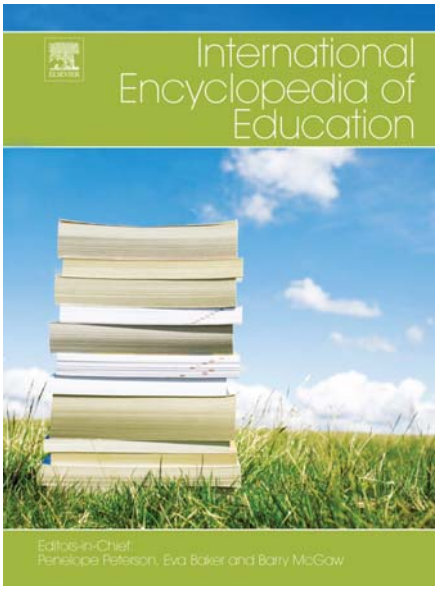

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VOCATIONAL EDUCATION AND TRAINING – VET SYSTEM

Contents

Dual System

T Deissinger, University of Konstanz, Konstanz, Germany

Introduction

Dual systems are specific structural and didactical patterns of vocational learning. Normally, they are referred to as systems of initial training, which can basically happen in three ways: (1) by attending a full-time vocational education and training (VET) course in a (vocational) school, college, or higher education institution with neither a training or an employment contract involved; (2) by gaining specific skills or competences in a company based on contractual employment (trainee or employee) – and therefore in a job-specific environment (learning on the job); or (3) by entering a VET program, for example, an apprenticeship, which uses (part-time) school-based and company-based modes of learning and therefore works as a dual system in a wider understanding of the term. In most cases, learners in the latter case are in some kind of contractual employment which can be, but does not need to be, an apprenticeship contract. However, it is the apprenticeship system which offers opportunities of vocational learning within a predominantly occupational context. This means that apprenticeships are not necessarily part of the formal secondary school system.

Looking at the modeling of VET pathways, it has to be observed that VET systems and their typical features are more than mere constructions, mainly triggered by political motivations or economic interests. Instead, in order to understand how they function and how they are capable of reacting to external demands, they have to be looked at as historical entities. This is especially true for the dual system which at the same time, in some countries at least, functions as a more or less traditional apprenticeship training system. Examples for this subtype are Germany, Switzerland, Austria, Denmark, or the Netherlands. Even in Anglo-Saxon countries, such as Australia or the United Kingdom, apprenticeships, mostly with the additional label modern or new, have been reinvented in the last two decades, following reform purposes to establish alternative routes into employment besides nonformal on-the-job training, traditional school-based VET programs, and higher education courses meant to produce labor-market-relevant qualifications. However, structural and conceptual differences with countries using apprenticeship as a traditional model on a wider scale still remain.

In the following, the major focus will lie on the dual system of Germany. VET in the German-speaking countries of Europe mostly can be described as using alternating learning arrangements, above all as partnerships between schools and companies. Both in Switzerland, Austria, and in Germany, dual systems are specific historical derivatives of apprenticeships. However, despite industrialization being one of the major common features in modern history, differences between the German-speaking systems and most other countries in Europe in terms of a specific apprenticeship culture or learning culture, respectively, are obvious. Their relevance for the current debate

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on VET and its modernization may be associated with globalization and various developments at the European policy level which address national VET systems in a specific way. These challenges get a national dimension insofar as solutions appear only possible against the background of what may be called the system reference of a given VET system. This includes different notions of what countries perceive as educational or pedagogical with respect to their VET systems and therefore as realization modes applied to link the idea of training for an occupation or a job to the notion of personality development of individuals.

The idea to bridge the historically and mentally separated worlds of education and training by establishing a specific alternating learning environment for school leavers and at the same time to define it as an apprenticeship system building up on a specific cultural heritage, is very typical for Germany, and also for its two German-speaking neighboring countries. The share of school leavers entering an apprenticeship in the dual system in these countries lies between 40% and 60%, although alternative routes, such as full-time VET or special integration programs, partly using the same setting, partly offering other kinds of training measures, have increased in importance. In Germany, this has been due to what has been called training-market crisis while in Austria full-time vocational schools have traditionally served specific sectors of the labor market quite successfully. Both in Switzerland and in Austria, initial VET can be combined with qualifications leading into the tertiary sector. Denmark, on the other hand, whose dual system is also discussed in this article, has a specific understanding of complementing apprenticeship with school-based VET. This is not possible in the case of Germany which refers to the German VET system as probably the most traditional type of a dual-apprenticeship system.

Structural Features and Working Principles of the Dual System of Initial Vocational Training in Germany

Key Features and Working Principles

In a comparative perspective, German firms employ a high proportion of the workforce with intermediate-level qualifications. The reason for this is that vocational training mostly occurs in the dual system (*Duales System*) which functions as the major nonacademic route for German school leavers by giving them formal access to the labor market as skilled workers, craftsmen, or clerks. The system has traditionally recruited between 50 and 60% of 16–19-year-olds and contributes to limiting the number of unskilled employees to a constantly low proportion in the German labor market. Unlike in the UK or France, where they form a marginal sector within the vocational training systems, dual apprenticeships exist in nearly all branches of the German economy including the professions and parts of the civil service.

Hereby, the function of the dual system unequivocally is to impart initial training to school leavers in a given range of declared trades or recognized training occupations (*Ausbildungsberufe*) by using two sites of learning: the training company (*Ausbildungsbetrieb*) and the part-time vocational school (*Berufsschule*), with compulsory school attendance for all young people under the age of 18 not attending a higher or a full-time vocational school, hence covering virtually all who have entered an apprenticeship. Instruction can be part time during the week or on a block-release basis. Compulsory instruction in the part-time vocational school is both laid down in the various federal state school acts and indirectly regulated in the Vocational Training Act (*Berufsbildungsgesetz*), which defines the duties of both parties out of the training contract. When it comes to working time and working conditions, the Youth Employment Protection Act (*Jugendarbeitsschutzgesetz*) obliges employers to release young people to attend the vocational school during normal working hours.

The two learning sites correspond with two legal responsibilities due to the German federal political system. The various levels or dimensions of this dualism can be seen in Table 1.

Although the dual institutional principle certainly is the striking feature, the working principles of Germany's dual system also comprise at least three more dimensions which render it the character of a special kind of dual system:

Table 1 Levels of dualism in the dual system

	Berufsschule	*Ausbildungsbetrieb*
Legal status	• Public	• Private
Supervision	• School administration	• Competent authorities (chamber system)
Legal basis	• Education law (federal state)	• Vocational training law (central state)
Young person's status	• Student	• Apprentice
Training personnel	• vocational teachers	• Masters, trainers
Didactical instrument	• Vocational syllabus	• Training ordinance
Form of learning	• Classroom instruction	• Workplace or workshop instruction
Contents of learning	• Theoretical	• Practical
Kind of award	• School certificate	• Chamber-skilled award

- The dual system is a well understood and socially accepted pathway into employment as it follows a traditional pattern of skill formation recurring to the medieval mode of apprenticeship training. This means that training is workplace-led and predominantly practical and that work experience during the training period is seen as an essential asset of this kind of VET. It also implies the notion that the system works in accordance with skill requirements defined around the workplace since it is not task based but occupation based.
- Although traditional at its core, the modern German dual system is also subject to the involvement of the state with regard to the nature and quality of occupational standards as well as to legal conditions underlying apprenticeship training. The German training culture is based on the notion that an apprenticeship should be based on an underpinning pedagogical understanding which sets it apart from normal work.
- As the government sets quality standards with respect to in-company training only in a formal manner, other social groups have a major influence on the dual system. This means that public, private, and semi-private institutions use long-established modes of cooperation within the system and that employers and unions normally take the initiative with respect to training regulations and their revision or modernization.

The specific occupational character of training (*Beruf/Berufsprinzip*) is interlinked with the structural composition of the dual system. This orientation in fact can be traced back to the legal restitution of the master apprenticeship and the development of the vocational character of the continuation schools some 100 years ago. The historical reinvention of the principle of self-administration turned out as the starting point of a consolidation and universalization process which at the beginning of the twentieth century also incorporated industrial and commercial training, thereby creating a general institutional principle for the division of labor and the assignment of competences.

Besides its didactical principles, and its legal and institutional characteristics, the German system relies on a functioning training market which has the character of a suppliers' market. Once a training contract has been signed, the principal financial responsibility for the training process that includes, besides training allowances, all direct and indirect costs such as training personnel, machinery, training administration, and social insurance contributions, lies with the companies. The fact that the system is supposed to be financed mainly by employers reflects the principle of self-government reaffirmed by law in the late nineteenth century. Therefore, companies provide training opportunities on a voluntary basis. Training in the craft sector has a particularly strong tradition (although with a decreasing tendency), and the chambers (*Kammern*) execute public functions such as the organization of examinations and the supervision of training companies.

Against this background, the German dual-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, with German apprentices typically receiving wages that are far lower than adult rates and apprentice rates in Australia or in the UK. Training allowances are the result of collective bargaining but keep attached 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 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. Such a clear separation of pathways or subsystems implies that expectations which rest on the dual system and frictions on the training market can hardly be compensated without additional activities on the side of the state. Among these, the promotion of external training options and the introduction of incentives for employers have been the most important ones in recent years.

Historical Background and Cultural Underpinnings

The German dual system in its present form goes back to the corporatist framework established by legal sanction in the late nineteenth century. It has remained virtually unchanged in its crucial features up to the establishment of the Vocational Training Act (*Berufsbildungsgesetz*) passed in 1969 and recently (April 2005) revised. Around the turn of the century, compulsory attendance at the part-time vocational school emerged as the second pillar, along with workplace training, underlying formalized vocational training. Georg Kerschensteiner (1854–1932), widely known as the father of the German vocational school, was successful in bridging the gap between elementary school and the beginning of military service by establishing vocational schools for school leavers. Although the continuation schools hereby followed the ideal of *Menschenbildung* (education of the individual) Kerschensteiner saw the individual also as a social being, both with respect to his occupation and to his citizenship within the community. This meant a complete break with traditional educational thinking. Kerschensteiner's prize essay delivered to the Erfurt Academy of Sciences in 1901 must be seen to comprise thoughts that were to be of revolutionary significance for the German education system and eventually emerged in the dual system which we have today.

On the company side of the dual system, the historical development appears ambivalent. In 1845, a Prussian Trade Act, though not repealing freedom of entrepreneurship as a whole, reimposed restrictions on free craftsmanship by making a distinction between small workshops and

industrial premises confining the right to take and train apprentices in handicraft occupations to examined journeymen. The definition of apprentice, however, was extended to everybody who entered an employment with a master to learn a trade notwithstanding whether he paid a premium or became a wage earner. Freedom of enterprise was finally incorporated in the Trade Act of the North German Federation in 1869. Three decades later, this was counterbalanced again with the restitution of the old apprenticeship model. In the 1880s, the *Mittelstandsbewegung* (small-business movement) constituted an influential pressure group. The 1897 Trade Act (*Handwerkerschutzgesetz*) was one of the outcomes of this policy. It is now seen as an oblique predecessor of the Vocational Training Act. Although it did not prescribe the *Meisterbrief* (master's certificate) as a training prerequisite, the Act of 1897 revived some of the old apprenticeship regulations. The newly established chambers and guilds became systematically involved with training matters and were given the right to hold examinations for journeymen and master craftsmen. This Act also made provision for the technical qualification required for the training of apprentices by confining it to skilled journeymen of at least 24 years of age who had either served a 3-year apprenticeship or pursued their trades for at least 5 years as independent artisans. Contracts became general practice in the craft sector as well as during the 3-year training period, at the end of which the apprentice should have the opportunity to take his examination. The *Handwerkerschutzgesetz* laid the foundations of the corporatist framework typical of the dual system. Ironically, the new system of industrial training emerged in a climate of anti-industrial agitation holding up the idea of *Beruf* (vocation/occupation) in a world of accelerated change. The pivotal amendment which modern apprenticeship legislation later added to the foundations laid in the late nineteenth century is the involvement of both the state and the trade unions within a system which has remained corporatist in its basic features.

The Critical Relationship Between the Dual System and Alternative Forms of VET in Germany

Recently, in Germany, initiatives that have been taken to assist school-leavers' access to VET qualifications have included several strategies. These strategies comprise, among others, stronger support of sectoral, regional, and in-company training-place initiatives and collaborative vocational-training ventures as well as training schemes organized by external providers in close cooperation with local enterprises with a view to developing sustainable VET structures. New stipulations in the revised Vocational Training Act (2005) are meant to link up vocational preparation programs and full-time VET with the formal apprenticeship system more reliably. Hereby, coping with the rising number of participants in school-based vocational preparation courses as well as full-time students in VET, of whom only some 50% attend courses leading to vocational qualifications that are nationally portable on the labor market, is a major challenge. To improve the status of these courses, it is necessary to strengthen the work-related features of VET carried out in full-time vocational schools in order to open up genuine alternative pathways and opportunities for young people outside the dual system.

Traditionally, in the German debate on VET, there has always been an understanding that company-based and school-based training represent different pedagogical logics based on diverging paradigms of learning. This may be seen as the other side of the coin when it comes to the dual system. Whereas VET in schools has been associated with a more or less unambiguous pedagogical ethos and therefore not purely with socialization and utilitarian principles, training in an enterprise is bound to occur within an economic environment where normally a strong bias on non-educational purposes prevails. This difference in character is underlined in the dual system of Germany by the fact that even the part-time vocational schools use syllabuses which make provision for the core of the occupational curriculum as well as for additional general education.

Apart from the parking function or buffer function of (full-time) vocational schools due to training-market restraints, the relationship between the dual system and the various subtypes within the system of school-based VET under the auspices of the federal states has to be described as ambivalent. This means that vocational schools basically serve three functions which coexist depending on the specific course and the institution offering it:

- vocational preparation (mostly 1–2 years) which helps young people to apply for an apprenticeship by improving their stakes on the training market;
- further education (mostly 2–3 years) which means leading young people to achieve a higher school-qualification level (including the university entrance qualification); and
- vocational training (mostly 2–3 years) which means leading young people to achieve a portable labor-market-relevant occupational qualification outside the dual system.

With respect to the vocational-training function, school-based VET is considerably complex since full-time vocational schools offer courses leading to qualifications either within or without the scope of the Vocational Training Act. Besides, some of the schools deliver entry-level training based on specialized federal regulations, such as in the area of health occupations. Especially, the ordinary full-time vocational schools accommodate a range of different students and aspirations. Among the major subtypes 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. One of the biggest problems certainly is the lack of acceptance in the labor market of most vocational qualifications obtained in school-based full-time courses against the background of a dominant dual system.

In the federal state of Baden-Württemberg the implementation of practice firms (*Übungsfirmen*) in full-time VET, above all in vocational colleges (*Berufskollegs*) is one strategy to tackle the apprenticeship problem. The vocational college is a postcompulsory institution, and as such is an alternative to the later years of the grammar school that academic students attend. It is open to students, normally aged between 16 and 18, with a medium-level school-leaving qualification. Recent research shows that the recognition problem of qualifications gained in a vocational college still persists. Companies have strong reservations concerning learning in a completely theoretical environment and normally rate a dual system (apprenticeship) qualification higher than anything else offered in the VET system. Even practice firms, from their viewpoint, fail to come up with a reliable quality of skill provision as they indeed offer practical and realistic learning opportunities, but lack the benefits of real workplaces and company-specific socialization effects. It is not surprising against this background that both the government and the social partners continue to stick to the apprenticeship system as the still best-practice approach in the area of initial VET.

Features and Working Principles of the Dual System in Denmark

Denmark comes quite close to the German model of the dual system, which can be described as a neocorporatist form of regulation, where the social partners play a central role in the VET sector. However, in Denmark, just one-third of all young people undertake training in the dual system, which uses a block-release structure in the area of cooperation of learning sites. In 1956, the foundations of the modern Danish VET system were laid when theoretical instruction was taken away from evening schools and transferred to technical schools. Modern VET in Demark now starts with a full-time VET foundation course (*grundforlob*), which can last between 20 and 60 weeks, depending on prior learning achievements or occupational fields. For the following main part of training, young people have to enter a training contract with a company. In contrast to Germany, the vocational college has a distinct supporting function and can even act as a contractor in the apprenticeship itself. In the real dual or cooperative system, apprentices spend two-thirds of their training time in the company. Training ends with a final examination before a regional branch committee representing the chosen occupation.

The system in Denmark is much less self-focused than the German dual system as it offers additional qualification modules and transition routes into the tertiary sector. Starting with the early 1990s, VET reform in Denmark has been directed toward more parity of esteem between general and vocational education and toward establishing a uniform model out of an amalgamation of the traditional school-based forms of VET and the apprenticeship system. On the other hand, this does not mean inflexibility since programs are individually tailored within a given range of opportunities.

Cooperation between learning sites is an important issue in Danish VET policy. The purpose of this does not only aim at optimizing learning processes and learning quality but also at coping with individualization of learning pathways and institutional flexibility. Although this is also a feature of the VET systems in England and Australia, the Danish system probably comes much closer to the German dual-apprenticeship model where alternating periods of training in two different contexts represent the basic philosophy of the VET system.

Features and Working Principles of Apprenticeships in England and Australia

In England and Australia, recent political endeavors have been directed toward a systematic revival of the apprenticeship system. The schemes created have become known as modern apprenticeships (England) and new apprenticeships (Australia). In both cases, training follows the overarching principles of CBT (competence-based education and training).

The history of apprenticeship in Australia has predominantly been one of industrial relations issues and has been associated with a form of learning for the lower strata of society. This status given to apprenticeships was reinforced when some of its occupational areas were transferred to higher education, such as pharmacy. Today, it is part of the open training market where more or less structured subtypes of vocational learning exist, making use both of full-time and part-time dual models. The new apprenticeship arrangements have also introduced further elements such as training packages and user choice, and they cover school-based and part-time apprenticeships and traineeships as well as formal training that can be wholly on the job or off the job at a training provider. Moreover, they now have been made available to employees, which is a typical characteristic of the English modern apprenticeship scheme, too. In Australia, VET qualifications have now even been made available for study during secondary schooling. Hereby, students can go for a full or a part of a national qualification. A more clearly dual mode has

been created by establishing school-based new apprenticeships and traineeships which involve a part-time apprenticeship or traineeship-employment contract and studying at a college.

However, in contrast with the German type of dual training, apprenticeships in the Anglo-Saxon world are organized in a much more open, volatile way: In England, for example, the apprentice is expected to keep to normal working hours with an employer while undergoing on-the-job training. This allows the apprentice to achieve national vocational qualifications (NVQs). At the same time, the learner is supposed to spend time with a learning provider to gain key skills, and to study for a technical certificate. Hereby, the weekly balance of work and study depends on the type of apprenticeship and on the individual employer. There are models where apprentices are given time off work on certain days to go to a learning provider, often a local further education college. The dual system therefore is much more employment based and not regulated in a uniform way, let alone based on vocational-training law. Many researchers of apprenticeship training in the UK have consistently pointed to the structural weaknesses of modern apprenticeships lacking minimum training periods, compulsory part-time technical education, and other quality standards.

The absence of process regulation in the UK or Australia obviously corresponds with the competence-based approach in the area of skill certification. What matters here is demonstrated competence in the performance of work tasks and no substantial educational attainments. The Anglo-Saxon model of apprenticeship therefore is an interesting mixture of old and new without the political or institutional buttressing of the system typical of Germany, and without locating apprenticeships in senior secondary education, which is the case in Denmark. As a matter of fact, apprenticeship numbers have stagnated on a level which is seen by policy as too low for stabilizing the company-based entry-level training system. Under these circumstances, learning on the job in a more or less formalized manner, is still the dominant way of acquiring skills outside the system of further education. Skills remain job specific as they are not based on a broadly designed initial training program.

Conclusion

As already mentioned above, one of the crucial traits of the German apprenticeship system is its dual character. Whereas in other European countries, including the UK, on-the-job training – even under modern apprenticeship programs – 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, in Germany, the law provides the framework for dual apprenticeships by making sure that school leavers are kept within the educational system – although there is now a growing number of school leavers in school-based VET and various vocational preparation and transition programs. For each training occupation, the state education ministries, in line with training regulations under the federal law, work out syllabuses for the vocational and general subjects within a given occupation taught at the part-time vocational schools.

In other countries, dual systems in this narrow sense of the word, do not exist, with the exception of Switzerland and Austria which resemble the German model. In Denmark, the dual system has undergone a number of flexibility changes, including single-venue training in a vocational college and modularization. Against this background, the most traditional model of a dual system exists in Germany and may be described as comparatively resilient to change, which certainly poses problems in the context of European VET policy which tries to integrate obviously different cultural concepts of organizing labor, labor markets, and modes of skill formation.

See also: Apprenticeships; Characteristics, Scholarship and Research of Teacher Educators; The Status of Vocational Education and Training; Training and Learning in the Workplace.

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