

Thomas Deissinger

University of Konstanz, D 127, D-78457 Konstanz

Tel. (49) 07531/884273

Thomas.deissinger@uni-konstanz.de

Problems and Developments in the German Vocational Education and Training System: The critical relationship between different streams in post-compulsory secondary education

- **1 Germany's Education System and Streams of Secondary Education**
- **2 Germany's Apprenticeship Culture**
- **3 Different Logics and Functions of Secondary VET**
- **4 German Perspectives and Problems**

1 Germany's Education System and Streams of Secondary Education

Germany has been facing a few challenges in recent years in terms of its education and training systems. In General Education, the PISA studies (e.g. OECD 2000) have led to a serious discussion on both the quality of learning and teaching in schools as well as to a new debate around the "selectivity" of the so-called "three-tier system" which is composed of lower, intermediate and higher secondary schools. On the other hand, the Vocational Education and Training (VET) system seemed to be able to ward off any severe criticism as there has always been much praise and even admiration from other countries for the apprenticeship system, the so-called Dual System, from politicians and scholars alike. This admiration has been specifically present in the Anglo-Saxon world (e.g., Prais 1981; Raggatt 1988; Keating et al 2002) where attempts to revive or restructure apprenticeships as major pathways into skilled employment have not always been successful (Ryan 2001; Deissinger 2003; Harris/Deissinger 2003).

Comparative research has revealed that vocational training systems are determined by a specific "philosophy" or "intrinsic logic" which gives them the character of "black boxes," as they have to be understood "in relation to other societal institutions" including the labour

market, the economy, the system of industrial relations, the system of government and, of course, their specific historical developments (Raffe 1998, p. 391; Deissinger 1994; 2004a). With this premise in mind, looking at vocational training from a merely institutional perspective by using the state function as the crucial *tertium comparationis* (e.g. Greinert 1988) reduces the potential of gaining insight into what may be called the "training culture" of a given country. Germany hereby certainly has an "apprenticeship culture" and therefore sticks to a specific learning arrangement in the area of vocational training which, despite its medieval origins and "old-fashioned" terminology, seems to remain a pivotal topic of national and international training policies. This is especially true for Anglophone countries such as the UK or Australia where apprenticeships have been revitalised or reframed in recent years due to dissatisfaction with school-based skill formation as well as with traditional on-the-job training (Canning 2001; Ryan 2001; Deissinger 2003; Harris/Deissinger 2003; Deissinger 2004b).

The "historical character" of VET systems implies that there is a cultural foundation for the general significance given to apprenticeship as an institutional solution towards the problem of skill formation as well as to the interaction or even interdependence between the apprenticeship system and the systems of General or Higher Education respectively. In Germany, it is apparent that the understanding of a separate vocational pathway as "unique" and valuable in itself is a trait which sets the country apart from most other European societies (with the exception of Austria and Switzerland). This unique positioning, however, has traditionally provoked criticism with respect to the organisation of vocational training on one side and general educational streams on the other, "according to separate criteria and systems of assessment," including "limited possibilities for progression between them" (Young 2003, p. 228). On the other hand, it may be argued that academic and (non-academic) vocational pathways, in the German case, are well rooted within disjoint but interdependent subsystems and that their mutual interaction obviously contributes to stabilizing the "vocational track" more strongly than in other countries. Despite serious problems related to the training market (Deissinger 2004c; Deissinger/Hellwig 2004) there are no signs that the German apprenticeship system representing this strong belief in the importance of vocational qualifications has entered a stage of degradation.

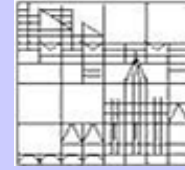
Traditional practices and the responsibilities of different social groups have always been the strengths of the Dual System of apprenticeship training (Phillips 1995, p. 61). Looking at its working principles and the obvious importance of institutions and organisational patterns laid down in law it may still be labelled "the most comprehensive and detailed regulatory system

for apprenticeship training in the Western world" (Raggatt 1988, p. 175). There is still a strong belief that the apprenticeship system is faring better than both the school system and the tertiary sector. Nevertheless, critical views are paramount in the scientific debate, stressing – what may also be viewed as its crucial strength – the “old-fashioned” or “pre-industrial” institutional framework of the system, its mainly “technical” character (excluding services occupations to a large extent) and its role in stabilising both the divide between academic and vocational learning and the segregation of full-time and part-time VET (e.g. Greinert 2006; Baethge 2007; Deissinger 2006a).

The basis for VET in its different forms is General Education (Baumert et al. 1979) which lasts – as compulsory education – from 6 to 15 (9 years), with advanced secondary education in grammar schools or vocational schools as a subsequent option (year 11 to 12 or 13 depending on the federal state). Young people fulfill compulsory education when they graduate from a lower secondary (year 5 to 9) or an intermediate secondary school (year 5 to 10). In VET they need to stay at school for another year at least because Germany has the tradition of part-time compulsion, which is normally covered by an apprenticeship or a comparable vocational course. The so-called three-tier system is highly selective, but on the other hand provides the Dual System with “normal school leavers” who do not have the aspiration in the first place to go to university, but this also means that Germany has one of the lowest participation rates in conventional tertiary education (Ertl 2000). VET in general belongs to secondary, though post-compulsory education, which becomes compulsory again with the uptake of an apprenticeship (*Berufsschulpflicht* as laid down in the federal state school acts). The normal age range of VET students is 15 to 20 depending on the course and the preceding school qualification.

The distribution of school-leavers in 2005 (all Germany) with respect to the three basic types of secondary (general) education is shown in the following table:

Differentiation – School-leavers graduating from General Education



Source: Statistical Office of Germany

N and % of students 2005		
No qualification	78,152	8.2 %
Lower secondary	237,712	24.8 %
Intermediate secondary	398,749	41.6 %
Grammar (Abitur)	231,465	24.1 %
Polytechnic entrance qualification	12,407	1.3 %

T. Deissinger - Seminar "Diversification of Secondary Education", Brasilia 17/9/2007

It is evident that young people set the direction for further educational and vocational careers when they enter secondary education in one of the three main streams. And it is also part of reality in Germany that socially and economically disadvantaged children find it more difficult than, e.g., children from The way into Higher Education is dependent on a university entrance qualification (*Abitur*) or a polytechnic entrance qualification (*Fachhochschulreife*). While the latter now is mostly obtained in Vocational Education, the *Abitur*, as in the past, still represents the highest achievement in General Education as many people from the middle and working classes now also send their children to the higher secondary (grammar) school (*Gymnasium*). This school builds up directly on year 4 or 6 (depending on the federal state) of the primary school and normally takes 6 (4) plus 2 or 3 years (lower stage and higher stage of secondary education level II), with students aged between 10 and 18/19 normally. The *Abitur* examination consists of sets of written examinations and oral examinations. The subjects covered in these examinations vary according to the specialization chosen by the pupil during the last two or three years (*Oberstufe*) at the *Gymnasium*. The pupil's choice may be limited further, however, depending on the specific law on Higher Education in the various federal states, which have quite considerable independence in the design of their respective educational systems, recurring to an important constitutional principle of the

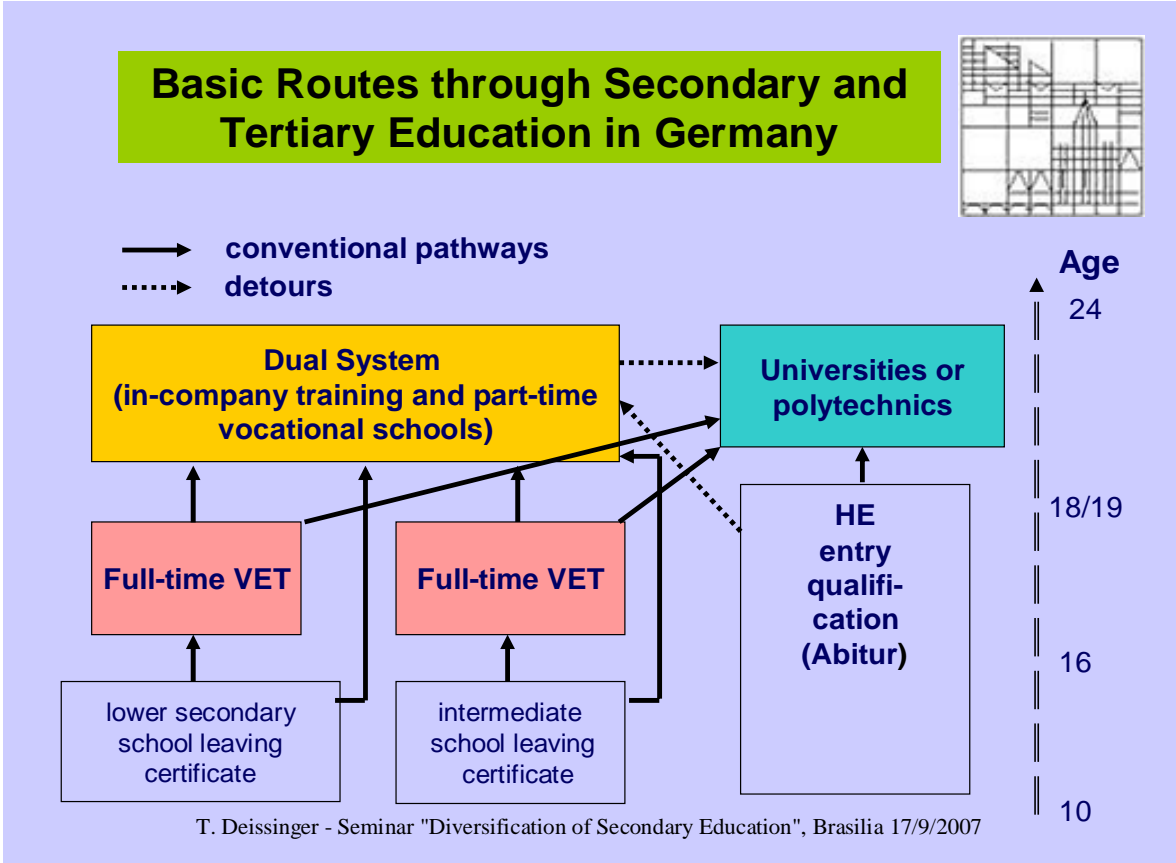
Federal Republic of Germany (*Kulturhoheit*). However most of the federal states now have centralised examinations for all schools involved.

The students can choose their subjects for the *Abitur* after year 11. They have to choose three core subjects (*Kernkompetenzfächer*), one profile subject (*Profilfach*) and one elective subject (*Neigungsfach*), which each comprise four hours per week. In addition students have to choose other subjects (two hours per subject and per week). In general the number of hours per week varies between 30 and 34. The marks obtained in the various examinations are summed up together with marks won during the last two to three years of the course. The achievement in the *Abitur* is important for qualified admission to a German university and for some fields of study, in particular medicine and psychology, there is even a standard which has to be achieved to be admitted at all (*Numerus Clausus*). The composite score of the *Abitur* is between 280 and 840, though both extremes are rarely awarded. Students with a score below 280 fail and will not receive the *Abitur*. The student has the possibility to omit courses (if he/she has taken more than necessary) from his/her composite score. At the moment, 768 points are equivalent to 1.0 (the traditional mark for the best achievement).

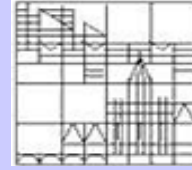
In the federal state of Baden-Württemberg the following subjects make up for the school curriculum in a *Gymnasium* in General Education:

Subject area	Compulsory subjects	Optional subjects
Languages, Literature and Art	German, English, French, Latin, Greek, Russian, Spanish, Italian, Portuguese Music, Art	Foreign languages started before year 11: French, Latin, Greek, Russian, Hebrew, Italian, Spanish, Portuguese, Chinese, Japanese, Turkey Literature
Social Sciences	History, Geography, Social Studies, Religion/Ethics, Business Studies/Economics	Philosophy, Psychology
Maths and Sciences	Mathematics, Physics, Chemistry, Biology	Astronomy, Geometry, Computer Science, Geology, Technology
others	Sports	

The two following charts show the basic structure of General as well as Vocational and Higher Education in the German context and also the high numbers that go into VET – rendering the German system a highly differentiated shape:



Differentiation in the Education System (N pupils/students)



Source: Bildungsbericht 2006

	2004
Total participants	17,010,828
Total population	81,500,849
Elementary	2,493,200
Primary and Secondary GE	9,624,854
Vocational Education and Training	2,900,857
Higher Education	1,991,917

T. Deissinger - Seminar "Diversification of Secondary Education", Brasilia 17/9/2007

2 Germany's Apprenticeship Culture

Germany is one of the countries in which traditionally a high proportion of the working population have intermediate skills (Marsden/Ryan 1995; Steedman 1998, p. 81). The reason for this is that vocational training is predominantly undertaken in the Dual System (Zabeck 1985; Greinert 1994) which functions as the major non-academic route for German school leavers by giving them formal access to the labour market as skilled workers, craftsmen or clerks (Bynner/Roberts 1991). The system recruits between 50% and 60% of 16-to-19-year-olds and contributes to limiting the number of unskilled employees to a constantly low proportion in the German labour market (Büchtemann/Schupp/Soloff 1993, pp. 510 f.; Greinert 1994, p. 116). Contrary to the UK or France, where alternating learning with work forms a small sector within the vocational training system (Gospel 1995), dual apprenticeships exist in nearly all branches of the German economy including the professions and parts of the civil service.

In Germany it is the apprenticeship system which quite clearly addresses the needs of school leavers striving for *initial training* in a range of "declared trades" or "recognised training occupations" (Deissinger 2001a). The dualism of "learning sites" and legal responsibilities

thus is the most important visible feature although its working principles refer to at least three more traits:

- The Dual 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; 2004a). This means that training is workplace-led and predominantly practical. It also means that the system works in accordance with skill requirements defined "around the workplace" (Deissinger 1998).
- The Dual System is determined by the involvement of the state with regard to the nature and quality of occupational standards as well as to the legal conditions underlying apprenticeship training (Raggatt 1988; Deissinger 1996). 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".
- In the Dual System social groups other than the state have a say when it comes to the formal regulation of apprenticeships. This means that public, private and semi-private institutions work together by using 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 modernisation (Deissinger 2001a).

The specific "vocational" or "occupational" character of training can be traced back to the legal restitution of the "master apprenticeship" and the development of the "vocational character" of the further training schools around 1900 (Deissinger 1994; Greinert 1994, pp. 22 ff.). This historical re-invention of the "principle of self-administration" is the starting point of a consolidation and universalisation process which at the beginning of the 20th century also incorporated industrial and commercial training, thereby creating a general institutional principle for the division of labour and the assignment of competences (Harney 1987, p. 180).

Against this background, the German meaning and understanding of the *vocational principle as realised in the Dual System* refers to a specific quality of didactical as well as institutional arrangements which define the "application requirements" for skilled labour (Kutscha 1992, p. 537) through a system of *occupations* bridging the spheres of training and work (Deissinger 1998):

- The notion of an "occupation" refers to "more or less complex combinations of special achievements" with corresponding formal qualifications typical in a given trade or branch. Each occupation has to be integrally structured and relatively job-independent. Both the branch and the individual value of the qualification obtained at the end of the training

process are due to "special qualities," both in relation to other occupations and to qualifications in Higher Education (Beck/Brater/Daheim 1980, pp. 20 ff.).

- When we talk of "training occupations" we mean that these qualification patterns function as the starting point as well as the target of the training process, and are based on what may be called an "organisational picture" (Brater 1981, p. 32) which is standardised by state statutes and thus significantly removed from the specific character of individual workplaces. The quantity and quality of skills and knowledge to be imparted in the training process are supervised and validated through intermediate and final examinations as well as certified in a way acceptable to the labour market. Apprenticeships hence are closely associated with the notion of homogeneous training courses based on standardised training ordinances (Deissinger 2001a).

The mandatory contents of a *training ordinance* are specified in the *Vocational Training Act* (VTA) of 1969/2005 (Deissinger 1996). The Vocational Training Act is 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 object is the indenture between the apprentice and the training company. It was revised in 2005 (Bundesministerium für Bildung und Forschung 2005).

According to Section 5 of the VTA it must contain (1) the name of the skilled occupation, (2) the duration of the training period, (3) the skills to be provided by the company in the course of training, (4) a specification of the syllabus "to be followed for the purpose of imparting the relevant abilities and knowledge", and finally (5) the examination standards. The so-called "principle of exclusiveness" (Section 4, VTA) makes sure that training ordinances represent the only way which can lead young people into skilled employment. In fact, it is this principle which particularly underlines the "process character" of the German apprenticeship system and its strong focus on the "input" or "contents" aspect (Hellwig 2006a; 2006b). The majority of training schemes (currently 350) are so-called "mono occupations" which do not allow for any kind of specialisation, let alone a differentiation of training time or training contents. It is assumed that a broad basis of elementary vocational qualifications supports a maximum of flexibility and mobility between different workplaces and firms. This concept also becomes evident in the training schemes issued in the late 1980s in the metal and electrical sectors: Specialisation only takes place after an initial training period of (normally) one year, one which is common to a whole range of interrelated occupations (Stratmann/Schlösser 1990, pp. 266-269). The current policy of modernisation, however, goes further and tries to

dynamically integrate new developments in the world of work – in particular IT competences – into the existing system of vocational training (Müller/Häussler/Sonnek 1997). The year 2006 saw the emergence of four new training occupations and 18 schemes underwent revision procedures.

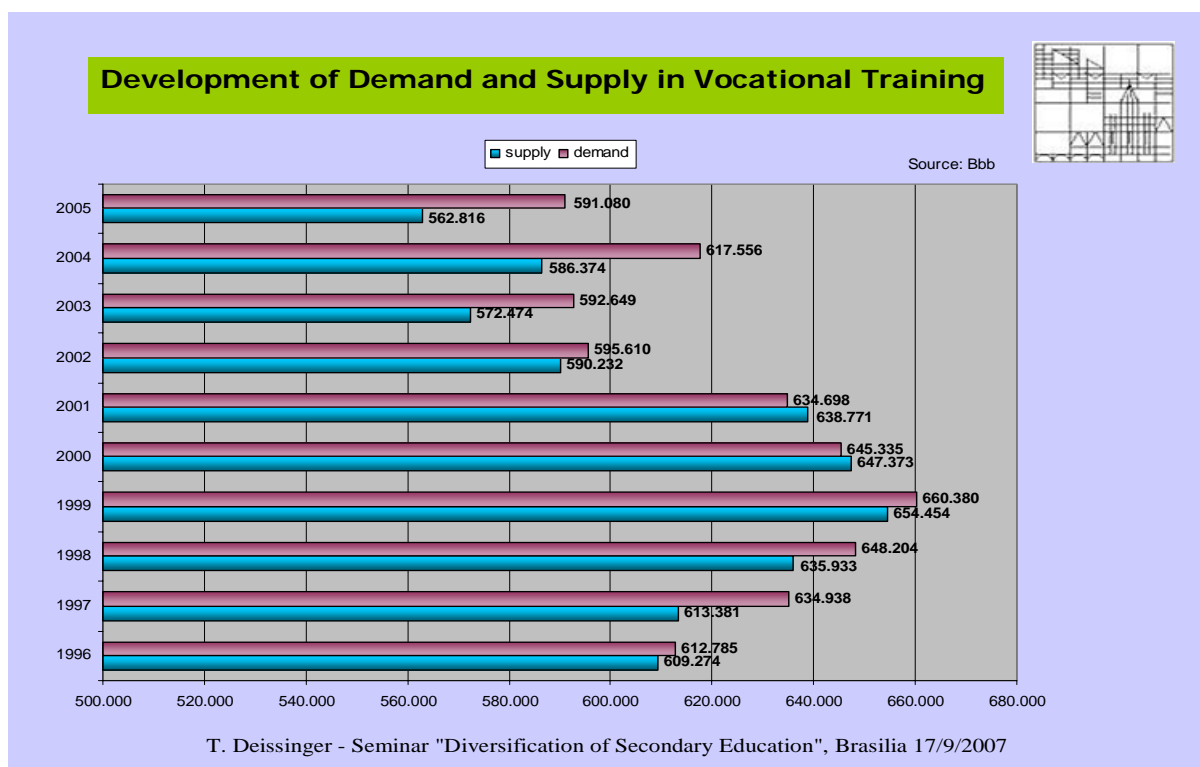
As mentioned above, one of the crucial traits of the German apprenticeship system is certainly its *dual character*. Whereas in other European countries, such as the UK, on-the-job training – even under the Modern Apprenticeship Scheme (Ryan 2001) – is complemented by off-the-job training on a more or 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/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. 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 taught at the part-time vocational schools (Greinert 1994).

Besides its didactical principles, and its legal and institutional characteristics, the German system relies on a functioning training market. The latter "has the character of a suppliers' market" (Greinert 1994, p. 80). Once a training contract has been signed this means that the *principal financial responsibility of companies for the training process* includes, besides 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 19th century. Therefore, companies provide training opportunities on a voluntary basis. Training in the craft sector has a particularly strong tradition (Deissinger 2001b) as here, in 2005, some 477,000 young people out of the present total of 1.6 million underwent an apprenticeship in the Dual System. As to the financial contribution, 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/Walden 2002).

Against this background the German apprenticeship system may be viewed as a *system of training* rather than a system of employment. The wages of apprentices reflect this emphasis, with German apprentices typically paid wages that are far lower than adult rates and apprentice rates in Australia or in the UK (Payne 1999, p. 480; NCVER 2001, p. 39). The result is that high expectations rest on the Dual System and frictions in the training market

can hardly be compensated without intervention by the state (Deissinger 2004c; Deissinger/Smith/Pickersgill 2006). Among these, activities to promote either external training options or incentives to employers are paramount (Berger/Walden 2002).

There is no doubt that the *training market situation* is one of the external variables which have led to serious questioning of the German apprenticeship system and its future. The following chart shows this problem very manifestly (demand indicating the number of school-leavers seeking for an apprenticeship; supply indicating the number of places voluntarily offered by companies):



3 Different Logics and Functions of Secondary VET

The Functional Diversity of Full-time VET

In the German VET system, some 60% of students attend part-time courses in the *Berufsschule* (Dual System) while some 40% are registered in full-time VET, including vocational preparation, but also schemes that lead to a vocational qualification. 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. Whereas VET in schools is strongly associated with a more or less unambiguous *pedagogical ethos* and therefore not purely with socialisation 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 the part-time vocational schools use syllabuses which make provision for the core of the occupational curriculum as well as for general subjects, such as German or Politics. While the latter stand for the notion of post-compulsory education for the ordinary school leaver VET in general is now more and more associated with options to qualify for entry into Higher Education. However, the German system draws a clear borderline between the apprenticeship system and the full-time vocational schools - although the different types of vocational schools are normally compound within one branch-specific physical entity, often called "Vocational School Centres" (*Berufsbildungszentren*).

Because of its training function, the Dual System clearly outshines the system of full-time vocational schools in terms of intakes and graduate numbers. In 2004, out of nearly 2.7 million students in non-academic VET, some 1.8 million or 66 % were undergoing an apprenticeship in the Dual System. 541,830 young people attended an ordinary vocational full-time school (*Berufsfachschule*) with the option (though clearly 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. Quite remarkably, however, 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 1995 and 2004 by 68% from 400,117 to 670,468 (Bundesministerium für Bildung und Forschung 2006, pp. 178, 180). It may be argued that there is an empirical interaction between this rise and the present situation on the training market (Walden 2006). 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 on the training market including the difficult situation in eastern Germany. Both the number of students entering Higher Education and the influx into vocational full-time schools have increased in recent years and are likely to rise in the forthcoming years (Bundesministerium für Bildung und Forschung 2006, pp. 86, 93, 182).

Apart from the "parking function" or "buffer function" of vocational schools due to training market restraints (Reinberg/Hummel 2001, p. 28; Walden 2006) the relationship between the Dual System and the various subtypes within the system of school-based VET under the auspices of the federal states appears to be overtly ambivalent. This means that vocational

schools basically serve three functions which may be linked up depending on the course and the institution offering it (Feller 2000; Kell 1996; Deissinger/Ruf 2006):

- Vocational preparation (mostly one to two years) which means enabling young people to go for an apprenticeship by improving their stakes on the training market
- Further Education (mostly two to three years) which means leading young people to achieve a higher school qualification level (including the university entrance qualification or *Abitur*)
- Vocational training (mostly two to three years) which means leading young people to achieve a portable labour-market relevant occupational qualification outside the Dual System

Above all in terms of the vocational training function the sub-system of school-based VET is considerably complex since vocational full-time schools may 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 specialised 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 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). One of the biggest problems certainly is the lack of acceptance by the labour market of most vocational qualifications obtained in school-based full-time courses against the background of a too dominant Dual System (Euler 2000; Deissinger/Ruf 2006).

Against this background the context of the problem which the vocational full-time school system faces and which also generates the framework for research in this so far neglected field consists of three crucial facets:

- Because the German constitution allows for the exclusive responsibility of the federal states for education there is a separation of competencies in two ways: Firstly, apprenticeships underlie federal regulations whereas the part-time vocational schools are integral parts of the federal states' school systems; secondly, there are also differences in view of the organisation of the vocational school system between the sixteen federal states which above all affect the full-time vocational courses (Kell/Seubert 1990).
- Unlike in the Dual System full-time VET in schools accommodates for different kinds of occupational qualifications which can be training occupations, while other courses

represent profiles which as "school occupations" (*Schulberufe*) are located outside the scope of the Vocational Training Act.

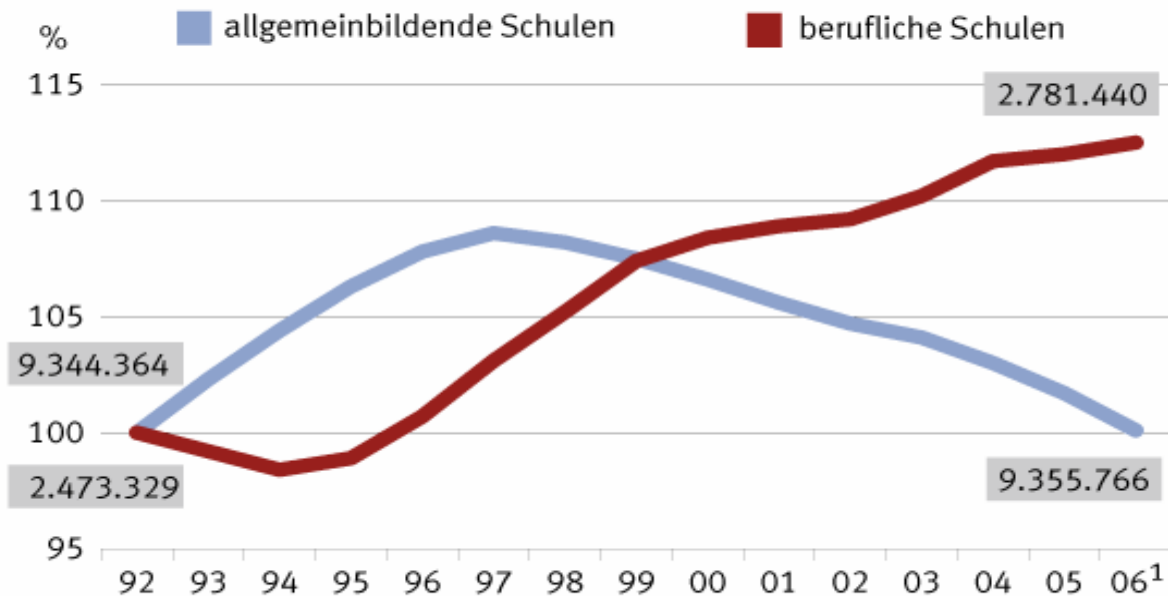
- Due to this heterogeneity there is no comparable degree of labour-market relevance when comparing the vocational school system with the apprenticeship system dispensing portable, labour market relevant qualifications. The research which has been carried out in this area unveils information deficits with respect to the motivation and objectives of students, the destination of graduates and especially the social and economic value of "school qualifications" (Feller 2002).

Traditionally, besides a different understanding of the function and the value of vocational education at schools, there have always been diverging policies between the various federal states (Kell/Seubert 1990) which – when it comes to educational policy – can be subdivided in "A states" (ruled by the Social Democratic Party) and "B states" (ruled by the Conservative Party). Whereas the "B states" stress the importance and value of the Dual System and the responsibility of companies in vocational training and therefore see vocational full-time schools and vocational preparation courses mainly as preparatory or amending institutions, the "A states" place emphasis on school-based learning in VET as a fully-fledged alternative on an equal footing, in its pedagogical quality, both with General Education and with the apprenticeship system. Therefore, the implementation of full-time courses offering vocational training as well as integrative concepts linking up General and Vocational Education outside the Dual System have been enforced more clearly in these states (Blankertz 1972). On the other hand, "B states" like Baden-Württemberg have initiated and supported the development of alternatives to university and polytechnic courses by linking up academic studies with what may be called "premium apprenticeships". The legal status of the vocational academy (*Berufsakademie*) established in 1982 is defined as an "independent institution of cooperation between state and apprenticing firms, operating neither under the school nor university statutes" (Erhardt 1993). The nomenclature, using the word *Beruf* (occupation or vocation) quite manifestly underscores the inclination of conservative VET policy to continue to support the culturally absorbed idea of training in the hands of firms (Deissinger 2000).

In recent years, the development of student numbers in General and in Vocational Education respectively has been going in the opposite direction, with vocational schools clearly being the "growing sector". The following chart shows this very manifestly (*allgemeinbildende Schulen* = General Education; *berufliche Schulen* = Vocational Education (including apprenticeships)):

Entwicklung der Schülerzahlen in allgemeinbildenden und beruflichen Schulen

1992 = 100 %

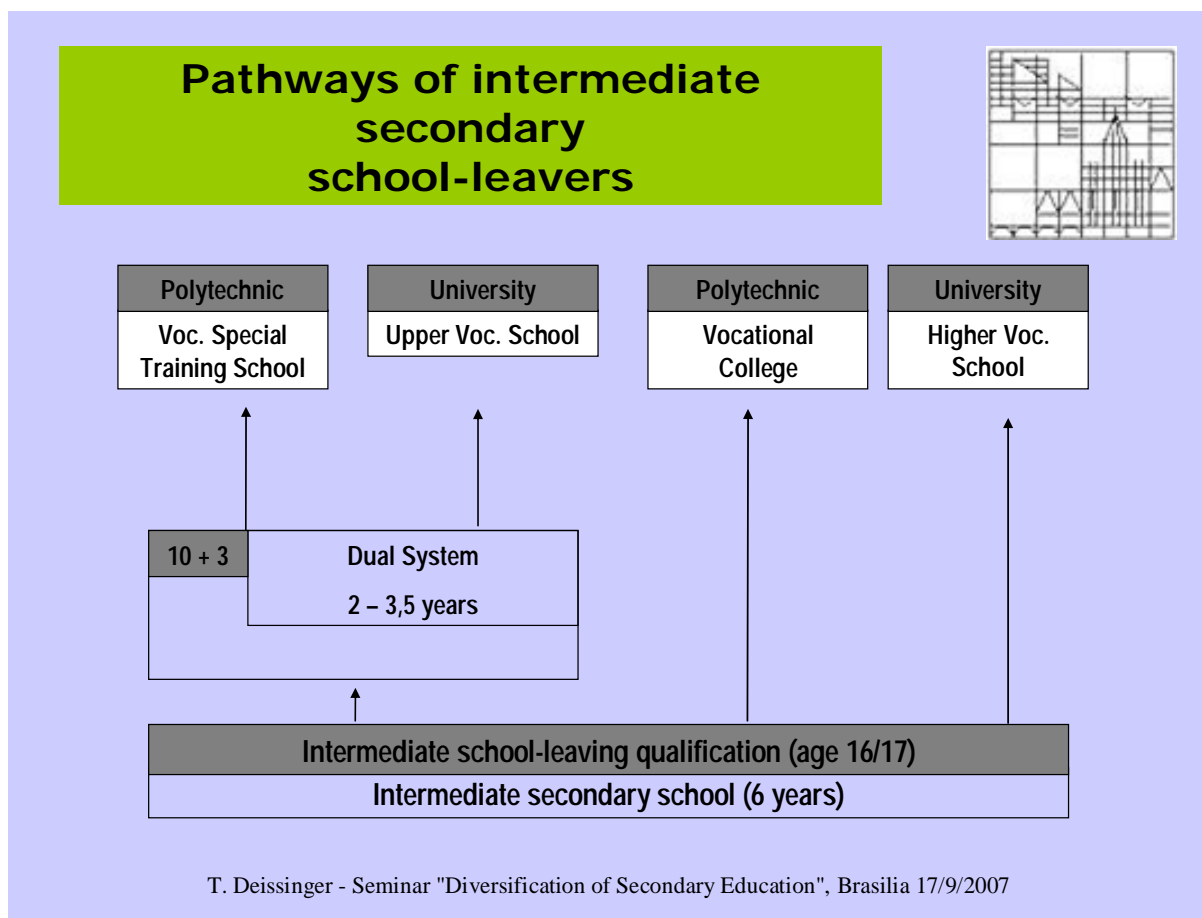


¹ Vorläufiges Ergebnis.

© Statistisches Bundesamt Deutschland 2007

In 2005/2006 some 395,000 students took courses in vocational schools in the federal state of Baden-Württemberg. Among these 43 % were enrolled as full-time students while the share for the whole of Germany is lower and stands at 35 %. This underlines the importance of what is often called the "second pathway to education" (*zweiter Bildungsweg*) meaning that young people are offered courses through which they are able to upgrade their school qualifications. A study carried out 2001/2002 by the Max Planck Institute of Educational Research labelled TOSCA rates the proportion of *Abitur* holders who graduate from a "higher vocational school" or "vocational grammar school" (*berufliches Gymnasium*) in the federal state of Baden-Württemberg at 9.8 % (Köller et al. 2004, p. 19). The survey also argues that school performance in crucial subjects, such as mathematics, has to be seen as tantamount with the results of "normal" grammar school leavers and that higher vocational schools even tend to skim the best graduates from the intermediate secondary schools. Although Baden-Württemberg certainly belongs to those German states that have always placed strong emphasis on the traditional three-tier system of secondary education (Ertl 2000) school

leavers can grasp opportunities to upgrade their qualifications within the full-time VET system. All in all, the Baden-Württemberg approach seems to be a system providing for a comparatively high degree of social inclusion with respect to students from less privileged family backgrounds. It also stands for a greater permeability of educational boundaries and therefore opens up non-traditional routes into Higher Education (Köller et al. 2004). The following chart illustrates these pathways by depicting optional routes for intermediate school-leavers, including the vocational college (*Berufskolleg*):



Vocational Colleges in the Federal State of Baden-Württemberg

Because many students who attend vocational grammar schools emerge from the school population of junior vocational full-time schools, such as the ordinary vocational full-time school (*Berufsfachschule*), these schools have a more or less exclusive function to award "entitlements" (*Berechtigungen*) for progression into Further and Higher Education. This means that they do not produce labour market relevant qualifications in the first place. In this

paper the *Berufskolleg* (vocational college) in the federal state of Baden-Württemberg is chosen to illustrate the ambivalence of full-time vocational education in Germany. It is one of the major subtypes of a vocational full-time school with currently some 55,000 students enrolled (Statistisches Landesamt Baden-Württemberg 2006, p. 1). Whereas a vocational academy (as a tertiary institution) requires the general university entrance qualification a vocational college (BK) is a secondary school that can be attended by students with a medium-level school leaving qualification (in most cases from the *Realschule*).

BK courses hold the following options although their dominant function (with the exception of the BK I and the Dual BK) has become one of leading students to add a polytechnic entrance qualification to their occupational qualification, a concept which is likely to emerge as the regular model in the future following the growing tendency of German school leavers to strive for Higher Education:

- BK I – one year (preparation for Dual System)
- BK I/II – two years with options...
 - assistant qualification (conventional type)
 - assistant qualification + polytechnic entrance qualification
- BK Languages (BK-F) – two years
- BK Business Information Management – two years
- BK with practice firm – two years
- BK-FH (part-time access studies out of employment leading only to polytechnic entrance qualification)
- Dual BK (special part-time school for apprentices with a grammar school leaving qualification) – two years (special type of BK, not further analysed here)

In the case of Baden-Württemberg's 92 public commercial vocational colleges the distribution of students shows as follows (Statistisches Landesamt Baden-Württemberg 2006, p. 1, 3):

Subtype	Number of students in 2005/2006
BK I	7,389
BK II	3,149
BK Languages	2,081

BK Business Information Management	1,154
BK-FH	5,572

All these subtypes, apart from the BK-FH, allocate the two major functions of VET in schools (further education and vocational training) which makes them distinctive from the apprenticeship system since so far the Dual System does not build bridges across to the academic world, e.g. through "double qualifications" (which Switzerland, which also can be called an "apprenticeship country", does; see Gonon 2001). In fact, VET policy has assigned this function nearly exclusively to the full-time vocational schools which means that young people here can upgrade their educational standards and/or study for the achievement of a labour market relevant occupational certificate.

4 German Perspectives and Problems

The fact that apprenticeship shortages and training market imbalances are likely to persist continues to put strain onto school-based VET in a specific way. Policy-makers do not tire of claiming that the apprenticeship system has to be strengthened, while at the same time insisting that progression into Higher Education ought to be pushed. The "multi-functionality" of vocational schools in general has to be seen in a new light. As their function at the moment seems to be strongly linked to entry into Further or Higher Education rather than to the purpose of delivering labour market qualifications and as schools have to serve a more and more heterogeneous clientele, teachers in future are likely to face different types of students with different aspirations. The Baden-Württemberg Ministry of Education currently seems to be intent on finding ways to increase the labour-market relevance of school-based qualifications which in future might become a buttress for the Dual System if not a real substitute for the tradition-based, culturally-rooted and strictly codified apprenticeship system (Harris/Deissinger 2003; Deissinger/Smith/Pickersgill 2006). One option here also is a closer cooperation with chambers to link up the two separated sub-systems more successfully. The new Vocational Training Act undoubtedly provides the framework for this policy on the federal state level.

In 2004 the federal government started to amend the Vocational Training Act (Euler/Pätzold 2004). It was finally passed by the *Bundestag* in January 2005 and put into operation in April 2005, referring to the following intentions:

- the inclusion of vocational preparation schemes within the scope of regulation of the law and with it the implementation of an appropriate system of qualification modules;
- the transferability of credits obtained in school-based VET via agreements between the federal states and the federal government;
- a more intense internationalisation of VET by providing opportunities for apprentices to undergo part of their vocational training abroad; and
- an ongoing modernisation of examinations by including the "extended" final examination in the list of recognised types of final examinations.

According to the benchmarks for the reform of the Vocational Training Act, the introduction of national competency standards as they have recently been implemented in General Education seems to become inevitable (Bundesministerium für Bildung und Forschung 2004, p. 4). However, for the time being, modernisation of the Dual System seems to happen on the curricular level. It has materialised in the creation or revision of training schemes within the system of "skilled training occupations" (Deissinger 2001a) which now even allow for modest features of modularisation. Implanting modules within training schemes as didactical units with a mandatory but optional character (like in the IT occupations created in 1997) no longer seems to be incompatible with a holistic notion of competence (Euler 1998, pp. 96 ff.; Deissinger 2004c, p. 91f.). However, there are other suggestions using modules in a more open manner, and there is a general conviction in the research community that the system has to become more flexible (Euler/Severing 2006; Baethge/Solga/Wieck 2007). On the other hand, interest groups, such as trade unions and chambers, are eager to underline their belief in the efficiency of the Dual System as the "king's way" into skilled employment. It becomes evident from this that the debate on the introduction of a "German National Qualifications Framework" (DQR) implies many problems for the comparatively solid German education system and the country's apprenticeship culture (Deissinger 2006b).

Besides demands for "internal modernisation", the new Act passed in 2005 contains quite innovative stipulations which have been set up to re-define the relationship between apprenticeship training in a recognised occupation and full-time VET courses leading to vocational qualifications. Sections 7 and 43 of the new Vocational Training Act try to build "bridges" between the two sub-systems (Lorenz/Ebert/Krüger 2005):

- According to section 7 the federal states get the right to determine which courses in full-time vocational schools or in comparable institutions shall lead to a partial accreditation in a subsequent apprenticeship. Applications for accreditation have to be submitted individually to the chambers (as the "competent bodies").

- According to section 43 people graduating from a full-time course leading to a vocational qualification shall get the permission to undergo a final examination in a recognised occupation before the chamber if the occupation trained for in a school is equivalent. This new regulation also includes so-called "school occupations" outside the scope of the Vocational Training Act or the Craft Regulation Act.

It is too early to assess the consequences of these new stipulations. However, there is no doubt that their practical relevance is dependent on the value companies and chambers place on full-time VET in general. The implementation of practice firms (*Übungsfirmen*), e.g., can be seen as - realistically - just one of the tools to stabilise the school-based VET system by making it more functional in relation to the labour market (Deissinger/Ruf 2006). Another open issue is the differentiation in General Education, where Germany is rated as one of the most strictly selecting and inflexible education systems in Europe. At least the political debate in the last couple of years has indicated that, with PISA in mind, the topic is back on the educational agenda.

References

- Baethge, M. (2007). Das deutsche Bildungs-Schisma: Welche Probleme ein vorindustrielles Bildungssystem in einer nachindustriellen Gesellschaft hat, in: *Wirtschaft und Erziehung*, 59 (1), pp. 3-11.
- Baethge, M./Solga, H./Wieck, M. (2007). *Berufsbildung im Umbruch. Signale eines überfälligen Aufbruchs*, Berlin (Friedrich-Ebert-Stiftung).
- Baumert, J et al. (1979). *Das Bildungswesen in der Bundesrepublik Deutschland*, Reinbek (Rowohlt).
- Beck, U./Brater, M./Daheim, H. (1980). *Soziologie der Arbeit und der Berufe. Grundlagen, Problemfelder, Forschungsergebnisse*. Reinbek bei Hamburg (Rowohlt).
- Beicht, U./Walden, G. (2002). Wirtschaftlichere Durchführung der Berufsausbildung – Untersuchungsergebnisse zu den Ausbildungskosten der Betriebe, in: *Berufsbildung in Wissenschaft und Praxis*, 31 (6), pp. 38-43.
- Berger, K./Walden, G. (2002). Trends in public funding for in-company training in Germany, in: Burke, G./Reuling, J. (Eds), *Vocational training and lifelong learning in Australia and Germany*. Adelaide (National Centre for Vocational Education Research), pp. 135-149.

- Blankertz, H. (1972). Kollegstufenversuch in Nordrhein-Westfalen – das Ende der gymnasialen Oberstufe und der Berufsschulen, in: Die Deutsche Berufs- und Fachschule, 68, pp. 2-20.
- Brater, M. (1981). Thesen zur Berufskonstruktion, in: Berufsbildung in Wissenschaft und Praxis, 10 (5), pp. 32-36.
- Büchtemann, C./Schupp, J./Soloff, D.J. (1993). Übergänge von der Schule in den Beruf – Deutschland und USA im Vergleich, in: Mitteilungen aus der Arbeitsmarkt- und Berufsforschung, 26, pp. 507-520.
- Bundesministerium für Bildung und Forschung (2004). Eckwerte Reform berufliche Bildung. URL: http://www.bmbf.de/pub/eckwerte_bbigreform.pdf. (01.03.2007).
- Bundesministerium für Bildung und Forschung (2005). Die Reform der beruflichen Bildung – Berufsbildungsgesetz 2005. Bonn (BMBF).
- Bundesministerium für Bildung und Forschung (2006). Berufsbildungsbericht 2006, Bonn (BMBF).
- Bynner, J./Roberts, K. (Eds) (1991). Youth and Work: Transition to Employment in England and Germany. London (Anglo-German Foundation).
- Canning, R. (2001). Vocational Education and Training in Scotland – Emerging Models of Apprenticeship, in: Deissinger, T. (Ed), Berufliche Bildung zwischen nationaler Tradition und globaler Entwicklung, Baden-Baden (Nomos), pp. 159-180.
- Deissinger, T. (1994). The Evolution of the Modern Vocational Training Systems in England and Germany: A Comparative View, in: Compare. A Journal of Comparative Education, 24, pp. 17-36.
- Deissinger, T. (1996). Germany's Vocational Training Act: Its Function as an Instrument of Quality Control within a Tradition-based Vocational Training System, in: Oxford Review of Education, 22, pp. 317-336.
- Deissinger, T. (1998). Beruflichkeit als "organisierendes Prinzip" der deutschen Berufsausbildung, Markt Schwaben (Eusl).
- Deissinger, T. (2000). The German "Philosophy" of Linking Academic and Work-based Learning in Higher Education – The Case of the "Vocational Academies", in: Journal of Vocational Education and Training, 52 (4), pp. 609-630.

- Deissinger, T. (2001a). Entwicklung didaktisch-curricularer Vorgaben für die Berufsbildung in Deutschland, in: Bonz, B. (Ed.), *Didaktik der beruflichen Bildung*, Baltmannsweiler (Schneider), pp. 71-87.
- Deissinger, T. (2001b). Vocational Training in Small Firms in Germany: The Contribution of the Craft Sector, in: *Education and Training*, 43 (8/9), pp. 426-436.
- Deissinger, T. (2003). Renaissance der Lehre – Renaissance des Berufs? Aktuelle Reformansätze der beruflichen Bildung in England und Wales, Schottland und Australien, in: Arnold, R. (Ed.), *Berufsbildung ohne Beruf? Berufspädagogische, bildungspolitische und internationale Perspektiven*, Hohengehren (Schneider Verlag), pp. 170-189.
- Deissinger, T. (2004a). Apprenticeship Systems in England and Germany: decline and survival, in: Greinert, W.-D./Hanf, G. (Eds), *Towards a History of Vocational Education and Training (VET) in Europe in a Comparative Perspective. Proceedings of the First International Conference, October 2002, Florence, Vol. I (CEDEFOP Panorama Series, No. 103)*. Luxembourg (Office for Official Publications of the European Communities), pp. 28-45.
- Deissinger, T. (2004b). Ausbildung im Medium der Lehre im angelsächsischen Kulturraum – Prämissen, neuere Entwicklungen und Problemlagen am Beispiel der englischen Berufsausbildung, in: Reinisch, H./Eckert, M./Tramm, T. (Eds), *Studien zur Dynamik des Berufsbildungssystems. Forschungsbeiträge zur Struktur-, Organisations- und Curriculumentwicklung*. Opladen (Leske & Budrich), pp. 79-90.
- Deissinger, T. (2004c). Germany's System of Vocational Education and Training: challenges and modernisation issues, in: *International Journal of Training Research*, 2 (1), pp. 76-99.
- Deissinger, T. (2006a). The Apprenticeship Crisis in Germany: the national debate and implications for full-time vocational education and training, in: Mjelde, L. & Daly, R. (Eds), *Working Knowledge in a Globalizing World. From work to learning, from learning to work*. Bern (Peter Lang), pp. 181-196.
- Deissinger, T. (2006b). Wege und Umwege zum EQF - Fragestellungen und Probleme aus nationaler Perspektive, in: *Verband der Lehrer an Wirtschaftsschulen (Ed) Auf dem Weg zum Nationalen Qualifikationsrahmen*. Bielefeld (VLW), pp. 9-16.

- Deissinger, T./Hellwig, S. (2004). Initiatives and Strategies to Secure Training Opportunities in the German Vocational Education and Training System, in: *Journal of Adult and Continuing Education*, 10 (2), pp. 160-174.
- Deissinger, T./Ruf, M. (2006). Übungsfirmen am Kaufmännischen Berufskolleg in Baden-Württemberg. Praxisorientierte vollzeitschulische Berufsausbildung zwischen Anspruch und Wirklichkeit, Paderborn (Eusl).
- Deissinger, T./Smith, E./Pickersgill, R. (2006). Models of Full-time and Part-time Vocational Training for School-leavers: A comparison between Germany and Australia, in: *International Journal of Training Research*, 4 (1), pp. 30-50.
- Erhardt, M. (1993). Rechtsgrundlage und Rechtsgestalt der Berufsakademie, in: Unabhängige Kommission Berufsakademie (Ed.), *Materialienband zum Bericht zur Fortentwicklung der Organisation der Berufsakademie Baden-Württemberg*, June 1993, Stuttgart (Ministry of Education).
- Ertl, H. (2000). The Enduring Nature of the Tripartite System of Secondary Schooling in Germany: some explanations, in: *British Journal of Educational Studies*, 48 (4), pp. 391-428.
- Euler, D. (1998). Modernisierung des dualen Systems – Problembereiche, Reformvorschläge, Konsens- und Dissenslinien (Materialien zur Bildungsplanung und zur Forschungsförderung), Bonn (BLK).
- Euler, D. (2000). Bekannt, aber nicht anerkannt – zur Weiterentwicklung der Berufsausbildung in schulischer Trägerschaft, in: Zimmer, G. (Ed.), *Zukunft der Berufsausbildung. Zweite Modernisierung unter Beteiligung der beruflichen Vollzeitschulen*, Bielefeld (W. Bertelsmann), pp. 71-88.
- Euler, D./Pätzold, G. (2004). Gelingt mit der Novellierung des Berufsbildungsgesetzes der Sprung von der Krisenverwaltung zur Reformgestaltung?, in: *Zeitschrift für Berufs- und Wirtschaftspädagogik*, 100 (1), pp. 1-6.
- Euler, D./Severing, E. (2006). Flexible Ausbildungswege in der Berufsbildung. Ziele, Modelle, Maßnahmen, Bielefeld (W. Bertelsmann).
- Feller, G. (2000). Ausbildung an Berufsfachschulen – Ein differenziertes und flexibles Qualifikationssystem, in: Kaiser, F. J. (Ed.), *Berufliche Bildung in Deutschland für das 21. Jahrhundert*, Nürnberg (Bundesanstalt für Arbeit), pp. 439-450.
- Feller, G. (2002). Leistungen und Defizite der Berufsfachschule als Bildungsgang mit Berufsabschluss, in: Wingers, M./Sackmann, R. (Eds.), *Bildung und Beruf*.

- Ausbildung und berufsstruktureller Wandel in der Wissensgesellschaft, Weinheim (Juventa), pp. 139-157.
- Fuller, A./Unwin, L. (2003). Learning as Apprentices in the Contemporary UK Workplace: creating and managing expansive and restrictive participation, in: *Journal of Education and Work*, 16 (4), pp. 407-426.
- Gonon, P. (2001). Neue Reformbestrebungen im beruflichen Bildungswesen in der Schweiz, in: Deissinger, T. (Ed.), *Berufliche Bildung zwischen nationaler Tradition und globaler Entwicklung*, Baden-Baden (Nomos), pp. 63-77.
- Gospel, H. (1995). The Decline of Apprenticeship Training in Britain, in: *Industrial Relations Journal*, 26 (1), pp. 32-44.
- Greinert, W.-D. (1988). Marktmodell – Schulmodell – duales System. Grundtypen formalisierter Berufsbildung, in: *Die berufsbildende Schule*, 40, pp. 145-156.
- Greinert, W.-D. (1994). The "German System" of Vocational Training. History, Organization, Prospects, Baden-Baden (Nomos).
- Greinert, W.-D. (2006). Berufliche Bildung im Spannungsfeld politischer und ökonomischer Interessen – ein historischer Rückblick, in: *Zeitschrift für Berufs- und Wirtschaftspädagogik*, 102 (3), pp. 380-390.
- Harney, K. (1987). Kritische Theorie als Bestandteil berufspädagogischer Selbstformierung im Wissenschaftssystem, in: Paffrath, F.-H. (Ed), *Kritische Theorie und Pädagogik der Gegenwart. Aspekte und Perspektiven der Auseinandersetzung*. Weinheim (Deutscher Studien Verlag), pp. 171-191.
- Harris, R./Deissinger, T. (2003). Learning Cultures for Apprenticeships: a comparison of Germany and Australia. Paper presented at the 11th Annual International Conference on Post-compulsory Education and Training, Enriching learning cultures, Griffith University, Gold Coast, Queensland, 1-3 December 2003.
- Hellwig, S. (2006a). Competency-based Training: different perceptions in Australia and Germany, in: *Australian Journal of Adult Learning*, 46 (1), pp. 51-73.
- Hellwig, S. (2006b). The Competency Debate in German VET: an analysis of current reform approaches, in: *International Journal of Training Research*, 4 (1), pp. 1-16.
- Keating, J. et al. (2002). *Comparative Study of Vocational Education and Training Systems*. Leabrock (NCVER).

- Kell, A. (1996). Berufliche Schulen in der Spannung von Bildung und Beruf, in: Zeitschrift für Berufs- und Wirtschaftspädagogik, 92, pp. 6-18.
- Kell, A./Seubert, R. (1990). Berufsschulpolitik im Ländervergleich. Ziele und Entwicklungen, in: Pädagogik, 42 (11), pp. 47-51.
- Köller, O. et al. (Eds.) (2004). Wege zur Hochschulreife in Baden-Württemberg. TOSCA – eine Untersuchung an allgemeinbildenden und beruflichen Gymnasien, Opladen (Leske und Budrich).
- Kutscha, G. (1992). "Entberuflichung" und "Neue Beruflichkeit" – Thesen und Aspekte zur Modernisierung der Berufsbildung und ihrer Theorie, in: Zeitschrift für Berufs- und Wirtschaftspädagogik, 88, pp. 535-548.
- Lorenz, K./Ebert F./Krüger, M. (2005). Das neue Berufsbildungsgesetz – Chancen und Grenzen für die berufsbildenden Schulen in Deutschland, in: Wirtschaft und Erziehung, 57 (5), pp. 167-174.
- Marsden, D./Ryan, P. (1995). Work, Labour Markets and Vocational Preparation: Anglo-German Comparisons of Training in Intermediate Skills, in: Bash, L./Green, A. (Eds), Youth, Education and Work (World Yearbook of Education 1995), London (Kogan Page), pp. 67-79.
- Müller, K./Häussler, J./Sonnek, W. (1997). Die neuen Ausbildungsberufe der Informations- und Telekommunikationstechnik (IT-Berufe), Köln (Deutscher Institutsverlag).
- National Centre for Vocational Education Research (2001). Australian Apprenticeships. Facts, fiction and future., Adelaide (NCVER).
- OECD (2000). Measuring Student Knowledge and Skills. The PISA 2000 assessment of reading, mathematical and scientific literacy, Paris (OECD).
- Payne, J. (1999). Recent Changes in School-to-Work Transition in England and Wales, in: Stern, D./Wagner, D.-A. (Eds), International Perspectives on the School-to-Work Transition, Cresskill, N.J. (Hampton Press), pp. 475-501.
- Phillips, D. (1995). Lessons from Germany? The Case of German Secondary Schools, in: Phillips, D. (Ed) Education in Germany. Tradition and Reform in Historical Context. London (Routledge), pp. 60-79.
- Prais, S.J. (1981). Vocational Qualifications of the Labour Force in Britain and Germany, National Institute Economic Review, 98 (November 1981), pp. 47-59.

- Raffe, D. (1998). Conclusion: Where are Pathways Going? – Conceptual and methodological lessons from the pathways study, in: OECD (Ed), Pathways and Participation in Vocational and Technical Education and Training, Paris (OECD), pp. 375-394.
- Raggatt, P. (1988). Quality Control in the Dual System of West Germany, in: Oxford Review of Education, 14, pp. 163-186.
- Reinberg, A./Hummel, M. (2001). Die Entwicklung im deutschen Bildungssystem vor dem Hintergrund des qualifikatorischen Strukturwandels auf dem Arbeitsmarkt, in: Reinberg, A. (Ed.), Arbeitsmarktrelevante Aspekte der Bildungspolitik, Nürnberg (Bundesanstalt für Arbeit) pp. 1-62.
- Ryan, P. (2001). Apprenticeship in Britain – Tradition and Innovation, in: Deissinger, T. (Ed), Berufliche Bildung zwischen nationaler Tradition und globaler Entwicklung, Baden-Baden (Nomos), pp. 133-157.
- Senker, P. et al (2000). Arbeiten, um zu lernen: ein ganzheitlicher Ansatz für die Erstausbildung Jugendlicher, in: CEDEFOP Berufsbildung, 20 (2), pp. 45-58.
- Statistisches Landesamt Baden-Württemberg (2006). Statistische Berichte Baden-Württemberg – Artikel-Nr. 3233 05001, S.1. URL: http://www.statistik.baden-wuerttemberg.de/Veroeffentl/Statistische_Berichte/3233_05001.pdf (01.03.2007).
- Steedman, H. (1998). A Decade of Skill Formation in Britain and Germany, in: Journal of Education and Work, 11 (1), pp. 77-94.
- Stratmann, K./Schlösser, M. (1990). Das duale System der Berufsbildung. Eine historische Analyse seiner Reformdebatten. Frankfurt a.M. (Verlag der Gesellschaft zur Förderung arbeitsorientierter Forschung und Bildung).
- Walden, G. (2006). Wenn sich der Ausbildungsmarkt verändert, in: Zöllner, A. (Ed.), Vollzeitschulische Berufsausbildung – eine gleichwertige Partnerin des dualen Systems?, Bielefeld (W. Bertelsmann), pp. 36-47.
- Young, M. (2003). National Qualifications Frameworks as a Global Phenomenon: a comparative perspective, in: Journal of Education and Work, 16 (3), pp. 223-237.
- Zabeck, J. (1985). Berufliche Bildung, in: Staatslexikon Recht – Wirtschaft – Gesellschaft, hrsg. von der Görres-Gesellschaft, Vol. 1, 7th ed. Freiburg (Herder), pp. 669-683.