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Links between vocational education and training (VET) and higher education: The case of Germany

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Introduction

The debate on parity of esteem between general and vocational education has been a long-standing topic of educational policy as well as of research within vocational education and training (VET). In Germany, the 1970s saw the emergence of the *Kollegschule* model in the federal state of Nordrhein-Westfalen based on a pedagogical concept which denied the different natures and educational values of apprenticeships and academic studies (Blankertz, 1972; Kutscha, 1989; Greinert, 2003, p. 134). It may be claimed from a historical perspective that the intended reform of VET, based on this concept and the co-related notion of 'double qualifications', failed because the tradition and the political and economic interests backing the German apprenticeship system proved too strong for a substantial change of VET policy at that time. Also, educationalists pointed to the politisation of the educational ideas behind this 'integration model' which apparently ignored the benefits of employer-led VET and workplace learning by denying the 'unique' quality of vocational training in comparison to school-based and/or academic studies (Zabeck, 1972).

Compared to other countries, there is no doubt that 'the continuance of tradition' in Germany has always been highly valued (Phillips, 1995, p. 61). This is especially true with respect to the Dual System of apprenticeship training since it owes much of its reputation to the fact that it has remained one of the most frequently (though not necessarily successfully) copied training systems in the world (Arnold, 1985; Kloss, 1995). The German education system in general, however, has recently

come under fire in international studies on student performance (OECD, 2000; 2003). Similarly, the national 'Education Report' (*Bildungsbericht*) published in October 2003 (Avenarius *et al.*, 2003) claims 'serious' deficiencies in the country's school system by pointing to too many drop-outs, too few achievers of higher education (HE) entrance qualifications and too little support for students coming from poorer families. Nevertheless, there is still a strong belief that the apprenticeship system is faring much better than both the school system and the tertiary sector. In a recent press declaration the ministers of education of Austria, Switzerland and three German federal states[1] deplored the fact that international studies on education too often neglect the significance of vocational pathways for the 'ordinary school leaver'. In their plea to the OECD to 'accept and investigate the status of vocational education' they hold that the Dual System with its apprenticeship focus still offers well-accepted routes into skilled employment.

The function of the Dual System unequivocally refers to initial training of school leavers in a given range of 'declared trades' or 'recognised occupations' (Deissinger, 2001a). Although the dualism of 'learning venues' and legal responsibilities certainly is the striking feature of this 'German system' of vocational training (Greinert, 1994), its working principles also comprise at least three more aspects:

- Initial training through the apprenticeship system is a well-understood and socially accepted pathway into employment as it follows a traditional pattern deeply enshrined in the ancient mode of apprenticeship (Deissinger, 1994). This means that training is workplace-led and predominantly practical by stressing the importance of work experience during the training period. It also means that the system works in accordance with skill requirements defined 'around the workplace' (Harney, 1985; Deissinger, 1998).
- Despite its traditional basis and long history, the Dual System is determined by the involvement of the state which defines and protects both the nature and quality of occupational standards as well as the legal conditions of skilled apprenticeship (Raggatt, 1988). Therefore the German 'training culture' (Brown and Evans, 1994) is based on the notion that an apprenticeship should not only be dealt with as a contractual duty but should be based on an underpinning pedagogic understanding which sets it apart from 'normal work'.
- Since the state's function is to secure quality standards with respect

to in-company training in a predominantly formal manner, other social groups have a major say in the Dual System. The principle of consensus implies that public, private and semi-private institutions work together by using long-established modes of co-operation within the system and that employers and unions normally take the initiative with respect to training ordinances and their revision or modernisation (Benner, 1984; Deissinger, 2001a).

It is therefore plausible to refer to the German Dual System as an institutional realisation of a very specific 'apprenticeship culture' differing largely from the 'Anglo-Saxon' approach (Canning, Deissinger and Loots, 2000; Harris and Deissinger, 2003). The overall importance and acceptance of non-academic training has a clear implication for the *relationship between VET and HE*: as the various pathways represent both horizontally and vertically separated routes, transitions are only possible through detours. This means that an apprenticed person has indeed formal opportunities to upgrade his or her occupational qualification (for example by going for a technician or master craftsman qualification). The route into HE, however, requires at least a polytechnic entrance qualification (*Fachhochschulreife*).

On the other hand, there has been a transposition of principles typical of the VET system into HE. The result has been a kind of 'academic Dual System' which, despite its growing importance, is still a regional reform project since the emergence of the so-called vocational academies (*Berufsakademien*) has virtually remained restricted to four of the now 16 federal states of Germany (Baden-Württemberg, Berlin, Sachsen, Thüringen). This chapter discusses this special approach to 'linking up' VET and HE – which has also become a pivotal topic of the educational debate in the UK (UVAC, 2003) – against the background of the specific 'character' of the German VET system.

A world of its own: Institutional and functional patterns of VET in Germany

The Dual System of apprenticeship training

Apprenticeships in Germany have a strong historical dimension as they are based on the tradition of medieval craft training (Deissinger, 1994; NCVER, 2001). At the end of the nineteenth century the genesis of the

modern vocational training system, due to substantial state intervention, led to a revitalisation of the ancient craft system. The Craft Regulation Act passed in 1897 (Schlüter and Stratmann, 1985, pp. 210 ff.) provided for craft chambers as institutions of public law authorised to hold examinations for journeymen and masters. The notion of the skilled craftsman became rooted within a framework of self-government (Zabeck, 1975). The 1897 Act also confined the technical qualification required for the training of apprentices to skilled journeymen. Indentures became general practice in the craft sector as well as the three-year training period. In 1908, by reviving the apprenticeship tradition of the pre-industrial age, the right to train apprentices was even restricted to craft masters (Stratmann, 1982).

The 'dual' character of the apprenticeship system in Germany emerged during the first two decades of the twentieth century when the vocational part-time schools replaced the continuation schools (although compulsion was only enforced in 1938) to accompany apprenticeships and to give young people education 'through the vocation'. From the mid-1920s, the chambers of industry and commerce established examinations for industrial workers (Greinert, 2003, pp. 80 ff.; Schütte, 1992, pp. 79 ff.). Despite its more systematic character industrial training copied the practices which developed in the craft sector, above all the 'occupational' orientation of training schemes (Deissinger, 1998).

Due to this strong historical base of the apprenticeship system, the vocational pathway in Germany is well established and well known. The Dual System with its 350 'recognised occupations' absorbs the majority of all 16–19 year-olds. The number of training places offered by employers over the last decades has always ranged between some 600,000 and 700,000 per annum, depending on economic conditions. Unlike in most other European countries, with the exception of Austria and Switzerland, apprenticeships in Germany exist in nearly all branches of the economy including the professions and parts of the civil service. Small- and medium-sized companies are significant contributors to training opportunities (Deissinger, 2001b).[2] Therefore apprentices come from different educational backgrounds, although most have an intermediate or lower secondary school certificate. In recent years, the number of grammar school leavers progressing from school to apprenticeship training has remained more or less stable at around 15 per cent, a phenomenon which places Germany in a low position in terms of the academic drift of young people by comparison to many other comparable countries.[3]

The training market in Germany 'has the character of a suppliers' market' (Greinert, 1994, p. 80). Once a training contract has been signed this means the principal financial responsibility of companies for the training process includes, in addition to training allowances, all direct and indirect costs such as training personnel, machinery, training administration, and social insurance contributions. The fact that the 'system is financed principally by employers' (NCVER, 2001, p. 38) reflects the principle of self-government re-affirmed by law in the late nineteenth century. Therefore, companies provide training opportunities on a totally voluntary basis. While the overall training quota in Germany is just about 30 per cent in the old and 27 per cent in the new federal states (2001), at 91 per cent large companies train to a very substantial extent. Craft sector training has a particularly strong tradition (Deissinger, 2001b) as some 530,000 young people out of the present total of nearly 1.62 million trained in the Dual System (2002) are apprenticed in a craft company under the supervision of a master craftsman (although with a decreasing tendency).[4]

The German apprenticeship system may be viewed as a system of training rather than a system of employment, in which the wages of apprentices reflect this emphasis on training, with German apprentices typically paid wages that are far lower than adult rates and apprentice rates in Australia or in the UK (NCVER, 2001, p. 39). Training allowances are the result of collective bargaining but are linked to the purpose of giving young people a basic start into their working lives without putting too much burden on employers. As the apprenticeship system is seen to be neither part of the school or education system nor a normal sphere of work, the 'system reference' is clearly training and recruitment for skilled work. The consequences of such a clear separation of pathways or subsystems of course implies that lots of expectations rest on the Dual System and frictions in the training market can hardly be compensated without additional activities on the side of the state. Despite its private character, public funding of vocational training in general is becoming increasingly important due to the critical situation in the labour and training markets. Among these funds, activities to promote either external training options or give incentives to employers are paramount (Berger and Walden, 2002). This tendency could lead to a creeping 'pluralisation' of the Dual System and certainly shows its dependency on sound economic framework conditions.

Whereas in other European countries, such as the UK, on-the-job training – even under the new Modern Apprenticeship Scheme (Ryan, 2001) – is complemented by off-the-job training on a more or less voluntary basis, in Germany it is mandatory. While there has been an ongoing discussion about the 'process character' of vocational training in the UK – including the scope for 'expansive participation' of companies in workplace-related training (Senker *et al.*, 2000; Fuller and Unwin, 2003), in Germany the State Education Acts provide an essential element of the legal framework for dual apprenticeships by making sure that school-leavers are kept within the educational system.[5] For each 'recognised skilled occupation' the state education ministries, in line with training regulations under the federal law, determine syllabi for the vocational and general subjects within a given occupation taught at the part-time vocational schools (Greinert, 1994). Also, German apprentices enter a special training contract subject to the 1969 Vocational Training Act (Deissinger, 1996). The company is obliged to impart the competences laid down in the training regulation or ordinance. The Vocational Training Act may be viewed as the final stage of a post-war public debate on the degree to which the Dual System as a whole should be submitted to state influence. As a compromise, the Act did not install a new training system including the vocational school, but mainly 'consolidated much previous practice under one Act' (Raggatt, 1988, p. 175). The Vocational Training Act is essentially a specified labour law since its central objective is the indenture between the apprentice and the training company. The Act therefore covers both the private and the public sphere of vocational training. The contribution of the state to systematising and standardising apprenticeships can be seen in three areas where legislation 'protects' vocational training against market forces: (i) the indenture which alone makes this Act 'the most comprehensive and detailed regulatory system for apprenticeship training in the Western world' (Raggatt, 1988, p. 175); (ii) the degree to which skill requirements of trainers have become formalised; and (iii) the issue of formal instruction and delivery of knowledge and skills that have to be imparted in the course of the training process.[6]

The system of vocational full-time schools

In 2002/2003, out of 2.7 million students in non-academic VET, some 1.7 million underwent training in part-time courses in the *Berufsschule* (i.e. in the Dual System). 452,300 attended an ordinary vocational full-time school (*Berufsfachschule*) with the option (depending on the type of

school and the federal state, respectively) of entry-level vocational training in specified occupational areas, such as nursing or physiotherapy. The number of students attending three of the major sub-types in full-time VET (vocational foundation year; vocational preparation courses; ordinary vocational full-time schools) actually increased between 1993 and 2001 from 363,351 to 541,676. As companies feel insecure about the future demand for skilled employees and complain about the lack of training maturity among school leavers, the latter have to search for alternative pathways, a phenomenon which is aggravated by the regional and occupational imbalances in the training market including the difficult situation in eastern Germany. Therefore, both the number of students entering HE and the influx into vocational full-time schools have increased in recent years and are likely to rise in the forthcoming years (for all figures see Federal Ministry of Education and Research, 2003).[7]

Apart from the 'parking function' of specific types of vocational schools due to training market restraints (Reinberg and Hummel, 2001, p. 28) the relationship between the Dual System and the various subtypes within the system of school-based vocational education and training appears to be ambivalent. This means that vocational schools basically serve three functions (Deissinger and Ruf, 2003; Feller, 2000; Kell, 1996; Reinisch, 2001):

- The first function is *vocational preparation* (mostly one to two years), which means making young people competent to apply successfully for an apprenticeship. The skills dimension of this type of course is normally enriched by the achievement of a lower or intermediate school qualification.
- A second objective of VET is *FE* (mostly two to three years), which means leading young people to achieve a higher school qualification. This includes both the university and the polytechnic entrance qualification or, for students from the lower secondary schools, the option to go for an intermediate school qualification.
- Finally, schools provide for *vocational training* (mostly two to three years) which means leading young people to achieve a portable labour-market-relevant occupational qualification either outside the Dual System or through an apprenticeship. This option is sometimes coupled with the opportunity to go for a higher schools qualification (normally a polytechnic entrance qualification).

It is the vocational training function which makes the system of school-based VET complex and opaque (above all in relation to the Dual System) as vocational full-time schools run courses which lead to qualifications either within or outside the scope of the Vocational Training Act. Besides, some of the schools deliver entry-level training based on specialised federal regulations, such as in the area of health occupations. In particular, the ordinary full-time vocational schools (*Berufsfachschulen*) accommodate a range of different students and aspirations. Among the major sub-types are both schools leading to a full occupational qualification and institutions which only partly focus on occupation-relevant competences, as they deliver either school qualifications (such as the intermediate secondary school leaving certificate) or concentrate on vocational preparation (Feller, 2000). Certainly one of the biggest problems is the lack of acceptance from the labour market of most vocational qualifications obtained in school-based, full-time courses against the background of an over-mighty Dual System (Euler, 2000).

The Baden-Württemberg Ministry of Education currently seems to be intent on finding ways to increase the labour-market relevance of school-based qualifications. This in particular affects the vocational colleges (*Berufskollegs*) and the acceptance and portability of the (school-based) assistant qualification. One of the didactical tools supposed to help to achieve this goal is the ongoing implementation of practice firms in each of the state's vocational colleges (Deissinger and Ruf, 2003). This could eventually result in a new policy to strengthen the vocational qualification function of schools in general and to cope with the growing number of school leavers who want to step into VET as a pathway into HE. The status of vocational full-time schools therefore differs from the Dual System, but also from the system of HE as students in full-time VET normally hold qualifications below the level of the Abitur (the university entrance qualification). In contrast to the apprenticeship system, schools currently focus more on access qualifications than on portable labour market-relevant skills, while in relation to universities and polytechnics they form a subsystem opening up 'second chances' for young people. This localisation of vocational schools implies that there is – as mentioned earlier – both a horizontal and a vertical segregation in institutional terms which tends to preserve the different 'system references' typical of pre-vocational education in schools, apprenticeships in the Dual System, vocational full-time courses, and the tertiary sector.

Linking up two worlds: Higher vocational training in the vocational academies

The context: Germany's system of higher education

Although nowadays 'vocational' in many fields, such as engineering, medicine, or business administration, the German HE system is deeply rooted in the German university tradition influenced by Wilhelm von Humboldt's idea of general humanistic education (Blankertz, 1982, pp. 89 ff.; Menze, 1991). This tradition can still be identified if one looks at the administrative structure of Germany's universities characterised by the principle of self-administration, the freedom of teaching and research, and the common belief among German professors that a university should in the first place be a venue for scientific research serving both scholars and students. Hence the notion of a university qualification at that time was not predominantly linked to preparing students for specific occupations, with the exception of medicine, law, and theology. It was only in the twentieth century that degrees – above all the Diploma (*Diplom*) – became more clearly labour market relevant. During the 1960s and 1970s this development was accelerated by the quantitative expansion of the tertiary sector and the emergence of the 'mass university' (Baumert *et al.*, 1979, pp. 212 ff.)[8] as well as by the foundation of new HE institutions, in particular the polytechnics (*Fachhochschulen*), which up to the present day are seen as an attractive alternative to a purely academic preparation for occupations such as engineer, manager or social worker (Diploma FH). The polytechnics emerged from institutions specialising in practice-related vocational education, notably from the former schools of engineering.

With the increasing differentiation of the HE system, accompanied by an extension of secondary HE, more and more young Germans[9] now have the opportunity to attend one of the institutions of the German tertiary system comprised of:

- universities;
- polytechnics, including public administration colleges;
- comprehensive universities (merging university and polytechnic under one roof);
- the distance learning university in Hagen;
- theological colleges;
- colleges of art and music;

- colleges of education (especially in Baden-Württemberg); and
- vocational academies (especially in Baden-Württemberg).

Indeed only about a third of German HE institutions bear the title of 'university'. Hence the situation is different from the UK where former polytechnics became universities. In Germany, there still is a clear binary divide between universities and polytechnics and, in particular, the vocational academies are affected by this difference in status and denomination as they belong to the tertiary system but cannot be treated as 'proper' institutions of HE in a comprehensive legal sense. Somebody entering the civil service as a graduate from a polytechnic or vocational academy gets a lower entrance salary and is normally barred from the highest career track in public institutions. Another interesting example of differentiation in status among Germany's HE institutions is the so-called *Pädagogische Hochschule* (college of education) in the federal state of Baden-Württemberg, which offers teacher training for primary as well as lower and intermediate secondary schools, but not for employment in vocational or grammar schools which requires a university degree (Baumert *et al.*, 1979, pp. 225–7). All non-university courses in polytechnics, colleges of education, and vocational academies stretch over three years, whereas university studies normally cover four to five years of academic learning. One major difference can also be seen in the fact that polytechnics, vocational academies and colleges of education require compulsory practical courses, internships, or even an apprenticeship placement as part of the academic training scheme.

Since 1976, the Federal Government, through the Framework Act of Higher Education, has been empowered with a general competence to enact stipulations governing the development of the HE system in Germany as well as major organisational principles such as the staff structure and admission procedures. Responsibility for filling this framework with life, however, lies with the *Länder* (federal states), which, according to the German Constitution, also administer the school system and the post-academic and further training of teachers. Academic staff, therefore, are civil servants of the respective federal state which also bears the running cost of academic institutions.

Currently, 2.02 million (2003/2004) young people are enrolled as students in the German HE system (with 70 per cent studying at a university) as against some 1.58 million (2003) in the Dual System of initial vocational training.[10] Admission to an HE institution in Germany is not necessarily dependent on the final school-leaving certificate, the

Abitur (the German equivalent to an A-level, granting the right to university study in all subjects). Both secondary general and vocational schools offer polytechnic entrance qualifications or a minor version of the university entrance degree (normally from a vocational upper secondary school or a specialised grammar school), which only opens up a limited range of subjects at a university. Whereas enrolment at a polytechnic demands a polytechnic entrance qualification, universities, vocational academies, and colleges of education may only be attended with an *Abitur*.

The concept of 'premium apprenticeships': The success story of the vocational academies

Courses at a vocational academy (VA), or *Berufsakademie*, have the character of a 'premium apprenticeship' because they involve companies in a similar way as the Dual System. In Baden-Württemberg the ten *Berufsakademien* currently provide vocational training for nearly 17,000 students, with the co-operation of some 4,000 firms offering training placements, mostly in the field of commerce and technology/ engineering.[11] The concept goes back to 1974 when the first pilot schemes were set up as an alternative to traditional university courses. The VA thus can look back on 30 years of expansion. The number of academies has increased from two (Stuttgart and Mannheim) to eight. The number of school leavers in Baden-Württemberg taking up a VA course grew with the general development of the VA system itself. This expansion, while helping to solve the problem of too many well-qualified school-leavers and too few study places, has added a remarkable dimension to specific subjects: business administration alone attracts two thirds of the students and, within this sector, 'management in industry' is the most popular course.

The official website of the VA in Baden-Württemberg depicts this special type of 'tertiary training' as follows[12]:

The Berufsakademie concept
From the start, the Berufsakademie was conceived as a radically new kind of practice-oriented higher educational institution. The involvement of companies as active partners in the educational process results in highly qualified and experienced graduates. The Berufsakademie – University of Cooperative Education thus offers an attractive alternative to traditional university education.

Advantages
- Berufsakademie graduates are highly regarded by employers
- Students attain an impressive level of academic and practical achievement
- Courses of study involve interlocking study and work periods
- Programs are flexible and innovative
- There is active cooperation between the Berufsakademie and training companies

Main Objectives
- To unite the resources of state institutions of higher education and professional training facilities in a joint effort
- To respond to employers' demands for a more work-oriented approach to higher education
- To offer school leavers an attractive alternative form of higher education
- To reduce the time students spend in higher education: three years at the Berufsakademie, as opposed to an average of six years or more at traditional German universities
- To share the ever rising cost of higher education between employers and the state

In 1982 the Law on Vocational Academies (*Berufsakademiegesetz*) established the vocational academy as a proper institution in the Baden-Württemberg's tertiary sector (Reinert, 1999, p. 6). Drawing on the results of the trial phase, not only were the organisational structure and training concept barely modified, but the concept worked out in the starting phase as a whole was purposely left unchanged. The legal definition (article 1 I BAG) characterises vocational academies as institutions offering 'both a theoretical and a practice-orientated apprenticeship. They fulfil this task through the combination of state academies and apprenticeship placements (Dual System).'

Nevertheless, the VA is not of a primary vocational training nature, but is a tertiary sector, university-like institution.[13] The law (article 1 II BAG) states that vocational academies 'are part of the tertiary educational system. They constitute an alternative to polytechnic and university studies ... Successful completion of the three-year course of training and education at the vocational academy is the equivalent of a degree awarded upon completion of comparable courses by state-run polytechnics'. Quite apparently, the law refers to a functional comparability of VA and

polytechnic. Against this background, the label 'University of Cooperative Education' which has been introduced by the Baden-Württemberg Ministry of Science, Research and Arts in its marketing strategy (Reinert, 1999, p. 9) is a totally misleading denomination as it suggests a factual as well as a legal parity between the two institutions. This wrong perception has a clear political implication since the VA, as a 'newcomer' to the HE system of Germany, over the years has had to fight a fierce battle to establish its reputation even alongside the polytechnics and also faced resistance coming from most of the other federal states of Germany (Deissinger, 1995, pp. 432–3). The Baden-Württemberg 'Equality Order' decreed in 1989[14] gave the VA parity status to polytechnics as an 'equal' institution only within the tertiary sector of this federal state.[15]

In 1995, the Conference of German State Ministers of Culture (*Kultusministerkonferenz*) finally resolved to accord full recognition to the *Berufsakademie*. This means that the VA now confers entitlements identical to those attached to polytechnic degrees. In consequence, the VA now falls under the regulations of the European Council issued in 1988 (89/48/EWG) with respect to degrees in HE (Green, Hartley and Usher, 1991, pp. 163 ff.; Zimmermann and Deissinger, 1995, pp. 454 ff.). In the meantime, the state law on VAs has been modified to grant access to postgraduate doctoral studies to VA graduates. Nevertheless, the legal status of the VA still separates it from the classical university, as it is a three-year course and does not lead into the highest stratum of the civil service, and it undoubtedly introduces a new structural facet to HE policy not common to the polytechnics either. It is in fact the tertiary position of the VA in the educational sector which results in peculiarities that do not distance it from the university. The teaching staff are subject to the same professional requirements as at the universities in general and the polytechnics in particular. VA graduates get a degree comparable to a polytechnic or university degree. The only difference is an extra 'BA' in the title. Studies are divided into semesters as at the university. On the other hand, the didactical programme in the fields of business administration and social work is orientated less around the (more or less general) functional principle of importance to the universities, as it is focused on the 'branch principle' (Table 1). This obviously tends towards the training structure of the Dual System.

One of the peculiarities of the VA is the possibility to go for an intermediate professional certificate before reaching the Diploma, which is not typical of a university degree or for the majority of training courses in the Dual System. Once again, the structure of the VA teaching staff is

in stark contrast to that of a university: the vast majority consists of part-time educators, in particular of senior managers or trainers from the apprenticing firms (Zabeck and Deissinger, 1995, p. 7). This is a feature which is not compatible with the Dual System either, as schoolteachers and trainers here have separated responsibilities for their respective parts of the training arrangement.[16]

Table 1. Study structure of the vocational academy indicating layering of courses.

Employment		
Diploma in Business Administration (BA)	*Diploma in Engineering (BA)*	*Diploma in Social Work (BA)*
Semester 6: dual training		
Semester 5: dual training		
Business Assistant	*Engineering Assistant*	*Educator*
Semester 4: dual training		
Semester 3: dual training		
Semester 2: dual training		
Semester 1: dual training		
Business Administration	*Engineering*	*Social Work*
ABITUR (university entrance qualification) plus TRAINING CONTRACT		

Source: www.ba-bw.de

The organisational structure of the VA is the framework of its daily *curricular arrangement*. The following points are seen as vital by the partners:

- *Practical orientation with simultaneous scientific methods of training*. This is about the connection of two didactical principles with the aim of smoothly integrating the VA graduates into the working world. The practical side of the training process should increase the mobility and flexibility of the graduates not just in industry in general but also internally in the firm.
- *Dual structure of learning*. The training concept transposes the organisational principle typical of the Dual System of initial training onto the tertiary sector. The co-operation between educational academy and apprenticing firm aims at making the process of learning more efficient and brings theoretical and practical work as well as work experience together.

- *Curricular combination of theory and practice.* The study regulations of the academy and those of the apprenticeships are fitted into one another. This is guaranteed by the aforementioned subject-specific expert commissions composed of representatives from the state, academies and firms.
- *Co-operation of state and industry.* The influence of the 'participating fields of practice' is seen as a major pillar of the VA system as it defines the bodies governing the 'education alliance' (committee, expert commissions, co-ordination committees). This may be rated as a clear transposition of the 'principle of consensus' from the Dual System into the VA system.
- *Complex structure of teaching staff.* The part-time staff of the academy is made up of university and polytechnic lecturers, vocational school teachers and trainers from industry. Thus practical experience is embodied in the firm as well as in the academy.
- *Layering of training courses.* An intermediate examination can be taken after two years – similar to some training courses within the Dual System – which counts as a professional qualification (business assistant, engineering assistant, educator). The qualifications at the end of the course are degrees (Business Administration Diploma, Engineering Diploma, Social Work Diploma). Hence, the second training phase which lasts a further year is based on a clear professional or functional specialisation also underlined by the total of 44 existing courses.

All these traits correspond with a specific advantage for the VA student when it comes to finding a job after completion: 64 per cent of students/trainees are taken over by the training company.[17] The 'realistic' character and labour market relevance of vocational academies was already confirmed by a study by Zabeck and Zimmermann (1995): both integration into the job and integration into the apprenticing firm were reported to be working well, although unemployment rates were not significantly lower than among university and polytechnic graduates. Also, in general students viewed the training schemes as interesting and motivating and companies reported satisfaction with the motivation and performance of their trainees. Interestingly, though, identification among students was rather with the 'profession' or 'occupation' than with the company, which is a typical trait of the Dual System (Deissinger, 1998). It is against this background that the VA has been able to become a

comparatively successful model of HE. Therefore it ought to be seen as an attractive alternative to university education rather than as a clone of a purely academic preparation for employment.

This high share is also typical for a number of apprenticeships in the German apprenticeship system therefore underlining one of the most significant common characteristics of the non-academic and the academic 'Dual System', which may be seen in the substantial interest of employers to invest into but also benefit from formal initial training based on the vocational principle (Deissinger, 1998).

Conclusion

Despite the fact that the discussion about the parity of general and vocational education was a major topic in post-war Germany, the links between vocational and higher education in Germany are not associated with a policy intent to create an artificial equivalence of qualifications or pathways leading to them. Quite contrary to what is going on in the educational debate in the UK, bridges are not built by opening direct progression routes for non-academically trained people into HE, but rather by linking up 'philosophies'. On the other hand, this means that the vocational bias enters HE in an institutional and didactical way similar to dual apprenticeships. A second aspect to this relationship may be seen in the specific function of vocational full-time schools which, because of the more or less 'exclusive' status of the apprenticeship system, work as a 'second chance pathway' into FE and HE. Hence there still is a clear separation and segregation of functions with obvious implications for both the apprenticeship system and the tertiary sector.

Modernisation of the Dual System occurs predominantly 'internally' and not in the sense of a change of paradigm or underlying principles. However, challenges have turned out to be less soluble than in the past, above all when it comes to the training market with its volatility and its dependence on the state of the national economy (Deissinger and Hellwig, 2004). Also, alternative approaches to VET, such as the vocational academies, or the likely expansion of more or less 'vocationalised' university or polytechnic courses looming with the Bologna reform of university systems within Europe put strain on the apprenticeship system. Apart from that, the Dual System still does not build bridges to the academic world, for example, through 'double qualifications', prominent in the VET systems of France, Austria and even Switzerland (Deissinger,

2001c; Gonon, 2001; Gruber, 2001). As to the future prospects of the Dual System, another crucial question might be whether the rapidly expanding services sector, including data processing and innovative customer-orientated services, will be willing or able to follow its 'philosophy' of training, i.e. above all the *vocational principle*. The future appeal of apprenticeships will also depend on other nations' experiences with more 'open' or 'market-oriented' approaches to VET and their functional links, both in quantitative and in qualitative terms, to national and international labour markets. As the prime concern of vocational training policy in Germany stays focused on initial training there can be no doubt that the training market still is and will remain the biggest challenge. And it is also obvious that the overall decline in apprenticeship intakes over the years is due to the supply side of the training market and not to young people's appreciation of the Dual System in general (Reinberg and Hummel, 2001, p. 25). After long years of substantial support from employers, Germany now seems to join all those countries that have always been desperate to convince the private sector of the benefits of skill formation.

There is no doubt that the German HE system will look different in a few years' time on account of impending pressures from European harmonisation policies. Partly because of its strong position in the last two decades in the tertiary sector of one of the largest federal states, the VA is the brand leader among special training programmes in HE. This important position of the VA in educational policy, coupled with its now 'improved' legal status, has led to a heterogeneous but still limited system of HE options below the university level: it becomes manifest not only in the debate around qualification titles and the conferring of degrees but also in the decision of some federal states to position alternative post-secondary qualifications well below that of a university or polytechnic, a decision which Baden-Württemberg never has been prepared to accept. That the debate over the VA has affected and is still affecting many interests is evident. Against this background the VA can be considered to be a pragmatic 'instrument' of HE policy (Zabeck and Deissinger, 1995, p. 24).

This has a clear implication for the perception of the 'character' of the German education and training system. As the focus is not on 'integrating' pathways and 'inclusive' approaches – which certainly was the 'big topic' for a comparatively short timespan during the 1960s and 1970s (Deutscher Bildungsrat, 1974) – but instead on upgrading vocational training and establishing vocational principles within HE, the German system seems to be far away from becoming a 'unified system'

(Greinert, 2003; Pilz, 2003). One of the reasons for this – apart from the fact that a country's VET system certainly has to be understood 'in relation to other societal institutions such as its labour market and economy, its industrial relations system and its system of government' (Raffe, 1998, p. 391) – seems to be the traditional understanding of a separate vocational pathway as something which deserves to be 'unique' and valuable in itself. It may be criticised that this fosters the organisation of general and vocational qualifications 'according to separate criteria and systems of assessment' and stands for 'limited possibilities for progression between them' (Young, 2003, p. 228). On the other hand, it may be argued that general and vocational education, in the German case, are interdependent systems and that the interaction between them helps to stabilise the 'vocational pathway' much more than in other countries.

Despite problems related to the training market there are no signs that the apprenticeship system representing this strong belief in the importance of vocational qualifications has entered a stage of degradation. Modernisation of existing training schemes remains a crucial topic, which may be interpreted as a clear concession towards 'internal modernisation', instead of changing the foundations and principles of the system. It may also be argued that the reform of the Vocational Training Act (Euler and Pätzold, 2004) – with its focus on bringing closer together the spheres of school-based and dual vocational training – is likely to be accompanied by a policy of building new bridges from company-based training to HE. Whether this will lead to strengthening the vocational route, however, remains to be seen.

Notes

[1] See Gemeinsame Pressemitteilung der Schweizerischen Konferenz der kantonalen Erziehungsdirektoren, der Länder Österreich, Baden-Württemberg, Hessen und Bayern zur OECD-Studie Bildung auf einen Blick (*Pressemitteilung des bayerischen Kultusministeriums*, No. 288, 17 September 2003).

[2] In 2002, the task of providing all applicants with a training place was associated with major challenges. At 572,227, the number of new training contracts was down 42,000 on the previous year and had thus sunk to an unexpected level. The reasons for this decline may be seen in the following factors: the weak economy; insecurities about the future demand for skilled employees; lack of training maturity among school leavers; regional and occupational imbalances in the training market; and, above all, with respect to situation of the former East Germany. Therefore, both the

number of students entering HE and the influx into vocational full-time schools have increased and are likely to rise in the forthcoming years (for all figures see: *Federal Training Report 2003*, online at: www.bmbf.de).

[3] Quite unambiguously, the present federal government has underlined its will to increase the number of school leavers going on to higher education. This policy, clearly in the wake of assessment studies such as PISA (Programme for International Student Assessment), could lead to a gradual undermining of trust in and contentment with the Dual System.

[4] In terms of the financial burden, companies shoulder the lion's share of training cost: in 2000, companies invested nearly €28 billion into the Dual System. The average training outlay per apprentice is currently rated at €16,435 p.a. (Beicht and Walden, 2002). As a result, the cost argument can be found amongst the most important reasons that companies report for not entering training.

[5] Everybody under the age of eighteen not in HE or further education (FE) is compelled to attend the local part-time vocational school (*Berufsschule*) on a sandwich or day-release basis. Everybody commencing an apprenticeship is required to stay on at school until the end of the training period (Elser and Kramer, 1987).

[6] The Act not only stipulates the rights and duties of trainees and training companies, but also prescribes the personal and technical skills of training personnel. For this purpose, a distinction is made between the trainer and the person or firm taking on apprentices. 'Personal aptitude' means that a person must not have broken the law. These preconditions are basically deemed sufficient for hiring an apprentice. However, a person engaging in apprenticeships also has to prove the competence for instructing the apprentice at the training site, called the 'technical aptitude', unless there is a training officer having the necessary personal and technical qualifications to provide the training. Therefore the trainer, besides 'personal aptitude', must have technical (i.e. occupational) and pedagogical abilities and knowledge, which means that he/she has to be an expert in the occupation as well as in educational and psychological skills, including the application of appropriate teaching and instruction methods. Since 1972, courses for trainers, normally offered by the chambers as the 'competent authorities' (Weber, 1985, pp. 60–4), have followed a uniform pattern based on the Vocational Training Act. This regulation is currently at stake as the federal government desperately seeks to liberalise the Dual System and attract more companies to take on apprentices.

[7] For figures see: destatis.de/basis/d/biwiku/schultab8.htm. Between 1998 and 2002 the share of school leavers entering HE rose from 28 per cent to 35 per cent, which is still below the OECD average of 47 per cent. See: Gemeinsame Presseerklärung von BMBF und KMK, 16 September 2003 (www.bmbf.de/presse01/934.html).

[8] A cleat indication is the fact that between 1975 and 1988 the number of students rose by 75 per cent (Friedeburg, 1989, p. 428).

[9] The share of students with a working class background rose from 6 per cent in 1963 to 13 per cent in 1976, in a timespan which can be seen as the triggering period of educational expansion in Germany (Baumert *et al.*, 1979, p. 218).

[10] The share of female students is 47.4 per cent, the share of foreigners 11.7 per cent (2002/2003). The Federal Statistical Office reports an average age of students in Germany of 26.2 years (see: www.destatis.de/basis/d/biwiku/hochtab2.php; http://bibb.skygate.de/Z/B/30/99600000.pdf; http://www.destasis.de/basis/d/biwiku/beruftab1.php).

[11] See: www.ba-bw.de.

[12] See: www.ba-bw.de.

[13] The legal status of the VA in Baden-Württemberg makes it an 'independent institution of cooperation between state and apprenticing firms, operating neither under the school nor university statutes' (Erhardt, 1993). With its dual structure of learning and the co-operation between state institutions and firms, the VA lies somewhere between initial vocational training and university studies. Hailbronner (1993, p. 12) characterises the VA as a 'higher vocational training institution', while Erhardt (CDU, 1994) paints the picture of a 'flagship of the dual vocational training system'. However, as the schooling part of the institution, the state academy, is not a school according to the state school law and thus not a vocational school in the normal sense of the Dual System partnership, despite the integrated practical part of the training taken in co-operating firms, VA training does not come under the Vocational Training Act (Deissinger, 1996). This is also because this particular type of training is outside the conditions of article 28 of the Vocational Training Act ('principle of exclusiveness').

[14] Order of the Ministry of Science, Research and Arts on the Equality of Diploma Qualifications from the vocational academies in Baden-Württemberg with those of the Polytechnics, 10 April 1989. See: *Wissenschaft und Kunst*, 6, 12 June 1989, p. 202. The order is based on article 1 II, No. 2 BAG.

[15] Although stressing the unique system of training in the VA the Science Council of Germany (*Wissenschaftsrat*) maintained in 1994 that VAs were at par with existing institutions of HE. The Science Council had been asked by the state of Baden-Württemberg to set up a working group with the task of giving recommendations based on analyses 'expert and free from bias' (Wissenschaftsrat, 1994, p. 4). Such a position was taken by the Science Council in Schwerin on 20 May 1994. Summed up, the Science Council took a 'positive view of the VA training structure'. In their opinion, the VA offered a 'differentiated training course from that of a polytechnic, but in the sense of the professional qualification, a comparable training to that of a polytechnic'. The 'most important strengths' of the VA were seen in the 'three-year long training course, the focus on practical work and the scientific basis of the syllabus, which secure an easy transition to the workplace, as well as the

social skills emerging from the dual concept of training' (Wissenschaftsrat, 1994, p. 89).

[16] It should also be noted that the VA's matriculation process has its own regulations: only those who have already found an apprenticeship placement after their school examinations are eligible for a place at the VA. The "training contract" caters for the registration procedures for students at the educational academy, which is the responsibility of the firm, the guarantee of time off during the apprenticeship to visit classes, and adherence to examination requirements and training guidelines (article 8 I BAG).

[17] See: www.ba-bw.de

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