = *Nomenclature statistique des activités économiques dans la Communauté européenne* / Statistical classification of economic activities in the European community.

included here (assuming the establishment is not independent), as can motorcycle repair, because there is a close material link with cars in terms of engineering and servicing. Not included, however, are petrol stations and hire companies. They involve sale and rental and are not structurally similar to motor vehicle servicing, repair or dealing (cf. Rauner et al., 1994).

The practical question of defining, for example, the 'recycling sector' is completely different. This term is not found in current statistics and standards (e.g. NICE <sup>(4)</sup> or ISIC nomenclature – Directive 1999/42/EC, L201/77 <sup>(5)</sup>), but in the NACE classification. The extremely varied recycling sector can only be defined with reference to the Closed-Loop Economy Act, according to which, first of all, a different term is to be used, namely 'closed loop waste economy', because this includes the process of preventing, avoiding and recycling waste. It includes the recycling process (closed loop), the waste economy and the cycle (or the general understanding of it). The sector therefore includes the collecting, separating, recycling and production of secondary raw materials and goods that can be sold on the open market. In Europe, this understanding of the term includes at least 13 areas, such as waste glass, waste paper, old cars, old wood, building rubble, old textiles, old electrical equipment, etc. Combustion, sale and dumping are therefore also included in the 'recycling sector'. The sectoral definition also ensures a clear field here. If this distinction is not made, there is a risk that, for example, old cars and the renovation of old cars will be included in the motor vehicle servicing and repair sector even though they are typical cases of recycling.

Finally, the classifications used by the United Nations and the EU in their current, synchronised versions ISIC Rev. 3.1 and NACE Rev. 1.1 are an authoritative representation of data relating to economic branches.

The classification of economic branches used by the Federal Office of Statistics, harmonised with the NACE Code, has a correspondingly finely branched structure without resorting to the sector category. However, it is a key source of information when it comes to defining sectors and, in particular, the data is transferable when sector boundaries follow economic branches. Nevertheless, such definitions are unsuitable for an understanding of the term 'sector' for the purposes of vocational training, as the following example demonstrates:

It can be seen from the economic branch classification NACE:

- Subsection DI: Manufacture and processing of metal products and
- Subsection DK: Manufacture of machinery and equipment,  
that, for example, 'surface refining and heat treatment' is included under DI and the 'manufacture of machinery for metallurgy ...' is included under DK. In initial vocational training, these two tasks will be combined in a single job

---

<sup>(4)</sup> NICE = Classification of Industries established in the European Communities

<sup>(5)</sup> ISIC = International Standard Industrial Classification of All Economic Activities

because they are very similar in terms of performance. It is therefore obvious, from the point of view of vocational training, to draw sector boundaries, in certain cases, differently from those in economic branch classifications and at the same time ensure that the classification information can be used.

The underlying Regulation of the European Commission of December 2001 talks about 'classification of economic activities'; the preliminary report on the economic activity classification review process up to 2007 avoids the term 'sector' altogether (cf. Greulich, 2004; EC Regulation, 2002). This is understandable because data is being classified which relates to statistical units, i.e. to an individual business or group of businesses that form an economic unit. However, it should not be forgotten that many classifications are based on sector classifications according to economic branches. Under the structure according to the NACE 'Rules and Definitions on Sections', economic units such as 'dealing, maintenance and repair of motor vehicles and second-hand cars' are all combined (cf. NACE Rev. 1). This does not just form the basis of a sectoral approach from the perspective of vocational training, but is expressly predestined for it. <sup>(6)</sup>

### *Summary*

Comments made on the sectoral concept do not merely prove that there are numerous definitions, they also show very clearly that, as far as vocational training is concerned, it is an 'unpolitical' term that can be used in various ways. It has also emerged that current use of the term makes no distinction between sectors standing for a classification in vocational training and those used as basic classifications for economic data.

Using the above definition of a sector with respect to vocational training, it is clear that classifications relating to the economy – for example NACE – can in certain cases form the basis for sectoral definition in vocational training. Nevertheless, it would be better from a vocational training point of view to use its sectoral definition aimed at the classification of vocational training. Sectoral structures relating to the economy are the basis for the 'supplying' of data, information, standards, etc.

A full and formal separation of a sectoral understanding in vocational training from classifications relating to the economy would have the disadvantage that data and knowledge of trends could not be carried over to vocational train-

---

<sup>(6)</sup> The 'explanatory notes' for the draft version of the revised United Nations ISIC Standards of May 2004, on the other hand, use the term 'manufacturing sector' and, in relation to public administration, talk about '...subsidy allocation, for different economic sectors: agriculture; land use; energy and mining resources; infrastructure; transport.'  
On the one hand, this clearly shows that the term 'sector' certainly plays a role. On the other, the different linguistic usage demonstrated does not just provide a differing categorisation; the imprecise terminological allocation oddly contrasts with the meaning currently ascribed to the sectoral approach in training discussions and programmes.

ing. A supply function therefore tends to be more appropriate. However, sectors in vocational training do not have to correspond precisely to sectors in the economy. In this respect, the decision of the Leonardo committee in the 2004 call to use the NACE standard as a basis for sectoral structures is not necessarily a good thing. NACE is undoubtedly used as a guide when it comes to vocational training sectors, but it certainly cannot be reproduced like-for-like; not every economic sector can be ascribed its own vocational training measures.

## The relevance to training of the sectoral approach

Sectoral vocational training is not currently official vocational training policy either in Germany or anywhere else in Europe. In Germany, reference to the vocational fields, which do not correspond to the sectors, still predominates. There are various arrangements in other European countries, such as a general system reference, reference to an institution, reference to a job, reference to a school, etc.

A sectoral European vocational training policy could, however, be a first step towards successful European social dialogue helping to achieve an international joint European vocational training policy. Referring to the interests of individual sectors would help to objectify the frequent meta-discussions in favour of sector-specific interests.

A sector model favoured in this way faces three basic obstacles:

- (a) Sector boundaries are blurred because of the fluid nature of the working world.
- (b) Multi-sector qualifications and competences are becoming relevant and are still attached to a single sector.
- (c) The sector model does not respond to new developments – it remains static.

The first two points are closely related, but they are only applicable if the traditional and ultimately static sector model proposed by Fourastié in 1954 is used. This model is unsuitable for a discussion on sectoral vocational training as it is not open to development and therefore does not allow for changes in sector boundaries, new developments and, above all, considerations of national industrial culture.

As far as multi-sector qualifications and competences are concerned, it should be pointed out that researchers agree that they cannot be provided in an abstract and context-free way <sup>(7)</sup>; instead, reference to a domain is the cru-

---

(7) The question of the context-free provision of qualifications has often been raised in relation to discussions over key qualifications.

cial requirement. Only with reference to a domain is a high quality development of 'tied' and 'free' qualifications and competences possible. In other words, the provision of qualifications and competences should be sectoral if it is to succeed. At the same time, the plans developed for it are transferable.

If sectors are to play a role in the structuring of vocational training, then a sectoral concept must be able:

- (a) to form a basis for the arrangement of job outlines that can be achieved at manageable expense and with clear incorporation into the vocational training landscape and
- (b) to include work factors in a sector that is of relevance for vocational training.

Both of these conditions are clearly contrary to approaches in discussions on European vocational training, which still put competence level and modular structures after Tayloristic work structures <sup>(8)</sup>. Sectoral vocational training is based on including the work factors and business and working processes of a sectors and using them as a platform for the arrangement of vocational training. In all considerations on this subject, the crucial question is how sectors or sector boundaries are determined and understood.

### DOMAIN

For some time now, 'domain-specific competences' (cf. Gerstenmaier, 2004) have been the principle area of discussion among researchers. A domain is generally an area, territory or special field in which someone is particularly active. In this respect it initially seems reasonable to refer to any definable area of activity in which someone can act with authority as a domain. Researchers have made use of this possibility. On the basis that an expert's competences only relate to his special field, the following requirements for domain-specific competence are recognised:

- 1. It is based on mental networks of area-specific knowledge;
- 2. It is characterised by special skills and routines for which only a limited explanation is possible;
- 3. The trade demands many years of practice and extensive experience (cf. Gruber/Mandl, 1996). At this level of abstraction, any mental or physical act in an area may become the domain in which the competence is demonstrated.

The current theory (cf. Becker, 2004) is that the domains are naturally to be referred to in relation to a subject area – e.g. servicing or diagnosis in motor vehicles or the construction of an IT network – so that a workable concept of competence is produced. This can only be achieved by describing the context in which the work is carried out. Plato told us that a domain is 'the conceptual unit of a subject area' (Krohn 2002, 19). Only by looking at the overall picture can a sensible use of the terms domain and competence be ensured. In order to specify a domain, reference to sectors is the obvious answer.

<sup>(8)</sup> A current example of these kinds of failed inclusion in vocational training is given in the report commissioned by Cedefop, 'ICT and e-business skills and training at sub-degree and vocational level in Europe' (cf. Cedefop; Petersen, Ward, Wehmeyer, Revill, 2004).

For example, production industry includes numerous industries and ‘sectors’, such as the motor industry or the vehicle servicing sector, manufacturing, production engineering, construction of machinery and equipment, steel working, etc. It is clear here that the generally prevailing understanding of an industry and/or a sector is broad and tends to be classified as an analytical category. However, for a deeper understanding in vocational training research, an approximation of industry divisions, undefined sector structures or production fields is not particularly helpful. It is a question here of defining the general factors relating to sectors that are relevant for vocational trainers, qualification initiatives and vocational training policy as a field of reference.

## Vocational opportunities offered by a sectoral approach

A sectoral approach to European vocational training, vocational training research and vocational training policy offers a number of advantages:

- Sector structures in industry and trade are clearly identifiable and largely similar all over Europe.
- The challenges of similar sectors differ only slightly throughout Europe, so both sectoral and multi-sector qualifications and competences can be included and incorporated into vocational training.
- The inherently fluid nature of sectors can be transferred to profiles and to vocational training policy and (core) job outlines at European level.
- The development and adjustment of sectors is largely affected by European legislation and other European regulations and can therefore be followed and understood more precisely. Knowledge of the labour market can thus be increased.
- Characteristics of industrial culture can be taken into account in sectoral competence profiles and/or job outlines. There is a specific opportunity here for a Europe-wide understanding of vocational training that has not yet been taken advantage of.
- Using a credit-point system for work process structures in a sector looks promising as an attempt, through formalised certificate structures, generally to improve the transparency of final examinations. In a sectoral approach, credit-point systems and credit systems are easier to summarise and communicate. However, no specific details have been agreed on yet.
- Sectoral vocational training simplifies and guarantees the involvement and support of the social partners, as references to the work that is relevant to them are put centre stage. Social partners can also weigh up and evaluate ‘events’ in sectors more effectively. This makes them likely to take action.

- A sectoral inclusion of social partners in the vocational training debate is one of the main prerequisites for establishing a 'European vocational training dialogue'.
- The sectoral approach means that, through its definable framework, ambitious training objectives can be 'broken down' operationally to project level.

The clear references to the world of work in the Bologna Declaration almost demand that this be declared a core part of a 'European vocational training system' for the purposes of work-oriented vocational training. This can only be achieved through sectoral references, thanks to which:

- the multidimensional challenges of the shop floor can be understood,
- the relevance of work organisation models is taken into account,
- the business communication structures are looked at,
- legal regulations are included in vocational training,
- the tools, products, etc., themselves are returned to the centre of vocational training.

Unlike the discussion over formal comparability, rules on mutual recognition and transparency of certificates, which can only be managed by a top-down approach, the sectoral approach uses a bottom-up approach. This could help in the conversion of national systems as it takes into consideration and respects the basic cultural conditions and industrial cultures of each society. As mentioned above, the differences on a work-related sectoral level across European borders are also not as relevant as they are in individual vocational training systems. There are therefore excellent links on a sectoral level for a European vocational training policy.

In addition, sectoral references always mean specifying vocational training and analysing ideas regarding required and expected qualification levels in a real field of work. Even if this leads to interest-led and controversial discussions and opinions, it will still ensure involvement, representing the best opportunity for a European dialogue on training.

## Areas of action and uses of the sectoral approach

On the basis of comments made above, a sector has to be defined in a way that an economically relevant area, with its fields and associated questions of qualification and personal development, can be clearly understood. Individual sectors to be defined must be characterised by completely different economic concerns, methods of production, contents and qualification issues.

Consequently, the following must be borne in mind when drawing up boundaries in the sectoral approach:

- what the main responsibilities of the actual job are,
- whether company structures, a degree of specialisation, an analysis of typical subjects, etc., can be identified,
- whether there are social partners and co-determination structures that are relevant to social, economic and qualification policy in this sector,
- what employment and occupational structures there are and how initial and further training and personal development is organised.

By drawing up the boundaries between individual sectors, it is possible to identify sector-specific changes with respect to demographic developments, technological innovations, the dynamics of the business field, the different ways of organising work, computerisation, qualification challenges, internationalisation, job structures and initial and further training requirements. As a result, targeted activities for vocational training initiatives can be carried out which have a clear link to the sectors concerned. The involvement of the social partners is assured within sectors.

In sectors that have a strong international element, such as in the IT and motor industries, such data forms the basis of European job outlines. In sectors with more of a national focus, national requirements may be given more relevance, which may be supplemented with general sector European profile aspects.

In practice, these considerations amount to three approaches to sectoral vocational training strategies:

- Core European sectoral job outlines, which can be supplemented with national, industrial culture and sector-specific additional profiles;
- Europeanised general sector additional competence profiles, which can be supplemented with national profiles;
- A European vocational training strategy in European or global sectors in order to promote their competitiveness.

European and global authorities and decision-makers have long been interested in drawing up effective methods and rules for European vocational training in order to increase competitiveness to match that in US or Japanese sec-

tors. European vocational training could make a considerable contribution to this (cf. Heß; Tutschner, 2003, Rauner; Spöttl, 2002).

## Sectoral approach and EQF/ECVET

Focusing European training activities on sectors makes it possible to link vocational training, and therefore skills development, to clearly defined domains (e.g. vehicle servicing in the motor sector). This means not only that domain-specific learning processes which allow both the development of technical skills and of key qualifications can be put in place, but also that evaluation and assessment of the contents can be carried out. By gearing learning to domains, the sectoral approach can focus and redouble the efforts being made in Europe to increase transparency and implement a credit-point system in vocational training (ECVET, cf. Technical Working Group, 2003 and Le Mouillour, Sellin, Simon, 2003). This is possible with clear content-related work and learning. The results of this process are measurable and guarantee the potential of each individual. At the same time, the sectoral approach makes it possible, against the background of the European qualifications framework (EQRKOM, 2006), in a definable and therefore ‘manageable’ field – to structure transparently, for example, the interchangeability of vocational training with university education.

The sectoral approach also makes it possible to put discussions on EQF and ECVET into concrete form - particularly, to describe the contents of descriptors of the EQF and, in particular, of national qualification frameworks (NQF) with domain-related requirements within sectors. The conditions could also be set to provide qualification level with points to support the ECVET concept. There is an opportunity here for all participating European countries to come up with solutions corresponding to their own structures and underlying priorities but at the same time guaranteeing references to the European establishment of final examinations and profiles.

One of the greatest opportunities offered by the sectoral approach accordingly lies in the fact that the discussion over

- the support of learning processes and didactic approaches and
- a credit system
- can, to a large extent, be put into concrete form and underpinned by domain-related content from sectors.

At the level of sector-specific content, it finally has to be decided how many points are awarded for what, and what weighting these things have in a European vocational training area. This cannot be decided without the involvement of the social partners in the sectors concerned. <sup>(9)</sup>

**ECVET/EQR and the sectoral approach**

The consultation process for implementation of a credit system for vocational education and training (ECVET) reveals, in the context of the proposal for a European qualifications framework (EQR) or national qualifications framework, just how complex the tasks to be carried out are.

For example, discussions over terminology (including what we understand by competence) are largely invalid because of political influences, but the question remains:

What does a European standard for measuring competence look like? Just as unclear is the issue of validation. Which body - with which members - is to be defined as a 'competent body'? And is the jurisdiction of these authorities limited to their respective subsystems (vocational training – university education, but also general education)? Or is their role understood differently?

Practical rules also have to be drawn up for dividing up and awarding points to learning units.

The sectoral approach means that manageable arrangements accepted within the sector can be achieved through the definitional *limiting of terrain*.

## Sectoral projects and national interfaces

Discussion over European job and further training profiles arranged nationally in a specific sector still revolves – bearing in mind all terminological difficulties – around the fact that a system-relevant curriculum is the product of negotiation between the social partners.

Both the Copenhagen process and the 2005-06 call in the Leonardo programme underline these political aims and responsibilities, requiring understanding, through a bottom-up approach, by those involved in carrying out sectoral projects. As a result, those running projects are, to a certain extent, given sovereignty over the interpretation of the term 'sector' because no clarification is given if requested.

As a working theory - in both senses – the sector project is therefore where European umbrella organisations and national jurisdiction meet. On the one hand those responsible for sectors who predominantly work in their national interest face the task of translating European solutions into national rules - the mechanisms of which are characterised by different legal requirements, normative values, cultural traditions and traditions relating to work ethics, specific conflict management, political models and decision-making structures.

---

(9) The sector-specific evaluation of the findings of the Technical Working Group 'Credit Transfer in VET' is yet to be finalised (cf. Le Mouillour et al., 2003), so final decisions on the value of its results have not yet been made.

On the other hand, the sectoral approach offers the opportunity, based on national progress and success, to achieve a European alignment because in many cases the sectoral value-added chain runs through a number of countries in global job division. The resulting standardised requirements lead to joint international solutions and hence to the greater transparency of vocational qualifications and final examinations.

A declaration of support by European players and programmes for sectoral project work would give workers constructive options for collaboration on that basis. At the same time, a high development dynamic would be possible, ensuring rapid progress of processes introduced through involvement on that basis.

According to the sector concept that is open to development, those responsible for vocational training would then, in some cases, face the challenge of making the European competences first constituted at sectoral level transferable and therefore, to a certain extent, explaining them generally for all sectors.

## Development approaches in practice

This ideally outlined development line has a parallel in the high expectations that the 'European Milieu' in politics, science and practice, for example, places on the international innovation projects in the Leonardo programme.

### **Subjects of selected Leonardo projects in Germany:**

- EU businessman/businesswoman for transport
- Development of a European job outline and curriculum for the recycling industry
- Modularisation of vocational training and university education in the care industry
- JobArt - Preparation for the workplace for disadvantaged people in the fields of event engineering and digital media structuring
- International development and testing of a job preparation model in the motor and metal industries
- Teaching and learning materials for a web-based model shop with an interface with the product business system for training in retail
- 'MediaCoach' (target group advisors/trainers in the media)
- European 'building automation' competence field
- 'Virtual Academy' for the European home textile sector
- Virtual labour for training in mechatronics
- Teaching/learning arrangements for mobile terminals (PDAs, mobiles, MDE) in initial and further training for retail
- 'Awarding points' for specialist profiles in the IT/multimedia sector

For project details, go to <http://www.leonardodavinci-projekte.org>

The German Leonardo projects have undoubtedly had remarkable results since the reorganisation of the programme in 2000. <sup>(10)</sup> A considerable number of project partnerships were, from the outset, designed to be sectoral in all main areas (see box, p. 176).

In view of the dynamics of the Copenhagen process, however, both those involved at a work level in the Member States and those representing projects are at a threshold that can only be crossed through joint initiatives: Those involved in vocational training need reference projects that demonstrate the feasibility of the Copenhagen objectives and so prove the manageability of European solutions; the projects, for their part, with the systematic organisation of a European dialogue, are coming up against limitations (Fahle, 2004 a and 2004 b) which it seems can only be overcome by alternative approaches. Sectoral approaches in any case offer the opportunity, to a large extent, to put project work into concrete terms and to demonstrate their uses for industry and trade.

In this context, sectors have to be chosen, as prototypes for European training, which meet both strategic considerations (classification relevance, broadcastability) and content requirements (transferable model with reference character). The necessary competence to carry out the project is a prerequisite here.

## Summary and prospects

Comments on the sectoral concept show that definitions characterised by economic structures predominate. A like-for-like assumption of definitions by vocational training policy is not recommended owing to its high complexity – it would tend to fragment vocational training. As a result, a definition of the term ‘sector’ has been introduced that is suitable for training practice and policy and can at the same time assume all relevant data from the sectoral statistics.

The nature and opportunities offered by sectoral approaches can be summarised as follows:

- Sectoral approaches are particularly useful in Europe where a high degree of cross-border networking may be required and international training cooperation can be introduced.
- With a sectoral approach, discussion over European vocational training policy, particularly ECTS, ECVET and EQF, transparency and quality can largely be put in concrete terms.

---

<sup>(10)</sup> Cf. for an assessment of the first phase of the Leonardo programme (1995-99), National Training Agency for Europe at the Federal Institute for Vocational Training, 2001.

- When selecting sectors, e.g. under the framework of model-like development and testing, national preferences have to be taken into account. This requirement applies not only when selecting the sector itself but also in relation to the actual selection process.
- For implementation, programmes like the Leonardo da Vinci EU vocational training programme have to be used, and a bottom-up approach developed. There are approaches with different focuses and intentions, particularly in the draft 'European job profile', such as in the case of motor mechatronics workers or ECO recyclers.
- The bottom-up approach and the sectoral approach complement one another, as the exact sector boundaries must be decided on the basis of economic activities and classifications; this ensures participation.

Implementing a European vocational training policy with strong, sectoral references would have the crucial advantage of putting all activities on a very firm foundation. This would considerably help to avoid the often abstract discussion over EQR and ECVET and to underpin the use of projects. Moreover, the success of projects will be easier to see because the results will be understood by all sides.

Above all, for a European vocational training policy to refer to sectors is a political necessity; yet both politics and research have so far failed to tackle this issue properly. It is time to see this right.

## Bibliography

- Becker, Matthias. Domain-specific competences for skilled workers in the car sector. In Röben, Peter; Rauner, Felix (ed.). *Domänenspezifische Kompetenzentwicklung zur Beherrschung und Gestaltung informatisierter Arbeitssysteme*. Bielefeld, 2004.
- Becks, Rolf. *Volkswirtschaftslehre*. Darmstadt, no year given
- Call 2004: *Call for proposals under the second phase of the Leonardo da Vinci Programme*. The European Commission – Directorate general for education and culture. EAC/11/04.
- Cedefop; Petersen, A. Willi; Ward, Tony; Wehmeyer, Carsten; Revill, Peter. *ICT and e-business skills and training at sub-degree and vocational level in Europe*. Draft Final Report, May 2004.
- Copenhagen Declaration. Declaration of the European Ministers of Vocational Education and Training, and the European Commission, convened in Copenhagen on 29 and 30 November 2002, on enhanced European cooperation in vocational education and training 'The Copenhagen Declaration'. Copenhagen, 2002.

- Duden. *Fremdwörterbuch*. Mannheim: Dudenverlag, 2001.
- European Commission. Commission Regulation (EC) No. 29/2002 of 19 December 2001 amending Council Regulation (EEC) No 3037/90 on the statistical classification of economic activities in the European Community. In: *Official Journal of the European Communities*. L 6/3 of 10.1.2002.
- European Commission, Directorate general for education and culture (ed.). *Aufruf zur Einreichung von Projektanträgen für die zweite Phase des Programms Leonardo da Vinci* (EAC/11/04). Brussels, 2004.
- European Commission, DG EAC (ed.). *Sector oriented projects in the Leonardo da Vinci program: Elements in a strategy*. Brussels, 22 December 2003. Unpublished paper.
- European Commission. *Proposal for a RECOMMENDATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on the establishment of the European Qualifications Framework for lifelong learning*, COM(2006) 479 final, Brussels, 5.9.2006
- Fahle, Klaus. *Sektorale Projekte im Programm Leonardo da Vinci*. Bonn, March 2004a. Unpublished paper.
- Fahle, Klaus. *Leonardo Da Vinci – ein europäisches Modellversuchsprogramm im Wandel*. BWP, Vol. 2, 2004b, p. 34-38.
- Fourastié, Jean. *Die große Hoffnung des zwanzigsten Jahrhunderts*. Cologne: Deutz, 1954.
- Gerstenmaier, Jochen. Domain-specific knowledge as a dimension of vocational development. In Rauner, F. (ed.). *Qualifikationsforschung und Curriculum*. Bielefeld, 2004, p. 151-163.
- Greulich, Matthias. Economic activity classification review up to 2007 – a preliminary report. Federal Office of Statistics (ed). *Wirtschaft und Statistik*, vol. 4, 2004.
- Gruber, Hans; Mandl, Heinz. Expertise and Experience. In Gruber, H.; Ziegler, A. (eds.). *Expertiseforschung*. Opladen, 1996, p. 18-34.
- Helmstädter, Ernst. *Der tertiäre Sektor im volkswirtschaftlichen Zusammenhang. Zwei alternative Sichtweisen*. Discussion paper No. 14: Institute of Employment and Technology. Gelsenkirchen, 2000.
- Heß, Erik. *Leonardo da Vinci: Vom 'Innovationslabor' zum Reforminstrument*, 2004, p. 1 – 7. Available on the Internet at the following address: <http://www.bibb.de/de/4925.htm> [last visited on 6.12.2007]
- Heß, Erik; Tutschner, Herbert. Experimentation and structuring. On the potential of the Leonardo da Vinci programme. In Kölner Arbeitskreis Wirtschaft/Pädagogik e.V. (ed.). *Training in Europe. Kölner Zeitschrift für Wirtschaft und Pädagogik*, No. 18, Vol. 34, 2003, p. 135-150.
- Hanf, Georg. *Sektorale Bildungszusammenarbeit versus nationale Standards*. Bonn, November 2003. Unpublished script.

- ISIC Standards: <http://forum.europa.eu.int/irc/dsis/nacecpacon/info/data/en/index.htm#>; class 8713 Classifications: <http://w3gewan.bayern.de/klasswww/klassw03/wz0301.htm>, 2003.
- Krohn, Wolfgang. *Platons Philosophie der Technik, Festschrift für Gernot Böhme*. <http://www.uni-bielefeld.de/iwt/gk/profs/krohn/festschrift-boehme.pdf> [sited: 24.04.2004].
- Le Mouillour, Isabelle; Sellin, Burkhardt; Simon, Jens (eds.). *Credit Transfer System in VET*. First Report of the Technical Working Group. October 2003.
- Mulder, Martin. EU-level competence development projects in agri-food-environment. The involvement of sectoral social partners. *Journal of European Industrial Training*, Vol. 30, No. 2, 2006, p. 80-99.
- NACE Rev. 1: Statistical system of economic branches in the European Community. Introduction. RAMON-Eurostats Classification Server, Rev. 1, 2004 p. 5.
- National Training Agency for Europe at the Federal Institute for Vocational Training (ed.). *Valorisation durch Evaluation*. impuls, Vol. 1, 2001.
- Rauner, Felix; Spöttl, Georg. *Der Kfz-Mechatroniker – Vom Neuling zum Experten*. Vocational training, work and innovation, Vol. 12, Bielefeld 2002.
- Spöttl, Georg. The work process as a research subject for occupational science qualification research and the special role of expert (skilled worker) workshops. In *Berufliches Arbeitsprozesswissen. Ein Forschungsgegenstand der Berufswissenschaften*. Baden-Baden 2000, p. 205-221.
- Spöttl, Georg et al. *Dienstleistungsaufgaben sind Facharbeit. Qualifikationsanforderungen für Dienstleistungen des produzierenden Gewerbes*. Bielefeld 2002.
- Technical Working Group: First Report of the Technical Working Group on Credit Transfer in VET*. Brussels, October 2003. Unpublished paper. Available on the Internet at the following address: <http://communities.trainingvillage.gr/creditransfer-eq> [last visited 6.12.2007]
- Winterton, Jonathan. Social dialogue and vocational training in Europe. Are we witnessing the emergence of a European model? *Journal of European Industrial Training*, Vol. 30, No. 1, 2006, p. 65-76.