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Introduction: VET Systems Research

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VET systems as historical and cultural entities

VET systems cannot be described as "constructions" of a specific reality, mainly triggered by political motivations or economic interests. Instead, in order to understand how they function and how they are "capable" to react to external demands, they have to be looked at as "historical entities". Against this background, it is interesting, e.g., that despite industrialisation as one of the major common features in modern history, differences between the German-speaking world and most other countries in Europe in terms of a specific "apprenticeship culture" (DEIßINGER 2004) or "learning culture" respectively (HARRIS/DEIßINGER 2003) cannot be ignored. Their relevance for the current debate on VET and its modernisation may even be associated with globalisation and various developments on the European policy level which address national VET systems in a specific way (> 2.5). These challenges get a national dimension in so far 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 (> 2.2) and also the realisation modes applied to link the idea of training for an occupation or a job to the notion of personality development of individuals (WINCH 2006). In this lies the root of the separation of education from training which applies to most national contexts and represents, besides industrialisation and its impact on VET, the probably most relevant force behind the "character" and value given to VET in a specific national context.

VET systems have to be understood "in relation to other societal institutions" including the labour market, the economy, the system of industrial relations and of course the system of government (RAFFE 1998, 391). This also includes the way governments have picked up educational ideas referring to VET (REICHWEIN 1963). A very good example is the internationally unique positioning of an educational institution at the core of the national VET system, which we find in the case of Germany. Here, the corporatist framework established by legal sanction in the late nineteenth century was gradually submitted to governmental interference during the 1920s and 1930s, although the country did not establish a homogeneous training law until 1969. However, much earlier in the development of what is called the "Dual System" (GREINERT 1994), compulsory attendance at the part-time vocational school emerged as the second principle underlying formalised vocational training besides the framework of instutionalised apprenticeships that was deliberately laid into the hands of the chambers (DEIßINGER 1994). *Fortbildungsschulen* (continuation schools) had been made obligatory as early as 1869 when the German trade law provided for compulsion but left it to local communities to pass by-laws for this purpose. The Trade Act of 1897, in contrast, saw it as part of the newly defined duties of the guilds and chambers to found and maintain continuation schools for craft apprentices and it also stipulated that apprentices had to be released from work to attend such a school (SCHÖFER 1981, 176-178).

The most important change leading to the modern VET system was brought about due to the influence of what became know as "Classical German Vocational Educational Theory", especially through Georg Kerschensteiner, who is historically seen as the "father of the German vocational school" (WINCH 2006; SIMONS 1966). Simons regards Kerschensteiner's progressing "to the state of action" and seeing "that his plans were put into force" (SIMONS 1966, 124f.) as the central momentum in the evolution of the German compulsory vocational school system which widened the so far more or less company-based training to a "Dual System". The idea of bridging the gap between the end of the elementary school and the beginning of military service by establishing vocational schools for school-leavers was based on the conviction that "education for the ordinary man and woman must be woven into the practical work of life" (HIGGINSON 1990, 248). The continuation school's function was seen in the pedagogical complementation of workshop training and it was above all Kerschensteiner who linked it to the idea of *Beruf or vocation*, which in his eyes stood for the major route to *Menschenbildung* (education of the individual) - an ideal recurring back to the 19th century educational movement and associated with the concept of academic education (BLANKERTZ 1982, 89ff.). Kerschensteiner conceived of the individual as essentially 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 (SIMONS 1966, 28f.). While the Act of 1897 may be seen as key event in the history of the Dual System as far as in-company training is concerned, Kerschensteiner's Prize Essay delivered to the Erfurt Academy of Sciences in 1901 (KERSCHENSTEINER 1901), in which he laid down his pedagogical programme for a reform of VET, must be seen to comprise thoughts that were to be of revolutionary significance for the German school system and the relationship between education and work. Kerschensteiner saw that the necessary steps were taken to establish

obligatorische fachliche Fortbildungsschulen (obligatory continuation schools linked to specific occupations) to replace the general continuation school which was disliked by masters and teachers and which apprentices experienced as a nuisance and burden. Kerschensteiner was convinced that the *Berufsschule* held invaluable advantages against an extension of the school leaving age since it was cheaper and more efficient both in social and educational terms. It is important to understand that Kerschensteiner's school reform gained momentum because it was an educational scheme which, although it had to be wrested from the masters and employers who saw it as a rival institution interfering with practical training, complied well with the idea of the *Staatsbürger* (citizen) whom the country's political élite wanted and needed (BLANKERTZ 1969, 135-138). In essence, the modern vocational school in Germany still follows the principles underlying the school reform at the turn from the 19th to the 20th century. However, there is no doubt that the Dual System certainly has two sides: the one it that it links education and work in a VET related way, the other is that due to institutional and legal borders the two "learning sites" still appear separated and only weakly linked from a didactical point of view (EULER 2004). This also refers to the links between VET, pre-vocational education (general education in schools) and higher education (BAETHGE 2007).

The historical imprints which determine VET and its social and economic framework, its cultural foundations and its relationships with other educational subsystems are the crucial topic of comparative VET research (> 3.3.1; 3.3.2). One approach to address open issues in this area it the concept of "learning cultures" which adopt a specific shape as "apprenticeship cultures" when attributed to the acquisition of vocational skills in workplace learning environments (HARRIS/DEIßINGER 2003). With this premise in mind, looking at vocational training in a merely institutional manner by using, e.g., the function of the state as the crucial *tertium comparationis* (GREINERT 1988) reduces the potential of getting insight into these cultural aspects. 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 both school-based skill formation as well as traditional on-the-job training (RYAN 2001; DEIßINGER 2003). This is quite opposed to Germany, where it is an apparent phenomenon that the understanding of a separate vocational pathway as "unique" and valuable in itself is a trait, which apparently 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 and general education "according to separate criteria and systems of assessment" including "limited possibilities for progression between them" (YOUNG 2003, 228; BAETHGE 2007). On the other hand, it may be argued that academic and (non-academic) vocational pathways, in the German case, are well rooted within disjunct but interdependent subsystems and that their mutual interaction obviously contributes to stabilizing the "vocational track" in a stronger way than in other countries.

If one talks about "learning cultures" or "apprenticeship cultures" the notion of a number of comparative criteria springs to mind which help anybody trying to understand obvious differences in the organisation, the didactical and curricular steering and the relevance of VET for career and life perspectives of young people to learn more about the visible contrasts which can be observed in reality. They refer to the first level of comparative VET research which depicts the "system dimension" without already asking for the "backgrounds". This analytical approach may be called a "multi-level" approach (SCHRIEWER 1987). On the "system" level different criteria may be used to pursue a systematic comparison. The concept of "learning cultures" represents such an approach since it offers a methodology composed of five dimensions (HARRIS/DEIßINGER 2003). In the following, these criteria will be materialised by looking at Germany and Australia as two countries with different notions and different realisation patterns of VET:

(a) *Strength of, and respect for, vocational education*: This dimension refers to the value given to VET in a specific national context, including learning in the workplace within or without an apprenticeship. It is obvious that the selection mechanisms of general education and the range of opportunities of young people to proceed to higher education have, besides the above-mentioned cultural aspects, a strong impact on this facet of a VET system. In the UK and Australia, e.g., vocational tracks have traditionally been regarded much lower in value than school-based alternatives, partly due to the structural weaknesses of work-based learning, but also due to a clear mental separation of education and training. This meant that "education in occupational skills for those whose skills are mainly manual has traditionally been seen as outside the main stream of education" (HERMANN/RICHARDSON/WOODBURNE 1976, 33). In the German context, on the other hand, industrial training took up the corporatist framework as well as the occupational orientation of the training process which has remained the pivotal trait of apprenticeship up to the present day opening up respected pathways for the majority of school leavers. Both the extension of full-time vocational schools and the critical educational movement during the 1960s and 1970s (ZABECK 1975a; DEIßINGER 1998, 25ff.) failed to really put the Dual System at stake. Against this background, apprenticeships are culturally strong and avail of a long-standing tradition of

craft training dating back to the Middle Ages (DEIßINGER 1994) while the genesis of the modern vocational training system has been the result of substantial state activities to revitalise the ancient craft system.

(b) *Knowledge and understanding of vocational pathways*: In Germany the vocational pathway is well established and well known. The Dual System with its "recognised skilled occupations" (> 2.3) still takes up more than half of all 16-19 year olds. 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). 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 taking up apprenticeship training has remained more or less stable at around 15%, a phenomenon which puts Germany down internationally in terms of the academic drift of young people. In Australia, vocational pathways are, generally, poorly understood, except in those families where there has already been an apprenticeship experience. The introduction of traineeships, introduced to encourage early school-leavers to enter the workforce and obtain skilled training, and then of New Apprenticeships in the late 1990s (HARRIS 2001), though for the purpose of flexibility, has tended to make understandings of apprenticeship even less clear. In fact, the Australian "training environment had been constantly changing and becoming more and more complicated" which led to a high degree of incomprehension for anybody outside the training community (RAY 2001, 35).

(c) *Financing of VET*: Obviously, despite growing dissatisfaction with employer commitment, the training market in Germany still "has the character of a suppliers' market" (GREINERT 1994, 80). Once a training contract has been signed this means the principal financial responsibility placed upon companies for the training process. The fact that the "system is financed principally by employers" (NCVER 2001, 38) reflects the principle of self-government which was re-affirmed by law in the late 19th century. Therefore, companies provide training opportunities on a totally voluntary basis. However, public funding of VET in general is becoming increasingly important due to the critical situation on the labour and training markets (DEIßINGER/HELLWIG 2004). This has emerged in a creeping "pluralisation" of VET alternatives outside the Dual System and certainly shows the latter's dependency on a functioning economic framework. In Australia, there has been a strong welfare tradition, initiated as a result of and reinforced by the specific character and size of the country. While undoubtedly there is a community role in apprenticeships providing a supply of skilled people to furnish quality goods and services (RAY 2001, 16), it is also the case that employers now can expect government funding for training on a large scale. Here, a clear parallel to the UK becomes apparent (RYAN 2001) since the development of "new" forms of apprenticeship training is linked to a strong financial steering function of the state while "traditional" apprenticeships were solely a matter of employers.

(d) *Prime focus of apprenticeships*: The German apprenticeship system – not least when looking to its history – may be described as a "system of training rather than a system of employment" where the wages of apprentices reflect the emphasis on training and apprentices typically are paid wages "that are far lower than adult rates and apprentice rates in Australia" (NCVER, 2001, 39). 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 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 on the training market can hardly be compensated without additional activities on the side of both state and federal governments. In Australia, the historical purpose of apprenticeship has been to train artisans, and it has been the main approach to training for both the traditional crafts and the more contemporary trade occupations. It is only recently that this key role of apprenticeships has been challenged and the general training role has come more to the fore, as evidenced by the fact that often now the system is administered within government portfolios of education and training rather than industrial relations.

(e) *Quality assurance of in-company training*: In Germany apprentices enter a special training contract which is 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 (1969/2005) 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, 175). This public emphasis, extending the scope of the Act to the "organisation of vocational training", makes it an issue of general interest and social importance. The contribution of the Vocational Training Act to systematising and standardising the course of training can be seen in the indenture, the degree to which skill requirements of trainers have become formalised and to the question of how an apprentice in the Dual System has to be instructed and what knowledge and skills have to be imparted to prepare a young person efficiently for a skilled

occupation. In Australia, the quality of that training has always been at the heart of the VET debate. Critical observers (MITCHELL/ROBERTSON/SHORTEN 1999, 119) contend that, with the advent of training packages in the 1990s, "any quality assurance for program delivery and outcomes which might have been provided by the compulsory use of accredited curriculum has been removed" from the VET system. There is no doubt that CBT (competency-based training), which follows a different "philosophy" from the "occupational concept", is responsible for a training organisation which is much more "industry-led" or "employer-led" than "quality-led" in a pedagogical sense (HARRIS 2001; DEIßINGER/HELLWIG 2005).

Subsystems within VET and their interrelations as research objects

The sphere of VET represents a complex, more or less structured or systematised entity depending how history and culture have shaped it over the years. Looking at VET as a "system", however, is a pedagogically shortened perspective since it leaves aside the didactical problem referring to the definition of specific learning objectives in a given course or programme, the functional and/or intentional character of VET on the learning level and the steering of learning and instruction in the context of purposeful learning environments directed towards the acquisition of skills and knowledge needed in a job or occupation. This means that we have to distinguish *the meaning of VET* in many ways:

(a) VET standing for a specific concept or philosophy, a concrete programme or course as opposed to a qualification or a set of qualifications respectively

(b) VET structured along levels, entrance requirements, length of courses and qualifications obtained

(c) VET linked up with other subsystems of the education system, such as school education, higher education and continuing education or lifelong learning respectively

(d) VET looked at in its positioning within the social and economic system of a given country which includes its overall status, its individual appeal, its social and above all its economic acceptance (acceptance in the labour market) which it receives in relation to alternative pathways of learning

(e) VET seen as delivery of skills and knowledge in specific institutions, such as schools, colleges, companies, training providers or higher education institutions.

(f) VET seen as solely work-based, solely school-based (college-based) or based on cooperative/alternating/dual learning arrangements

(g) VET defined as a specific job- or occupation-related programme or purpose respectively or as a more or less general (generic) preparation for the world of work

(h) VET as an instrument of social and economic policy

Another most relevant perspective is looking at the *pathways and working mechanisms* which determine the *transition from school via VET to the employment sector*. A basic description, which one again has to be specified along the lines of various national context dealing with the "borders" between the subsystems involved in different ways, may be the model of "thresholds" which helps to understand the complex relationships between the sphere where competencies (skills and knowledge) are created (e.g. a school or an apprenticeship) and the sphere of application of these competences (e.g. a workplace or an occupation). This model makes a distinction between "threshold one" and "threshold two" which each stand for specific problems of transition and integration respectively (MERTENS/PARMENTIER 1988; JUNGMANN 2004; ZABECK 1979). While "threshold one" indicates the transition process from pre-vocational school education (e.g. a *Realschule* in Germany or a comprehensive school in the UK) to VET (e.g. an apprenticeship in the German Dual System or a course in a TAFE college in Australia), "threshold two" marks the borderline between VET and employment. The problem for any international comparison arises clearly when the assumption dominates that this model applies to every country in the world. The current "landscape" of traditional and innovative VET pathways alone feeds doubts that we no longer can trust in such a general analytical framework applicable to various national and cultural contexts. The difficulty becomes especially apparent if one tries to understand the complex mechanisms linking up the education system with employment. The first reservation which has to be made refers to the different functioning of labour markets: While Germany, e.g., is still very strongly characterised by "occupation-

structured" labour markets (> 2.3; 3.1.1), which in substantial areas (machinery, crafts, commercial services) are interlinked with training occupations in the apprenticeship system (DEIßINGER 1998), the UK or Australia have more "open" unstructured labour markets, which also applies to the US with its strong tradition of both "internal" and "unstructured" labour markets (DOERINGER/PIORE 1971; SENGENBERGER 1987). This means that transition into employment or career pathways are more or less independent from formal qualifications and therefore rather result from membership to a company or the specific demands of a given workplace.

A third perspective is the depiction of the relationship of optional routes within VET including different links with other subsystems, especially pre-vocational (general) education. Here initial vocational training, e.g. through an apprenticeship is only one specific realisation of VET although this depends on the given national context (see above). If one looks at comparative methodology (> 3.3.1), e.g. Greinert's distinction of three basic models of VET (market, school-based, dual) it becomes clear that here the focus in on institutional responsibilities, cooperative structures and the role of the state in shaping a VET system (GREINERT 1988). This modelling of the "character" of VET systems also looks at initial training in the first place and ignores the complex relationships between different subsystems of VET within a specific national context. Although VET in the UK or England respectively may be closely associated with the "market model", this by no means implies that VET is only carried out in companies and that it follows a more or less strong determination by purely economic considerations about the benefits of training measures. Two reservations have to be made: Firstly, the UK's competence-based approach to VET has led to more state involvement than ever before in the history of VET in this country through a "very tightly regulated assessment and accreditation system that communicates (…) what is expected of the VET system (HAYWARD 2005, 78). Secondly, participation in school-based forms of learning in VET has increased in recent years, partly due to dissatisfaction with both the quality of in-company training and the marginal role, the volatile quality and the lack of career relevance of apprenticeships in many branches of industry (RYAN 2001; RYAN/GOSPEL/LEWIS 2006).

For the German debate, the relationship between school-based VET and training in the Dual System continues to linger on as a "critical topic". Traditionally, 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 (> 3.3.8.2) is strongly associated with a more or less unambiguous pedagogical ethos and therefore not purely with socialisation and utilitarian principles training in an enterprise normally occurs within an economic environment where normally a strong bias on non-educational purposes prevails (GREINERT 1994). This difference in character finds its expression in the fact that in the Dual System the part-time vocational schools use syllabuses which accomodate for the core of the occupational curriculum as well as for additional general education. While, historically speaking, VET implicates the notion of post-compulsory education for the ordinary school leaver it is now more and more linked up with options to qualify for entry into higher education. Nevertheless, the German full-time VET system is a good example for the multifunctional character VET can take. This means that vocational schools basically serve *three functions* which may be linked up depending on the course and the institution offering it (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, e.g., the university entrance qualification)

- *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

It is due to this ambiguities that the there is 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". Research carried out by the Federal Institute of Vocational Training (BiBB) has laid open that VET in schools is often very heterogeneous due to federal state specific programmes, entry requirements and qualifications and that it lacks acceptance with companies (FELLER 2000). Even "practice firms" as specific realistic instructional settings fail to fundamentally solve this problem. Employers believe that only apprenticeships, where they have the say, produce competencies and attitudes needed for real working tasks. While big industrial companies mostly refuse the so-called "assistant qualification" obtainable in a vocational college (*Berufskolleg*) smaller and especially craft firms seem more prepared to accept school-based qualifications, above all when it comes to hiring a young person for a commercial function. On the other hand, a clear majority of firms see, even if they concede that practice firms could be reasonable alternatives to classroom teaching, the "socialisation function" of an apprenticeship (> 3.6.6)

as more relevant and valuable for skill formation and job preparation. Also, from a political point of view, one of the "disappointing" results of a recent study (DEIßINGER/RUF 2006) certainly is that students themselves more or less "ignore" the fact that they can go for portable qualifications when attending courses at a vocational college: The strongest motivation for them clearly is (i) to improve chances on the training market when applying for an apprenticeship after the course and (ii) to reach out for a polytechnic entrance qualification (*Fachhochschulreife*) (DEIßINGER/RUF 2006, 122 ff.). These results once again underline the significant impact of interrelations between subsystems within national education systems even for the mental representation of structures, pathways as well as training and career opportunities among school leavers (DEIßINGER 2006a; DEIßINGER/SMITH/PICKERSGILL 2006).

Globalisation and European developments as major drives for current VET systems research

On one our issues has been the historical character of VET. There is justified doubt that this limits processes of modernisation and re-adaptation of national systems facing similar challenges as well as the change of "mentalities" or "system references". As a matter of fact, however, VET has entered the public agenda as a central issue of international educational policy which is also reflected in the growth of "intercontinental" research interest (e.g. MISKO 2006; KEATING et al. 2002). Despite the fact that education and training differ from country to country in terms of their structural and didactical features VET reform for various reasons has become an international challenge, a fact that is underlined by the European Union`s confession to Lifelong Learning as a global strategy for all European countries and the proclamation of 1996 as "The European Year of Lifelong Learning" (HAKE 1999). In its White Paper on "Growth, Competitiveness and Employment" published in 1993 (EUROPEAN COMMISSION 1993) the European Commission pointed out that Lifelong Learning should become "the overall objective to which the national educational communities can make their own contributions". Two years later, in the well-known White Paper on "Teaching and Training – Towards the Learning Society" (EUROPEAN COMMISSION 1995) the concept of Lifelong Learning became associated with the idea of a "personal skills card" for every European citizen which is to document new knowledge and skills acquired both in formal and non-formal learning environments. At the same time, the borders drawn between the various sectors of the educational and/or VET system, including higher and further education, are now seen as more and more permeable while the perception of a mismatch of learning outcomes with work requirements is supposed to lead to a fundamental rethinking of traditional courses as well as curriculum patterns. Although there is a clear "voice" in VET from the side of the European Union, stressing the importance of VET for the economic and social cohesion of Europe, for social and economic progress and for the competitive standing of the EU countries within the world community. In this respect, the European Council, in the year 2000, put forward the message that Europe should become the most competitive and dynamic knowledge-based economy in the world (EUROPÄISCHER RAT 2000). It becomes manifest from this "Lisbon Declaration" and similar statements (Copenhagen Declaration 2002; Maastricht Communiqué 2004; Helsinki Communiqué 2006) that VET is primarily seen as an instrument of social and economic policy although the institutional responsibilities at the European level suggest a distinctive educational focus. Notwithstanding these reservations, European research on descriptive features, structural information or statistical indicators of VET systems has for many years mainly been carried out in two strands: Firstly, by European or worldwide operating agencies (> 1.7; 2.5), such as CEDEFOP, EUROSTAT, OECD or UNESCO (e.g. CEDEFOP 1981; KOMMISSION DER EUROPÄISCHEN GEMEINSCHAFTEN/EUROSTAT/CEDEFOP 1997; OECD 2003), and, secondly, by dishing out research projects to external researchers, such as universities. The LEONARDO DA VINCI programme certainly has to be mentioned in this context as its projects focus on VET in its various dimensions, such as apprenticeships or the relationship between formal and informal learning in VET. A great variety of projects have been carried out within the framework of the LEONARDO programme so far. It is supposed to promote mobility across borders and innovation in the field of VET (EUROPÄISCHE KOMMISSION 2005).

While in the area of school education the OECD's PISA studies (OECD 2000) have more or less influenced educational discourses, in VET "competence" (though in different meanings) and the associated topic of "standards" has emerged as the overarching topic of both policy and research worldwide (BILLETT et al. 1999; HELLWIG 2006a; 2006b; PILZ 2006; WEIGEL/MULDER/COLLINS 2007). Both topics are linked to each other by a common "philosophy": This is the belief that the efficiency and quality of an educational system, institution or programme has to be measured against its "outcomes". In the case of the PISA studies student assessment was carried out by looking at specific intellectual performance indicators in general subjects such as Mathematics or Science. Against this background, it appears that educational systems are looked at from a different perspective in that they become growingly associated with their overall performance in terms of demonstrated competencies and learning results submitted to external assessment (ERTL 2006). In Germany, this has led to a debate on the

quality of the "three-tier school system" and the quality of learning and teaching in German schools in general. One of the discharges of this debate has been the introduction of *Bildungsstandards* (educational standards) as they were decreed by the German Education Ministers Conference in 2004 (KULTUSMINISTERKONFERENZ 2005; KLIEME et al. 2003). These educational standards allude to intended individual learning achievements or competencies which every student should obtain. Ertl holds that "with the introduction of national standards, the concept of competence has become a dominant issue in the educational discourse" (ERTL 2006, 628). However, there are more sources for this re-orientation in educational and didactical thinking which traditionally has focussed on learning contents rather than learning objectives. One of the roots certainly may be seen in the way the Anglosaxon approach to (vocational) learning (e.g. MISKO 1999) – though highly contested (e.g. CANNING 1998) was welcomed in other countries trying to reform their VET systems. In this context, competency is thought of as a radical dismissal of traditional learning along "inputs" and therefore differs from the German understanding of "occupational competence" (HELLWIG 2006a). Its most recent relevance may be seen in the debate on the "European Qualifications Framework" (EQF) and the corresponding "National Qualification Frameworks" (NQF) respectively (DEIßINGER 2006b; YOUNG 2003). The EQF debate has to be seen in the wake of the "Lisbon Declaration" stressing, among others, the need for more transparency and comparability of (vocational) qualifications across the community. It is a cornerstone in what may be seen as an ongoing chain of political and research activities meant to open up wide access to and to improve performance, quality and attractiveness of VET all over Europe. At the same time, VET, despite its specific social and economic significance, is increasingly looked upon in a similar way as higher education, which means that the so-called "Bologna Process" and the "Lisbon-Copenhagen Process" have to be seen as two sides of one medal as they follow similar principles of harmonisation (within the legal framework of the EU treaty) and as they clearly aim at transparency as well as ease of transition and progression within a permeable and unified education system (WINTERTON 2005; RAFFE/HOWIESON/TINKLIN 2005). This includes the notion of a "European Credit Transfer System" for VET (ECVET).

In 2006, as a logical consequence of the "PISA shock" and inspired and pressurised by the growing impact of the dynamics of European VET policy, the first German VET PISA feasability study (PISA-VET) came out which not only tries to fill the research gap concerning the competence issue and the empirical research deficits in the debate, but also tries to pay tribute to the international and European debate in the context of PISA and EQF (BAETHGE et al. 2006). The study is a good example of the growing relevance of "micro-level" research in VET, focussing the didactical and curricular dimension of VET (> 3.4.1; 3.7.6; 3.7.7) and the problem of measurability of competences (> 3.4.2; 3.6.1; 5.2.6). In this study, the specific problems and implications associated with the competence debate are being outlined and it becomes obvious that many unsolved problems still lie ahead which derive from the particular character of VET and its links with labour markets. The most important aspect here, however - and now we turn back the page to what has been said above – is how the different cultural imprints in VET systems worldwide allow those responsible for reforming and developing the goals, instruments, pathways and the pedagogical foundations of VET to pursue a supranational strategy which has implications for the "system reference" of the VET system including what may be called "didactical culture" (FROMMBERGER 2006). Although a number of political measures have already been launched more research is needed focussing two major issues: (1) Are the reform steps that have to be undertaken in the wake of CBT and EQF really beneficial to improve the quality and status of VET? (2) What are the "side effects" of VET strategies that more or less ignore its cultural foundations in a given country? These questions are formulated with respect to Europe in particular where "different perspectives and starting points" reflect the respective structural and cultural dimensions of each individual VET system (GENDRON 2005, 7).

The following chapters will focus VET systems in different ways: First of all, the above-mentioned, though rather implicitly discussed, aspects of comparison and comparability will be taken up in the first two sub-chapters, followed by historical reflections on VET research in different countries and the various national and international reporting systems on VET. It becomes obvious that all these sub-systems are strongly interlinked with the VET system itself, also the way research on evaluation issues is carried out in a country like Germany with its special VET tradition. Sub-chapters on research issues and results in the areas of pre-vocational education and further education as well as college-based VET will conclude this international chapter in the handbook.

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