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Abstract.

With the proposed introduction of a common framework for comparing qualifications within the European Union (EU), as a result of the Lisbon agreement of 2000, the question of commonly-agreed transnational concepts of skills and qualifications is has become a pressing political and practical issue. The paper argues that there are grounds for doubting that there is a ready translation of the English terms ‘skill’ and ‘qualification’ in a way that avoids problems of comparing and calibrating German and English vocational qualifications. Reasons for this difficulty are explored, the most important of which relate to: a) the conceptual structure of skill and its cognates in the two languages; b) the differing socio-political role of qualifications; c) different industrial structures and labour processes; d) differences in institutions regulating vocational education and training (VET). These problems are discussed in relation to examples of similar industries and occupations and apparently similar levels of qualification in England and Germany.

Introduction

The EU Lisbon Agreement of 2000 set in motion a process tending towards the harmonisation of vocational qualifications within the EU. This involves, not the construction of a common EU vocational framework, but a method of comparison of different national vocational qualification frameworks. We argue that this process has to overcome significant difficulties before it can be realised, connected with important national differences in the way in which labour is formed and valued.

There has been a longstanding debate on skills equilibria and vocational education (Finegold and Soskice 1988; Ashton and Green 1996). Of the two kinds of economic strategy available to developed economies, a high-skill equilibrium allows: employers to provide high-wage and high-skill employment; employees to be employed with relatively high levels of skill and remuneration; and consumers (who are, in the main, also employees) to have a ready supply of high specification, high-cost but affordable (for them) goods and services. A low-skill equilibrium represents the converse. It has been argued that different economies run as different kinds of equilibria: Germany, Japan and France as high-skill equilibria; the UK as a low-skill equilibrium; and the US as a mixture of both (Ashton and Green 1996; Brown et al 2001). Skill differentials between countries have also been shown to be a major factor in explaining differences in productivity in advanced economies over the period since the Second World War (eg. Prais 1995).

Assessing such skill differences depends however on our ability to understand what is meant by the term 'skill' and whether the term can be adequately translated into different European languages. Without a common understanding, it is questionable whether 'skills' can be compared across societies. With the introduction of a common framework for comparing qualifications

within the European Union (EU), which the new Qualifications and Curricula Authority (QCA) framework will be expected to match, this is of considerable practical significance (Coles and Oates 2004). If the criteria have different meanings in different countries, then it will be hard to make them work in the way intended. Furthermore, linked to the concept of skill in the workplace context is that of qualification, a term that has significantly different connotations in languages such as German to those it has in English. This makes the use of the EU framework by employers and employees potentially highly problematic unless transnational categories are developed and applied.

What then, is meant by 'skill'? Different commentators attribute different, albeit related, meanings to the same term. Ashton and Green, for example, refer to skills in terms of social attributes, general education, training, qualifications, and technical skills (Ashton and Green 1996). Grugulis et al. differentiate between Becker's notion of skill as human capital, Braverman's concept of skill in the job, and skills socially constructed through negotiation (Grugulis et al. 2004, Becker 1964; Braverman 1974). And Buchanan et al. refer to the constituent components of skill as: 'technical', associated with the exercise of labour power; 'behavioural' reflecting the personal qualities of labour; and 'cognitive', related to education and training (Buchanan et al. 2004). The central question of what 'skill' is and whether a comparable concept exists in countries such as Germany remains unaddressed. Ashton and Green's definition, for example, includes practical and propositional knowledge, virtues and character attributes, social abilities and formal educational outcomes. Arguably, this encompasses far more than the everyday English usage of 'skill' and raises the problems of the overall coherence of the concept in academic contexts and of 'conceptual inflation' whereby a term with a relatively narrow range of application is progressively expanded with consequent problems of ambiguity and comprehension (Hanfling 1998, Ch. 5).

This paper examines the English concept of skill and searches in vain for its German equivalents. The term 'qualification' is also differently understood in English from, for example, the German *Qualifikation*. The implication is that if such wide disparity of meaning is evident for just two systems then considerable difficulties confront attempts to apply a European skills comparator.

The 'Anglo-Saxon' Concept of Skill.

In English, as used in the UK, US and Australia, skills are applicable within industries, occupations and jobs and attached to specific tasks. This we refer to as the 'Anglo-Saxon' sense of 'skill'. It is not possible to infer from length of formal education, together with exit qualification whether a particular level of skill has been achieved. General education in particular is by its nature non-specific to industry, occupation, job or task. With vocationally-specific education, both the curriculum and the qualification will be attuned to application in some industrial context and it may be possible to establish a level that a vocational qualification certifies. It does not follow that one can directly compare such qualifications with those in different societies, since the education and training provision, curriculum and assessment methods, and the industrial contexts to which they refer are different in each.

Skill in an Anglo-Saxon context may be linked to a qualification relevant to employment but it cannot be taken for granted that someone who possesses a 'skill' has the certifying qualification and in this sense 'skill' and 'qualification' are differentiated. Two consequences follow: first that in Britain measuring qualifications, even employment-relevant qualifications, is insufficient to understanding overall levels of skill. Second, the skill possessed, even when certified, may be applicable to a task or to a job, but fail to be an occupational or industrial qualification. For even if we find a way of identifying either certified or uncertified 'skills', in order to make meaningful

comparisons we must be able to ensure that what is called ‘skill’ in Britain has an equivalent. We shall show that the Anglo-Saxon concept of skills, whether related to tasks, jobs, occupations or industries, is in fact qualitatively distinct, making for significant difficulties of comparison with, for instance, Germany.

The Anglo-Saxon notion of skill, is used in a similar way to ‘know-how’ and ‘technique’. Here a worker with ‘skill’ is understood to possess know-how appropriate to the task in hand and may or may not possess a ‘qualification’ certifying possession. ‘Possession’ is therefore in this sense equated with a property, in the nineteenth century sense of ‘property in skill’. The development of this concept can be traced from Adam Smith through Marx to Braverman.

Smith is rather disparaging about skilled work, which is associated with ‘dexterity’ and at the same time with the ‘policy of Europe’ which ‘considers the labour of all mechanics, artificers and manufacturers as skilled labour, and that of all country labourers as common labour’ (1947, 90).

He adds: “No species of skilled labour seems more easy to learn than that of masons and bricklayers ... the high wages of these workmen therefore are not so much the recompense of their skills” (92). If there is a reference for skilled labour, it is to labour coming under the corporations and subject, therefore, to apprenticeship. Smith’s criticism of ‘skilled’ labour is therefore bound up with the fight against the English apprenticeship system which culminated in the repeal of the Statute of Apprentices in 1813.

In a similar vein, Marx in distinguishing between “*höherer*” (higher) and “*einfacher*” (simpler) labour, refers to the English terms “skilled” and “unskilled” as equivalent (Marx 1967, 212). He argues that the distinction between the two “rests in part on pure illusion ... on distinctions that have long since ceased to be real”, regarding “skilled” or “*höher*” as associated with higher pay

and greater expenditure of muscle or physical labour, such as – again! - a bricklayer who is contrasted with an “unskilled” damask-weaver (Marx 1970, 197-8). In this Marx refers explicitly to the English and not the German situation, and ‘skilled’ appears to bear no relation to the quality or know-how of labour, or even to apprenticeship, but rather to a concentration of simple labour.

Braverman associates skill with the mastery of a craft described as the ‘combination of knowledge of materials and processes with the practised manual dexterities required to carry out a specific branch of production’ (Braverman 1974, 443). ‘Skill’ is here an individual attribute which does, however, have an explicit, socially recognised definition, and follows a traditional division into mental and manual attributes. Being oriented to the observable and physical requirements made on the individual worker, ‘skill’ in this understanding becomes in practice defined in psychological (not social) terms in relation to its mental aspects and as consisting of dexterities in relation to its physical aspects. In many respects, the notion still accords with the attributes of the traditional apprentice: learning largely on the job, where possible with a journeyman, with little theoretical underpinning and often fairly unsystematically (Clarke 1999). Skill in this sense represents an individual property, the physical and mental dexterity of an individual in performing a task in the work process. It is neither associated directly with an occupation or industry, nor with the potential of the labour concerned. Indeed for Smith and Marx the bestowal of the term ‘skilled’ on a worker depends on ability to get oneself classified as such rather than on ability. They do not challenge everyday usage but raise questions about the criteria for its application in an industrial context where power relations rather than know-how determine wage levels. We can see already that the term ‘skill’ has tended to suffer from conceptual inflation, from a relatively well-understood core usage to a more diffuse and less well-understood one.

If historically, therefore, 'skill' has tended to be associated with the attributes of those who have undertaken the traditional apprenticeship what is the notion today? As defined by government in Britain, the key generic or core skills required of an individual and underpinning National Vocational Qualifications (NVQs) are: IT, numeracy, communication, problem-solving, improving own learning and performance, and teamworking, to which are sometimes added personal attributes such as motivation, judgement and leadership. The key means to measure skills though, as distinct from 'knowledge', is in terms of outcomes. As explained by Gilbert Jessup (1991): "Skills can only be demonstrated through their application in performance (doing something) while knowledge can be elicited through the more abstract means of conversation, questioning or working" (121). Thus skill is something both conceptually and practically distinct from knowledge and is, by implication, what really matters in the work context. Jessup's definition is significant first in referring to the traditional use of the term (hence its persuasiveness) while at the same time subtly altering it and, second, in restricting performance to a narrow set of behavioural attributes. He relates skill to performance or output as in the traditional sense, while at the same time detaching it from 'knowledge'. This contrasts with the tendency of awarding bodies such as City and Guilds and EdExcel to understand 'skill' at least partly in terms of the propositional knowledge that needs to be applied to dexterities in many occupations.

Anglo-Saxon Skills and the Epistemology of Skill

The primary location of skills is therefore found in activities requiring manual or physical dexterity and/or hand-eye coordination (Polanyi 1958). Woodworking, swimming, riding a bicycle and archery are all examples of skills in this sense of the term. Indeed, philosophers (who are often conceptually conservative) are apt to protest when the term is applied to activities that are not primarily of this kind, such as interpersonal activities (Barrow 1987). At first sight skill looks like

Aristotelian *techne* or technique, rather than practical knowledge. However, *techne* also has associations that do not belong to skill. Aristotle describes *techne* as the use of reason to reach a given goal (Aristotle 1925). But, as Dunne suggests, Aristotle's *techne* can be interpreted in two ways: as the rigid application of a rule, like the rigid use of a recipe to cook a dish; or as the following of a rule, itself involving interpretation, assessment of the materials being used and situational awareness. In this respect *techne* has affinities with *phronesis* or practical wisdom (Dunne 1993). Commentators tend to assume either that Aristotle adopted the first interpretation or that this is the proper way to conceptualise *techne* (e.g Oakeshott 1962; Carr 2003). Oakeshott contrasts technique or technical knowledge with practical knowledge, which does have situational and reflexive characteristics and which, like *phronesis*, needs to be practised in a social context, or at least has to be acquired in one. *Techne* could thus be equated with craft skills in the traditional sense, albeit exercised in a flexible and reflexive way. But the modern notion of technical work implies something more: the application of a body of theoretical knowledge to a practical problem. In this sense, it makes no sense to speak of a technique as if it just involves the mindless application of rules. By its very nature, such a technique involves complex judgements concerning the relevance of parts of the underpinning theory to practical problems. If Jessup is taken seriously, we need not bother at all about 'technique' in this extended sense. But as we shall see, it is central to our understanding of modern industrial skills.

Anglo-Saxon commentators on skill usually make no straightforward identification with either technical or practical knowledge. Technical knowledge in its most influential Oakeshottian version involves the rigid, unreflective – usually solitary – application of rules to a procedure or physical process where they do not have to be understood or justified. Few people would count a rigid and unresponsive performance as 'skilful' even if it passed muster as a mere skill, although Oakeshott's account of technical knowledge has similarities with Jessup's concept of skill as

narrowly defined behavioural characteristics. It is more likely that one would expect such a performance from a novice under instruction rather than from an accomplished practitioner. By contrast, practical knowledge in Oakeshott's conception consists of the ability to practise with situational awareness, drawing on one's own experience and that of other experienced practitioners. It has clear affinities with Aristotelian *phronesis* or practical wisdom and it is significant that Oakeshott introduces his discussion of practical knowledge in the context of learning how to take part in the practice of politics, in which dealings with other people rather than inanimate objects are paramount. Lave and Wenger (1991) have taken this conception of practical knowledge and associated it with what they call a 'community of practice'. They retain the Oakeshottian view that practical knowledge arises within a social practice, but, in developing their account of practical knowledge to describe the acquisition and practice of occupations such as tailoring, they describe the learning process as one that might be expected from someone learning to take part in social practices or acquiring the virtues. Observation and increasing participation in an activity are characteristics, according to these authors, of learning to take part in a practice. In this way, basic technique is acquired through imitation and participation, and skilful performance is eventually attained through such means. In practical activities that involve, at least partially, operation on inanimate material, *techné* is, on this account, described as a species of *phronesis*. The skills learned are almost social rather than manipulative. As a consequence, formal processes of teaching through instruction, training and practice under supervision are largely discounted.

However, if *techné* is flexible, rather than rigid, the sharp distinction with *phronesis* is weakened. It is further weakened if the acquisition of *techné* typically occurs in a social context where learning takes place through interaction with an experienced practitioner (Hinchliffe 2004). This applies even more to 'skilful' or 'excellent' performance, when practice of technique is more than merely competent. Such performances require a desire for excellence through diligence, attention

to detail, self-mastery and preparedness to learn from others. In this sense, high performance of a technique implies the practice of certain technical virtues within the context of a social practice (MacIntyre 1981). There is little doubt that one use of ‘skill’ is to denote *competence* in a technique that mainly involves manipulative or physical ability. But since, as we have seen, the acquisition and, to some extent, the practice of such abilities takes place in a social context, it is not absurd to suggest that a component of some such skills is ability to work with other people.

One reason why philosophers sometimes object to the use of such terms as ‘social skills’ is that such an employment of the term ‘skill’ implies a confusion of *techne* with *phronesis*. The practical wisdom involved in just and honest dealings with other people is confused with the manipulation involved in, say, shaping a metal block. There is some substance to this worry since we are inclined to condemn the manipulative treatment of people. On the other hand, if successful working requires social virtues and abilities, then we are right not to make the distinction between the manipulative and social aspects of occupational ability too rigid. At the same time, it is also plausible to suggest that there is an element of *techne* in our dealings with other people. There are rules of conduct, etiquette, politeness and status necessary to follow if one is to gain the respect and attention of those with whom one is working. And although many of these can be put into rules and precepts, it is not enough to follow them in a rigid manner in order to be treated with seriousness. One must have situational awareness and reflexive capability, just as one does with other forms of technique. But smooth social operators, who are nothing more, are eventually found out and regarded as nothing more than manipulators, however nuanced their technique. Social technique is not enough to gain lasting respect. If people do not feel that an individual cares about them and their welfare, or does not care about doing the right thing in the right circumstances, they will assume that they are being treated as of little more intrinsic worth than the blocks of wood of the carpenter and will react accordingly (Hinchliffe 2004). To conclude, there is

a problem with describing social interaction solely in terms of skill, but it would be wrong to ignore the role of technique in our social dealings. The term 'skill' is not easily adapted to the wider conceptual field of practical knowledge without causing confusion. At the same time, the pressures of needing a wider conceptualisation of the different forms of practical knowledge lead to the confusing inflation of a ready-to-hand term for one kind of practical knowledge, namely 'skill'.

The implications of these different conceptualisations of skill are apparent when applied to different industrial contexts. The skills of a bricklayer might, for instance, be regarded - as Marx and Smith did - as simply the ability to lay bricks, or they might be regarded more widely as the knowledge required to construct part of the structure of a building using bricks, and involving interaction with other people's 'skills'. Training provision and programmes devised will differ according to the particular definition applied, being with the former understanding, more exclusively oriented towards the aims of directly improving individual productivity in just laying bricks and responsibly performing a restricted range of tasks without direct supervision (BRS 1966). This usage accords best with the core of skill as manipulative ability. In contrast, a more extensive and social definition refers to the building labour process or industry as a whole rather than focusing exclusively on the tasks of individual trades or occupations and places greater emphasis on knowledge of planning and setting out, on reading drawings and on contractual conditions on site governing working time, output and social relations, responsibilities for equipment, machines, material and training, as well as the prevention of accidents in a broader social context. But this definition takes us away from the core usage of 'skill' towards a broader conception of practical knowledge in an industrial context. It also takes us away from narrow, performance-based conceptualisations of 'skill'.

In summary, therefore, the main characteristics of the Anglo-Saxon concept of skill are that:

- It tends to be regarded as an individual attribute or property;
- It is associated with tasks and jobs rather than occupations set within an industrial context;
- It is associated with physical/manual mastery or ability;
- It has no particular association with a knowledge base.

The problem is to find an equivalent concept in other continental countries, in particular Germany and France.

Searching for German equivalence

In German the equivalent of ‘know-how’, *Können*, is not a correlate of ‘skill’ or ‘technique’ in an industrial or economic context and the Anglo-Saxon distinction between skill and qualification does not exist, a ‘skilled’ worker being *ein qualifizierte Arbeiter*. Although *ein qualifizierte Arbeiter* is not, by definition someone possessing a formal qualification (diplomiert), this is invariably the case and possession of a qualification is a necessary condition of recognition of ability through the wage. Thus although there is not a strict entailment between qualification and ability there is, at any rate, a conceptual connection between the two in the sense that someone with a formal industrial qualification is assumed to have the capacity to perform a range of activities, bringing with it certain entitlements. In Britain, in contrast, a ‘skilled worker’ is someone whose operational ability to carry out particular tasks is recognised by the immediate employer but who is not necessarily formally trained or ‘qualified’ with the potential to carry out a wider range of tasks than those immediately confronted. In this respect this Anglo-Saxon notion of skill is embedded in the particular job in hand and is distinct from ‘qualification’ which in turn does not bring with it a necessary entitlement to a particular wage.

These differences are not merely matters of terminology. *Können* as personified in the context of the labour process indicates that the possessor of the ability is ‘qualified’, implying recognition at a social and legal level rather than just in relation to a particular job. It is important to realise that this is not merely a matter of having a skill certified in the Anglo-Saxon sense, but implies that a worker has the recognised and relevant knowledge to be employed, not only on a task or within a job, but within an industrial context. It therefore goes together with a particular social status. The knowledge entailed cannot be adequately described as a ‘skill’ that just happens to have received official certification. It is propositional knowledge capable of use in a practical context in which, though manipulative and physical abilities may be required, implies at the same time complex judgments with a theoretical rationale.

According to Streeck, in Germany the concept of ‘occupation’, or *Beruf*, signifies ‘a body of systematically related theoretical knowledge [*Wissen*] and a set of practical skills [*Können*], as well as the social identity of the person who has acquired these’ Achievement of such an identity is certified by a diploma upon passing an examination and is on this basis recognised legally and without question by all employers and goes together with a particular status and wage grade (Brown et al. 2001, 79; Streeck 1996, 45). Analogous to this social-legal status in Germany is the situation in France:

The word *qualification* exists in both English and French but with different meanings, and in the continental countries conveys a notion that has no direct equivalent in the Anglo-Saxon countries. While in the latter the word, in its formal sense, relates to the accreditation of training, in the continental countries it expresses the articulation

between credential (certificate, diploma or degree), job and wage. This articulation ...is linked ...to the functioning of the labour market in these countries. (Shore 2004, 22-23)

The German *Wissen* and *Können* - *knowing that* and *knowing how* – in this context refer jointly to applied theoretical knowledge that is specific to a *Beruf*. One may, of course, possess such knowledge outside an industrially-determined qualification structure, but it is significant that knowledge certification is related to industry rather than to job or task. The more general point is that many abilities in fact embody applied theoretical knowledge and have done so for thousands of years (Clarke and Winch 2004). For example, bricklaying ability depends on knowledge of physics, and an ability to apply it. In such a *Beruf*, involving the application of theoretical knowledge to the successful execution of tasks, not only does practical ability depend on the possession and use of theoretical knowledge, but both the practical and theoretical aspects of the worker's capability, which includes more than specific task competence, are systematically taught and assessed. The use of a term such as '*qualifizierte*' reflects that fact and implies a quality of labour far removed from that attributed to the bricklayer by Smith or Marx.

There is therefore no German equivalent to the Anglo-Saxon concept of skill. Indeed in searching for equivalence of a 'skilled' worker we find that *ein qualifizierter Arbeiter* is assumed to possess very different characteristics, having:

- a particular social and legal status;
- the ability to apply theoretical knowledge in a practical industrial context.

How does this understanding contrast with the Anglo-Saxon one and how do we explain the differences?

Contrasting concepts of ‘qualified’ labour

In a German context a relevant *Qualifikation* is the criterion of industrial ability (*Fähigkeit*) and represents a socially-recognised and legally-binding guarantee that someone possesses certain kinds of knowledge (propositional, practical or both) associated with a specific *Beruf*. The nature and content of this knowledge is negotiated and agreed on by the industrial social partners, the unions and the employers. Acquiring it equips individuals with specific abilities to carry out a recognised range of activities, representing their readiness or *Fertigkeit*. Both *Fähigkeit* and *Fertigkeit* are acquired through a recognised system of vocational education provision and a recognised curriculum, certified on the basis of assessment. The ensuing *Qualifikation* guarantees that the individual bearing it is remunerated accordingly. It is awarded by a body in which employer and employee representatives of the industry concerned, together with the state are involved (Clarke and Herrmann 2004). The *Qualifikation* thus brings with it a right to a certain position within the labour market.

The knowledge embodied in a vocational qualification in this sense is usually far greater in extent than that associated with the term ‘skill’ in its primary application as a physical or manipulative ability, because the *Qualifikation* is not based on task or job skill, but on a legally-controlled status and on industrial knowledge. A *Beruf*, such as electrician or carpenter, is distinct but also an integral and indissociable part of the industrial structure. In Germany, each new *Qualifikation* is subjected to lengthy negotiation with social partners at industry level in order to be recognised officially. The knowledge needed as a precondition to be admitted into a *Beruf* is assessed in the context of the industry as a whole and incorporated into the system of provision and curriculum and assessment procedures. It will typically encompass: knowledge of the industry as a socio-

economic entity, including the structure and organisation of firms; relevant theoretical knowledge, such as mathematics and physics, and understanding of how it is applied; technical and practical knowledge needed to practise a particular *Beruf* in its current, likely future and even past state of development; knowledge of its relation to the rest of the industry and to other *Berufe*; legal aspects such as liability, employment and labour law; economic aspects such as cost; as well as general knowledge, civic awareness, health and safety, and environmental protection. Those, for instance, with the newly recognised *Beruf* of *Spezialtiefbauer* (civil engineering specialist) in the German construction industry are described as:

carrying out tasks on the basis of technical information and instruction, both independently and in cooperation with others. They plan their work in cooperation with others on site, set up construction sites, determine the individual work steps required and take the measures required for health and safety at work and to protect the environment. They check their work for defects, measure the quantities done and hand over the site after clearing up.

(BIBB 1999)

A ‘qualified’ worker is, therefore, someone with a much broader range of knowledge and responsibility than is necessarily the case for a skilled worker in the UK context, even one with a qualification that incorporates a degree of underpinning theoretical knowledge.

One of the key aims of programmes of vocational education in Germany is to prepare workers who are able to take responsibility for a considerable range of *Arbeitsaufgaben* (crudely translated as work demands) that need to be undertaken within the parameters of the *Beruf*. Germany has long explicitly moved away from the traditional apprenticeship through its ‘dual training system’, set up in the 1970s under which *Lehrlinge* (apprentices) were transformed into *Auszubildene* (trainees). The *Arbeitsaufgaben* of the trainee typically include planning and organising the work, sometimes jointly with colleagues training in related activities and in other *Berufe*. The planning and

organisational requirements are themselves of a more abstract nature, involving the use of ICT, calculation and the drafting of plans and diagrams. These in turn require a certain degree of applied theoretical knowledge (of geometry, for example) that is put into effect also in the execution of the work. For this reason, ICT, mechanics, geometry and algebra are often central to the curriculum of trainees in industries such as engineering or construction. Such planning and organisational skills are also, however, to be found in the curriculum for trainees in many service industries, for example the hotel business (Prais et al. 1989). The knowledge involved in a recognised programme of *Berufsbildung* will embrace the range of knowledge, attitudes, virtues and skills required to be a practitioner, including the ability to negotiate and to work in teams with colleagues. This is the *Fähigkeit* associated with an occupation. But the qualification also guarantees that a worker has certain highly specific abilities or *Fertigkeiten* which are exercised in the overall context of the occupational field of activity. The English notion of ‘skill’ thus covers only a small part of a much more wide-ranging and complex capacity which is linked to an established occupation within an industrial structure and enjoys social and legal recognition.

This is apparent from the definition of *Beruf* in terms of its learning content drawn up by the Federal Institute of Vocational Education (BIBB) in cooperation with social partner representatives. The educational aims of learning in the *Berufsschule* are clearly laid down in the three-fold *Kompetenze*, including:

- *Fachkompetenz*: the disposition and ability, on the basis of expert knowledge and know-how, to solve tasks and problems purposefully, appropriately and autonomously by using the right methods.
- *Personalkompetenz*: the disposition and ability to be clear about, review and assess opportunities to develop, demands and restrictions imposed by family, occupation and the public, to fulfil one’s own potential as well as to make and develop life plans. It encompasses

personal qualities such as autonomy, critical faculties, self-confidence, reliability, a sense of responsibility and duty, additionally in particular development of moral concepts and self-determined commitment to moral values. These partly correspond to what the German philosopher of education, Georg Kerschensteiner, called the ‘bourgeois virtues’ (*bürgerliche Tugenden*) associated with a *Fähigkeit* and partly to what he called ‘civic virtues’ (*‘staatsbürgerliche Tugenden’*). (Kerschensteiner 1901).

- *Sozialkompetenz*: the disposition and ability to live and create social relations, to realise and understand devotion and tension as well as communicate and engage with others rationally and responsibly, in addition to develop social responsibility and solidarity. These are Kerschensteiner’s ‘civic virtues’.

By contrast, Kerschensteiner’s view, was that one needs an effective environment in order to develop both bourgeois and civic virtue and this can only be provided in conditions which are either fully operational or have close resemblance to operational conditions (Greinert 2006). It is this which has been largely incorporated into the German dual system of vocational education. Vocational education in Germany is, therefore, closely bound to preparation for citizenship, just as in other continental countries such as the Netherlands (Westerhuis 2006). This is in sharp contrast to Dewey’s ideas concerning the worker as citizen which emphatically rejected the setting up of vocational, as opposed to common schools and the idea that vocational preparation of a liberal kind could be carried out within the common school.

Ein qualifizierter Arbeiter is, therefore, in possession of industrial knowledge, that is, the ability to apply theoretical knowledge in a practical context. In contrast, the ‘skilled’ worker in an Anglo-Saxon sense has skills or practical abilities that may or may not be underpinned by theoretical knowledge. How do we understand the difference? One key difference between the Anglo-Saxon and German systems is the process of recognition itself and the way in which new areas of activity

are negotiated and valued. In Britain this occurs at an individual trade rather than industrial level, with the result that many abilities within an industry remain unrecognised as 'skills'. This is not new; both Marx (1970) and Smith (1947) pointed out that many occupations that require considerable degrees of mental and manual ability, not to mention the ability to form judgments from complex data, have historically been classified as 'unskilled'. In the more recent past, involvement of the social partners in negotiating particular trades did result in their recognition as 'skilled' in the collective agreement categories. In construction, for example, in the 1970s, scaffolding was one such area. With the demise of the Joint Industry Councils and tripartite industrial training boards in Britain, however, such social partner involvement in the process of skills recognition no longer exists. Indeed, recognising particular areas of activity for NVQs has largely become employer-led. To take again the case of construction, recognition today follows lobbying of the Construction Industry Training Board by individual employer trade associations to have their area accredited for NVQs. In this employer demand-led system many activities remain unrecognised and untrained, particularly in the area of groundworks and civil engineering. Even if recognised for the purpose of NVQs, they are not then remunerated as 'skilled' occupations through collective agreements nor do they hold the guarantee that training provision is in place (Clarke and Wall 1998). In this respect the 'skill' associated with industrial practice and a particular collectively-agreed status has become increasingly separated from 'qualification'. Attempts by the construction trade unions to negotiate the linking of wage skill grades with NVQ levels fell on deaf ears. Indeed, not only do 'skill' and 'qualification' remain distinct, but so too do 'qualifications' and 'training' provision, there being no guarantee that someone with an NVQ has had a formal training.

In a British context, an NVQ, although nominally a 'qualification' has only limited social recognition that may be awarded on the basis of task-specific performance and is not necessarily

attached to a curriculum that has to be pursued prior to assessment and award. Although NVQs are described as ‘occupational qualifications’, they are not such in the sense of a *Beruf*, and are without legal status or a recognised body of theoretical knowledge (Oates 2004). Nor are they recognised in collective agreements and as a result bear little relation to a particular status. Indeed, an NVQ at level 3 and below does not necessarily imply recognition of any substantial theoretical as well as practical knowledge as a component of the skill being certified. In this sense it accords with and validates the UK concept of skill rather than bringing it into line with continental concepts. This can be seen by examining NVQs for vocational skills. For example, examination of the skills required for scaffolding work in the construction industry is, at Levels 1 and 2, largely task specific. At Level 1, a series of tasks is identified to be accomplished in the requirement related to general accessing equipment, together with some simple necessary factual knowledge, which can be demonstrated behaviourally. Much the same is true at Level 2, since performance criteria are still essentially behavioural and do not require much of a discursive element, except in the reporting function, where a problem is passed to a higher level of expertise. It is only at Level 3 that a very limited degree of theoretical knowledge is expected, for example, in measuring and setting out scaffold/rigging to the design. Here the worker has to set out rigging in accordance with design specifications and to report any deviation from them. To do the latter, it is necessary to display some knowledge of theoretical considerations underlying the work task. But at none of these levels is a unified body of knowledge specified, let alone theoretical knowledge related to the occupation of scaffold erector and to the construction industry. This is far removed from qualification for citizenship.

Conclusions

Such qualitatively different understandings imply different concepts of labour, as shown by Biernacki in his historical investigation into the difference between labour in Britain and Germany (Biernacki 1995). In the continental sense ‘qualification’ is bound up with the value of labour under legal obligation and protection and is negotiated. It represents in effect ‘*Arbeitskraft*’ or labour power, the potential of labour (*Fähigkeit*) to fulfil particular tasks or activities (*Fertigkeit*) in an industry, a potential that is known and recognised through the *Berufsordnung*. Vocational Education is in turn a system of ‘qualification’ to provide a given quality of labour. Thus in the continental setting where wage levels are linked to qualifications, the employer buys the right to deploy for a given time ‘labour power’ whose potential or quality is recognised and protected by law.

In Britain, in contrast, the employer pays for a particular (customary) output assessed through *in-situ* performance unrelated to the potential or quality of the labour involved. This means that the British concept of skill remains, as it was in the nineteenth century, that of ‘property in skill’, attached to particular tasks, with labour employed from project to project or from job to job, recruited on the basis of experience rather than qualification and rewarded on the basis of output rather than labour power or potential.

The implication is that to develop a European framework comparator for different levels of practical knowledge or qualifications requires an understanding in the system of production (Burchell et al. 2003). This involves, as we indicate, the recognition of abilities as representing the quality of labour, a quality associated with subsets of industrial activity and particular

qualifications, negotiated by the industrial social partners, remunerated as such, and imparted through a system of formal vocational education. The upshot of this analysis is that an EU qualification comparator that fails to take account of the fact that ‘qualification’ has different usages in different languages will be extremely difficult, if not impossible to implement unless a much clearer understanding is made available of the different uses of terms. To our knowledge this problem has not, until now, been recognised. The promulgation of the EU qualification comparator is the time to bring it to the attention of potential users.

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