



Core occupations as a building block for European vocational education and training

► At present, the proposals for a European Qualification Framework (EQF) and for a Credit Point System in Vocational Education and Training (ECVET) are revitalising the discussion surrounding European core occupations, although it remains unclear whether occupations should play a role in this system and which “vocational education and training concept” could form the basis of a consensus in Europe. Core occupations may constitute the foundation for the respective context of a sector related “ECVET configuration” and could provide a major contribution to a vocational education and training concept dialogue between social partners and policymakers. The present paper investigates whether the establishment of European core occupations represents an opportunity to enrich the European vocational education and training debate by adding a modern concept of vocationalism.



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Initiatives for core occupations

The initial basis for the development of European core occupations and the debate surrounding them was established within the scope of such internal European funding projects as FORCE and LEONARDO DA VINCI. Research findings which provided evidence that there was scarcely any difference between partner countries in terms of the structure of work processes and which indicated that distillable core structures for occupations enjoyed acceptance as transnational solutions on the part of the sectoral representatives constituted the starting point of the process. This meant that, in contrast to the dispute centring on various vocational training design concepts or systems, core occupations were able to provide a stable basis for further clarification processes.

Two core occupational profiles will be presented to serve as examples of these discussions and of the ensuing steps undertaken in terms of implementation:

- motor vehicle mechatronics fitter (cf. www.itb.uni-bremen.de/projekte/kfzmechatronica/deutsch/sitemap-d.htm) and
- eco-recycler (cf. box)

The LEONARDO Project European RecyOccupation Profile

The project developed the **core occupational profile of “ECO recycler”** for closed loop recycling and waste management complete with learning and work tasks and country-specific manuals. The project also submitted a proposal for the alignment of credit points (ECVET) to the main focuses of the “ECO recycler” occupational profile.

The pilot project won a **“UN Decade Project”** award from the German UNESCO Commission. (cf. www.recyoccupation.eu.tc/).

The main focus of the occupation of motor vehicle mechatronics fitter is on a clearly structured high-tech product with the car as an entity forming the main centre of interest. The work processes prevailing in the automotive service sector constitute the basic structure of the profile.

The occupation of eco-recycler exhibits a different picture in terms of the product involved. The closed loop recycling and waste management sector does not feature clear product and

corporate structures, although there are work processes which scarcely differ from company to company. These constitute the linking elements for cross-sectoral debate which is assisting in the establishment of the core occupational profile for the occupation of eco-recycler and is supporting its implementation within the individual countries.

Characteristics of a modern concept of vocationalism

Notwithstanding all the criticism levelled at the concept of the occupation and vocationalism, we may assume that vocationalism will continue to be the organising principle of work in Germany.

Vocationalism will also leave its mark to a greater or lesser extent as it plays a role in other European countries. The view that skilled work in the classical sense is declining in significance and bringing an attendant focus on the transitory nature of vocationalism in its wake, an opinion justified by some industrial sociologists in terms of a “deoccupationalisation” of industrial work processes, fails to convince. The same may be said of the assumption that occupations and vocationalism may be perceived in purely specialist terms, a view postulated within traditional vocational and economic pedagogy. The sole responsibility of a vocational education and training theory is not merely to account for its educational concept. It is more important for such a theory to have its foundations in a concept of vocationalism which emphasises the process orientation of work (cf. MEYER 2000, p. 29).

Self-direction, the ability to cope with complexity and acquire knowledge and handling such areas as methodological and organisational knowledge are just some of the parameters characterising modern vocationalism.

From traditional skilled work to work and business process orientation

Companies are changing their organisational structure and their forms of process organisation in order to be able to compete globally on quality and cost. Tayloristic organisational forms with their function and performance related structures of specialised and skilled work controlled by various hierarchical levels are proving to be too rigid and are losing their dominance in areas where product quality and work efficiency are combined. In small and medium sized companies in particular, the only secondary level which often exists aside from the management level is the production level. The main emphasis of the function of a foreman, a position which is frequently located between the management and the shop-floor levels, tends to be on the coordination of tasks. This role is today more closely integrated into the employee level than was the case in the past. The

results of such developments are a flattening of hierarchies and the coalescence of the areas of organisation, technology and human resources development (training), sectors areas hitherto separate in terms of their function. This process of change encompasses a flexible and networked bundling of tasks relating to the entire business process of a company and brings a need for appropriate qualification profiles in its wake.

The consequence of this is a requirement for a qualification profile and competence development design concept which needs to ally itself to the understanding of business and work processes outlined below.

- Business processes describe the functions, performances, participating organisational units, necessary resources and planning and control of work processes related to the processing of a certain order. This means that there is an increasing requirement for qualified workers to scrutinise, reflect on and assist in shaping operating or internal organisational structures as a whole. This renders the ability of skilled workers to participate in shaping the triad of “development of company organisation – development of technology – competence development” a central target of core vocationalism.
- Work process knowledge is the core of business process knowledge. In simplified terms, this can be described as the intersection of context-related and situationally dependent vocational know-how and generalisable systematic and scientific knowledge. Work process knowledge may be viewed as a concretisation of business process knowledge with clear references to company work organisation, tools, plants, materials in the company, the company life world and mechanical, energy, chemical, information technology and other processes.

It is clear that such an understanding means that new forms of work such as teamwork, autonomy, willingness to assume responsibility, the ability for self-direction, a sense of responsibility, coordination and communication and a high degree of competence are indispensable.

Consequences for modern vocational education and training

Changes to the necessary skills become evident during the work process, and this is the only area where such skills can be absorbed in a timely manner and integrated into training. The development of work process oriented occupational standards is accorded a predominant role within this process. This is particularly true against the background of the current endeavours being undertaken within the scope of the ECVET and the EQF to complete the paradigm shift towards outcome orientation and thus towards acquired competences and skills. The LEONARDO Project Vocational Qua-

lification Transfer System (cf. box) illustrates how the work process approach may be structured in practical terms.

The LEONARDO Project

Vocational Qualification Transfer System (VQTS)

Within the Leonardo Da Vinci VQTS (Vocational Qualification Transfer System, 2003 to 2006), an ECVET approach was developed which facilitated a structural description of work related competences, enabled the acquisition of such competences to take place and incorporated credit points. The VQTS model increases the transparency of occupational competences and in particular provides a solution for the description of the acquisition of work related competences which may also serve to support a better understanding between the worlds of training and work.

www.vocationalqualification.net/vq/VQTS_model/de/f_main.htm

The introduction of work process based standards represents a suitable way of describing the necessary skills for core occupations in order to avoid fragmentation into modules comprising separate, self-contained teaching and learning units. Such a fragmentation into self-contained partial qualifications has been in operation in the Anglo-Saxon countries in particular for a considerable period of time. Notwithstanding this, a format involving standards based on “competency-based training” (cf. WINTERTON et al. 2006, p. 30) has proved unsuitable as a way of mapping the increasing complexity and the rapid technological development in the workplace.

In contrast to this, the drawing up and setting out of process oriented occupational standards can act as a vehicle for the description of the skills profile which is essential to the successful exercise of an occupation at the workplace. So-called “work process analyses” are required to define these standards. The most important objective during the conduct of work process analyses is the identification of core work processes. A sequence of core work processes can then serve as a basis for the description of a skills profile at the level of skilled worker.

Core occupations: fundamental design concept principles

The concept of core occupations avoids the specialist systematic and technologically centred profiling of occupational profiles in favour of two essential structuring characteristics (cf. SPÖTTL 1997, pp. 13):

1. The contents of the core occupations are related to work processes at all levels of differentiation. When dealing with occupationally relevant content, this is achieved by drawing a distinction between:
 - the object of (skilled)work (content based on the utility value aspect and the technological function on the value of services rendered);
 - the methods, tools and the organisation of work;

- the corporate, societal and subjective requirements for work and technology (requirements arising from standards, legislative measures and the requirements and targets of the employees and customers).

This means that the focus is no longer on the cataloguing of scientific and technical facts and circumstances and the static integration of such catalogues into the contents of occupations and occupational profiles. The emphasis is placed far more on the identification and denotation of the multifarious dimensions of core work processes, on the stipulation of the essential objects, methods, organisational forms, tools, corporate, societal and subjective requirements involved and on the implications the latter will bring in their wake. This enables overarching qualifications requirements to be secured and guarantees societal reconnection.

2. The work process related contents within the occupational profiles are aligned in such a way so as to ensure that the work processes are able to act as a vehicle for the successive accessing of the overall correlations relevant to an occupation during training.

The concept of core occupations is in line with the fundamental considerations of the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany (KMK) on basic occupations, although the concept also stresses that the linking of the occupations to work processes enables particularly domain-specific accesses to be promoted, an aspect which renders it possible to promote expertise within a course of vocational education and training. Sector-specific accesses allowing the identification of core work processes for the shaping of core occupations via sector-linking, work process oriented focuses are essential for this purpose (cf. also KMK 1998; www.kmk.org/beruf/ueberleg.htm).

Consequences of the core occupation approach

The process orientation of core occupations renders them suitable for European occupational profiles due to the fact that work processes in comparable European sectors and branches do not evince striking differences. The work process oriented approach has been conceived as a vocational educational and labour market policy response to the challenge posed by an increasingly globally organised European economy. Such an approach is sustainable because core occupations are designed in a broadly based manner in order to support structural change, absorb service dimensions and face up to the challenge of quality orientation as well as by dint of the fact that they are designed in a way to enable them to shape developments.

The structuring of work process oriented occupational profiles ensures that an increasing deepening of practical and theoretical knowledge is achieved during the course of training and that comprehensive competence development takes place on the basis of domains. Core occupations can exert a key impact on reducing the number of occupations, and the fact that their main focus is on work processes which bundle a number of tasks together may enable them to constitute the foundations for the formation of occupational groups or families. More detailed differentiation of occupations has hitherto taken place on the basis of other structuring tools such as activities, areas of work performance, materials, technologies, components of larger plants and the like. The restructuring of occupations in accordance with core occupations and on the basis of selected work processes:

- enables a significant reduction in the number of occupations to take place. The figure of approximately 100 occupations stated by Heidegger appears to be realistic (cf. HEIDEGGER 1998, p. 2);
- requires a high degree of occupational and interdisciplinary competences;
- may contribute to establishing closer links between vocational and general education, especially if continuing training is systematically integrated into vocational education and training;
- advises regulating only two thirds of the training time rather than the whole of the period of training in order to accord due consideration to the dynamics of changing work processes;
- facilitates work organisation innovations within the companies, such the introduction of teamwork, and enhances employee flexibility;
- notwithstanding the close correlation with practice normally requires comprehensive basic training within the work process which is closely entwined with more detailed specialist training in order to develop expert competences;
- opens up opportunities for debating this open concept with neighbouring countries and for investigating whether the EQF and ECVET are transferable work process structures.

European occupational profiles: opportunities and challenges

The alignment of core occupational profiles to work processes ensures that vocational education and training relates to practice. This work process orientation ensures that implementation into different educational systems can take place. The extent of the aim to implement the concept into training which is predominantly school-based, however, means that traditional specialist didactics must be overcome and a convincing work process oriented educational theory drawn up. The company work related nature the occupational profile

displays means that its work process oriented structuring is fundamentally able to provide leeway for implementation into a range of educational systems such as for the integration of regionally specific requirements into an occupational profile. It also enables the occupational profile to be accorded a high degree of dynamism. If changes take place to the work tasks in companies via such mechanisms as the utilisation of new products or procedures, the depth of precise detail the occupational profile already contains can be used to update it easily and at very little outlay. The fact that an occupational profile conceived in this way does not have its basis in content access via purely technical requirements means that it also represents an advancement in terms of gender mainstreaming. A core occupational profile needs to be designed in the form of an integrated vocational education and training plan in order to cater to the requirements generated by the varying characteristic features defining the two learning venues of school and company in Europe. This was realised on a point-by-point basis in the aforementioned LEONARDO Project *European RecyOccupation Profile* (cf. box).

The sector project reveals important components for the establishment of European core occupational profiles aligned on a national basis. European actions within the quasi-straightforward terrain of an individual sector and the involvement of the relevant stakeholders will not only serve to tap into existing knowledge of (future) qualification requirements. The cooperation of the stakeholders within the sector will also exert a reciprocal effect in ensuring acceptance of the project results. This means that the social partners need to be the prime movers of initiatives for core occupations, and these partners will need to involve themselves in the European vocational education and training scene.

Core occupational profiles can make a major contribution to solving the complex of problems relating to transparency, comprehensibility and recognition in Europe by operating at the interface between the vocational education and training system and the employment system. At the same time, a concept of a common core curriculum featuring a range of national characteristics also respects the diversity of European educational systems. ■

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