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Educational Reform in Vocational Education and Training in Germany, England and Austria: Implications for Developing Innovative Teaching and Learning Practices

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Abstract

This paper presents the findings from the first stage of a doctoral research project that investigates innovative pedagogic practice in full-time vocational education and training (VET) in the 16-19 age bracket. Involving Germany, England and Austria, it builds on prior comparative research, some of it within SKOPE, that calls for a stronger focus on practitioners' perspectives. The project aims to discover teachers' understandings and motivations for innovative practice, with a view towards improving educational policy making. This paper outlines how initial expert interviews facilitated the development of research foci as well as appropriate analytical designs, and presents the results of these interviews. In particular, it argues that a comparative, qualitative, practitioner-focused approach can capture the complexity encountered in three diverse VET systems.

The analysis of expert interviews suggested four categories for comparison in the main research phase. These relate to VET system characteristics, innovation strategies and mentality, the role of research in teacher training and practice and societal attitudes and participation in VET. The findings suggest that VET is not only much more complex than traditional academic school sectors, but also less clearly delineated. In terms of innovation cultures, experts find a significant disparity between the proclaimed importance of innovative practice and its lack of emphasis in teacher training. While experts expect that recent changes in all three countries may stimulate pedagogical innovation, it is not entirely clear how incentives from such diverse developments as increased school autonomy on the one hand, and a surge in quality management initiatives on the other, affect teachers' self perceptions and professional conduct.

1 Introduction

Throughout the last decade education policy has attracted increasing attention from governments and the media as a strategic national issue (see, for example, EACEA 2010). Nonetheless, a recent Centre for British Teachers Education Trust report finds that in the UK '[t]he widest gap between evidence and action seems to occur in the post-16 sector, where policies on skills, funding and structures run counter to what evidence and research tells [sic] us, and curriculum choices change from year to year' (Perry *et al.* 2010:39). This calls into question the connection between successive governments' good intentions, and the effect their policies have on educational practice. There is a need to explore whether attempts at reform, ranging from gradual, step-by-step initiatives to across-the-board system changes, produce actual changes for individual learners. In particular, it is important to discover whether teachers feel their students are being equipped with the '21st century skills' (DfES 2003) needed for entering job markets. Vocational education and training (VET) serves as an entry point to employment. In this context, research must ask what attitudes towards concepts such as 'lifelong learning' are instilled in students. At the other end of the skills spectrum, VET is increasingly seen as a route into higher education (HE), which raises the question how its pedagogy lives up to that aim, and how it copes with potentially conflicting expectations.

This research paper outlines the design and some preliminary findings of a research project aimed at investigating innovative change processes from the point of view of VET practitioners. It is based on assumptions that identify teachers as central actors in the operationalisation of change. In particular, their self-perceptions as innovators, and in shaping policy implementation, are deemed to be crucial for reforms. Thus, emergent concepts and examples of innovative practice enable an analysis of factors that foster and hinder classroom innovation. These findings can be expected to aid the formulation of future VET policy changes. Based on prior comparative work involving Germany and England, this project widens the scope by adding Austria, aiming at a substantially larger data base from interviews, and incorporating some of the most recent policy developments in all three countries.

2 Concepts and Framework

The literature on innovative change as a strategic issue, both within and outside of the education sector, is substantial. Innovation is described, to pick just a few examples, in terms of changes to systems, qualifications, quality management, change management, introduction of new technologies, new pathways, new ways of financing, new government-supported schemes for the gifted, and students at risk. However, crucial questions remain about the receiving end of such initiatives, particularly in the VET sector. At the classroom level, for example, teachers' understandings of what constitutes 'innovative teaching' (or learning) are overlooked in favour of systemic approaches to change processes. This section outlines how the choice of particular frameworks helps the current research project address this gap.

There are at least two interlinked levels of analysis in research on the development and impact of innovation in school/college-based VET. On the one hand, research focuses on the institutional frameworks within which innovation takes place. This includes questions about factors that facilitate or hinder innovation, and about structures of knowledge flows required for effective innovation. This emphasis aims at reshaping institutional mechanisms and rules by innovation processes. On the other hand, there is a focus on individual roles in innovation processes. It looks at the ways in which individuals interact with such processes, what part they play in them, and which skills and competences they need to interact in certain ways. This latter aspect includes what is referred to as 'innovation competence' in some of the relevant literature (see for instance Schönknecht 1997). Both foci recognise the context dependency of innovation, but the criteria to reliably identify change, and the aspects that qualify it as an innovation, remain unidentified.

As an attempt to address this gap, the current study builds on two smaller projects that shed light on some initial answers. They were conducted by researchers at the universities of Oxford and Paderborn on the implementation of innovation in VET, mainly with respect to German and English contexts (Ertl and Kremer 2003, 2005a, 2005b, 2006, 2009, Ertl and Sloane 2004). This research suggests a number of core assumptions that guide the current project, particularly with respect to the nature of innovation and its implementation dynamics in educational-institutional contexts. This section will outline how each of them connects to the literature, and how all three

highlight a need for a practitioner-focused research approach. The assumptions derived from previous studies are about:

- connections between different organisational levels that influence the manifestation of change in pedagogic practice;
- the nature of 'innovation' as a multi-dimensional phenomenon;
- the subjectivity of linking pedagogic theory to practice, and hence the determining role of practitioners.

This does not include any *a priori* conceptions of necessary or even beneficial links between innovation in policy contexts, and innovative classroom practices. Instead, these assumptions merely postulate certain dynamics of change processes, highlighting the complexity of concepts of 'innovation', and pointing out the central role played by practitioners' understandings.

The first assumption derived from the literature relates to a three level model of education systems, namely pedagogic (teachers), organisational (school administrators) and political (policy makers). Due to the power of institutions, decisions at all three levels may influence pedagogical designs at the level of practice (Ertl and Kremer 2009). This impact may be indirect or diffused, and intended changes may themselves become modified in the implementation process. Raffe (2008) suggests the term 'transition system' for the entire machinery that produces education-to-work progressions for young people[1], noting that 'the institutional and structural factors which shape transitions are broader than education and training' (2008:277). He proposes the inclusion of labour markets, social welfare systems, societal traditions and other factors. The three-level model employed in this study is intended to mirror some of these aspects, but does not lay claim to a complete representation of the transition system as experienced by learners. Instead, the focus is on innovation in teaching practice in order to understand it in the immediate work context of VET practitioners.

The second assumption relates to Barber and Fullan's (2005) postulate that educational reforms affect the level of teaching and learning practices in a multi-directional process. This process has diverse stakeholders such as school management, teachers and even students. Therefore 'innovation' is not simply a product of intentions at the policy level, but is emerges as a product of several

[1] Not to be confused with the German term '*Übergangssystem*', for which I suggest the preferred translation 'transition sector'. See also footnote 7.

imperfectly coordinated vectors of influence. Lubienski (2009) and Eyal (2009) support this interpretation of pedagogic innovation as process innovation (see also Meissner 1989).

Eyal's (2009) work enables a combination of this view of educational reform with a systems research perspective that lends itself well to this three-level analytical framework. He notes 'the resistance of educational systems to both bottom-up and top-down innovations' (2009:487), both in 'institutionalised educational systems' (e.g. VET in Austria) and 'free-market educational systems' (e.g. approximated by VET in England). He explains the 'resilience' of systems as a property emerging from their 'degeneracy', referring to 'the ability of elements that are structurally different to perform the same function or yield the same output' (Eyal 2009:488). *In extremis*, educational regulations and institutional rules may mean that innovative learning and teaching, frequently one of the main aims of regulatory change, cannot develop. This phenomenon is connected to both of this study's other assumptions, on the complex nature of innovation and the defining role of practitioners (cf. Holmes, in Schriewer and Holmes (1992:127) '[t]he power of teachers to resist curriculum changes proposed by politicians or other members of the educational establishment').

To provide another perspective to this interpretation of pedagogic innovation, the literature on complex teaching and learning arrangements (e.g. Mulder and Sloane 2004) can provide further insights. The concept was defined by the COST (European Co-operation in the field of Scientific and Technical Research) network in the 1990s, and has since been extended along several dimensions. Simons and Bolhuis (2004:12), for example, derive 'types of new learning processes and strategies' from constructivism, and in doing so provide a conceptual bridge from learning theories to innovative practice. Since the implementation of such changes relies on multiple stakeholders, their respective perceptions must be acknowledged as determining input factors in the creation of new arrangements. Thus subjective views and assumptions concerning practitioners' own actions are a relevant subject of investigation.

The third assumption contends that actors adapt regulatory changes, for example new curricular concepts, within the contexts of their particular teaching venues. As Holmes puts it: 'Any institution we set up is run by people. Their patterns of behaviour determine how it operates. Theoretical institutional models are modified in practice by the way people behave' (Schriewer and Holmes 1992: 127). This means that implementation processes determine perceptions of political reforms because the

latter's interpretation and acceptance in vocational schools and colleges varies to a substantial degree. In Lipsky's terms, teachers are 'street-level bureaucrats'[2] whose 'decisions…, the routines they establish, and the devices they invent to cope with uncertainties and work pressures, effectively *become* the public policies they carry out' (Lipsky 1980:xii). Practitioners' own views are therefore a rich source of information on organisational factors that encourage or prevent pedagogic innovation. In addition, one may ask to what extent VET practitioners are equipped to recognise, implement or initiate innovative classroom practice. Consequently, an understanding of 'innovation competence' and teacher professionalism is a by-product of this study's focus on teachers' experiences.

In summation, innovative processes initiated at political and organisational levels are assumed to be altered before they reach the level of teaching and learning. Thus there is no guarantee that even the most well-intentioned or best-planned reforms will improve learning processes. Instead, their impact depends on the implementation processes applied, which in turn are shaped by perceptions of the 'real innovators': teachers in VET classrooms. This adaptation to external influences within particular contexts results in complex teaching and learning arrangements. Therefore the underlying assumptions of the current study point towards the high relevance of meaning-making amongst teaching practitioners. The research aims outlined in the next section derive from the need to recognise this role.

3 Research Aims and Questions

Before delving into a discussion of specific research foci, this section outlines the project's general aims and how they are addressed by its comparative, qualitative, practitioner-focused approach. Considering prior research and the context given by the frameworks outlined in the previous section, it was determined that the research design should be able to meet several criteria:

- focus on practitioners (teachers and lecturers);
- make use of practitioners' interpretations and explanations;
- relate to daily practice;

[2] Whereas Lipsky applies the term to teachers in state schools, the concept extends to teachers in any setting that makes them act as the public face (e.g. towards students) of an organisational structure (institutions, but also policies, curricula, etc.)

- be sufficiently broad to allow findings to apply to VET in general, not just a particular sub-sector;
- allow for the emergence of meaning rather than employing pre-made categories;
- represent an understanding and continuation of the frameworks and parameters employed in previous research, while allowing for their critical evaluation in the light of new data;
- fill gaps in existing research, but integrate well with its thematic coverage;
- take into account practical considerations of resources, time and scope, especially with a view to tackling a research area of potentially nearly unlimited scope.

In order to facilitate design decisions that would fulfil these aims, the central research question was formulated as: '*To what extent do policy changes in VET make a difference at the level of teaching and learning practices?*' Subsequently, guiding principles were established from practical considerations, a close reading of prior research and an effort to more specifically delineate the scope of relevant data sources and analytical strategies. They fall into three areas, outlined below, namely the choice of conducting a three-country comparative study, the decision to use a qualitative-interview based approach and the study's focus on teaching practitioners.

3.1 *Comparative Approach and Country Choice*

Since the central research question is not specific to any country, a comparative approach involving three different VET systems was deemed appropriate to allow abstractions from individual observations, to more general ideas about classroom innovation. This reflects a focus on commonalities in research data, rather than systemic differences.

Germany and England were chosen for this research because they were the basis for previous research, but also for their suitability as comparators. England is notable for the fast pace, broad scope and frequency of reform efforts, including the establishment of new qualifications (e.g. diplomas), the creation and abolition of organisations (e.g. YPLA) and its vibrant and diverse educational culture at further education (FE) colleges. Germany has faced challenges in conjunction with its particular dual-system approach to VET (e.g. crisis of industry places), resulting in the widening of non-dual VET (e.g. *Berufsfachschulen*) and other changes. It is characterised by a long-standing tradition of incremental adaptations within a

public/private partnership framework (*Sozialpartner*), which stands in marked difference to England. Austria was added for triangulation. It has similarities to Germany, for example in its dual system, but adds to the comparative scope a firmly established and socially highly recognised college-based VET sector that is centralised (*Berufsbildende Höhere Schulen*), and currently faces the consequences of greater school autonomy, new modes of assessment (e.g. *Zentralmatura*) and changing relationships to higher education.

There are practical considerations in favour of Germany and Austria, such as the researcher's ability to conduct interviews and data analysis in German, as well as accessibility issues through extensive academic contacts at German and Austrian universities. However, there are also theoretical reasons: English educational researchers and policy makers have a history of looking to Germany in debates about the perceived shortcomings of their own systems. The recent Wolf report, for example, acknowledges that 'English policy-makers have been preoccupied with German education and apprenticeship for well over 100 years' (Wolf 2011:40). The German VET system, and its dual system in particular, are perceived to constitute a stable, high-quality engine contributing to Germany's economic and industrial prowess. However, German and Austrian researchers and policy makers voice concerns about their systems being too stagnant and anti-competitive, especially in the face of an increasingly English-speaking global economy and dynamic European markets for labour and education. For these reasons, the choice of observing these markedly different VET systems is expected to contribute to this project's comparative potential.

3.2 *Qualitative, Interview-Based Approach*

Given the broad nature of the research question, time and other constraints rule out a quantitative approach that is both comprehensive in topical coverage and statistically representative for VET as a whole. The obstacles inherent in random sampling of dozens of colleges and hundreds of teachers, in order to adequately reflect the breadth of qualifications offered, combined with the difficulties of quantitatively capturing constructs such as practitioners' views on innovation, led to an early decision to pursue a purely qualitative route instead. This allows for richer data sets, enabling insights into system dynamics and actors' self-perceptions, rather than numerical descriptions. It aspires to do this by employing interview partners as human

extensions of the research instrument (Lincoln and Guba 1985, Tesch 1990:44), enabling joint efforts of meaning-making based on rich, rather than precise, data.

On the downside, this strategy does not allow for statistical generalisability, and it is less straightforward to establish the validity and reliability of findings. To address this, Stake (1995:8) paraphrases Erickson (1986), defining 'qualitative work as field study where the key interpretations to be pursued were not the researcher's interpretations but those of the people being studied'. This chimes with Kvale (1988) speaking of 'co-authoring' data rather than 'collecting'. Choosing semi-structured interviews as the principal data collection method promised to match this intention. In addition, most teacher interviews were preceded by classroom observation sessions in order to provide contextual information.

The data was gathered for a number of cases representing individual teachers, in certain settings, at particular institutions. However, as Campbell (1975) and Flyvbjerg (2006) contend, under certain conditions it is possible to make valid generalised claims on this basis. The current project aims at such generalisations, rather than presenting a case study without ambitions to form abstracted understandings. Campbell (1975:1991) argues: 'After all, man is, in his ordinary way, a very competent knower, and qualitative common-sense knowing is not replaced by quantitative knowing.' Flyvbjerg (2006) builds on this reasoning and introduces the 'critical case' as one that is chosen to be valid for a large range of phenomena, based on an understanding of the context. The important factors are the questions asked and the cases chosen. To enable such choices, an initial round of expert interviews in all three countries was designed to provide background information on VET system specifics, as well as general starting points for questions of pedagogic innovation. This paper reports on the findings of that initial research stage.

3.3 *Practitioner Focus*

In order to address the purpose of informing educational practice, an investigation of relevant actors' perceptions of change processes must be central to this project. This links to questions of ownership of, and responsibility for, educational reform efforts and their connections to pedagogic innovation. The latter could be defined more clearly in terms of improvements in learning and teaching designs, not only from an objective theoretical perspective, but also from the subjective point of view of stakeholders.

Ertl and Kremer (2005a) recommend that further research should focus on teachers' views within their specific work environments. They suggest that particular types of work or sets of aims require personal qualities that might be fostered in order to support the implementation of innovations. This aim requires the identification and documentation of successful and failed instances of pedagogic innovation. For this, the emphasis must be on practitioners and their meaning-making, whilst recognising that contexts, institutional arrangements and overarching reform initiatives are highly relevant. As Holmes puts it, 'it is necessary to recognise the difference between publicly stated normative positions and the expression, often in behaviour rather than words, of deeply held beliefs' (Schriewer and Holmes 1992:138). Thus interviews and classroom observation provide accounts of practice from which to distil a broader picture.

The interviewees for this study can be pictured within institutional and role dimensions. As discussed in this paper, experts have suggested particular foci within the institutional dimension, most importantly a restriction to full-time VET education in the 16-19 sector, even if it cannot always be clearly delineated. The spread of research participants attempts to cover a broad range along both the institutional and role dimensions. However, the number and variety of VET institutions even within each sub-sector is substantial. Heeding the advice that 'qualitative samples tend to be *purposive*, rather than random' (Miles and Huberman 1994:27), opportunities for contacts with colleges and teachers arose from expert recommendations, based on links with researchers at the universities of Oxford, Innsbruck and Paderborn.

3.4 *Contributions to Research*

As the current culmination of previous smaller scale research efforts under the aegis of SKOPE, this study extends their trajectory by employing similar methodologies and geographic and thematic foci. It connects several strands from theoretical perspectives on innovation, systems research and change management, but explicitly does so from a bottom-up perspective. It endeavours to approach its field of enquiry at the Street Level as defined by Lipsky (1980). Consequently, it asks straightforward, but 'big' questions, both as research questions and in interviews with research subjects. It aims to provide concrete examples and it culminates in an analytic account of how innovation happens in VET. This inductive theory-building is based on a structured, empirical understanding of the subjective reality of VET practitioners.

One may surmise that this research unearths the usual tropes: teachers are limited by a lack of time and budgets and students are suspected of getting progressively worse. Indeed, those are recurring themes throughout this study; however, its qualitative approach enables it to go beyond that, and discover new interpretations derived from possibly unusual research participants: far from being statistically representative, the teachers involved in this study must be assumed to be biased. They were often the most engaged individuals at their respective institutions, which in turn had been approached for this study because they have acquired a reputation for being particularly innovative. They frequently represent best-case scenarios, which lends a particular significance to their reports of factors that motivate them and obstacles that hinder them in their teaching efforts.

This should lead to convincing recommendations for improving the transfer of curricular and organisational change to innovative classroom practice. Alternatively, if research discovers no scope for such a link, and good or bad teaching happens independently of top-down expectations, it would mean that talk of innovation on the level of policy-making remains without discernible effect on teaching practice. This would constitute an important finding in its own right. That is, if there are only weak links between reform efforts and pedagogic innovation, and students and teachers essentially do what they have always done despite changes in policies and curricula (new pathways, different subject matter), then this study cannot aim at definite conclusions, but may serve to direct further research rather than proffer immediate verdicts.

3.5 *Research Foci*

This section presents a catalogue of research questions designed to meet the requirements outlined above. That is, they enable a qualitative, comparative and practitioner focused approach to understanding pedagogic innovation. Clustered around three focal points, they represent initial theoretical considerations, informed by results from the first-stage interview process with educational experts and developed further during the data analysis stage employing approaches from grounded theory. The foci span the arch from individual perceptions, including relevant definitions, via experiences of innovation, to interpretations and abstractions. Starting with an understanding of what teaching practice means to teachers, the sequence of questions represents an attempt to build a narrative of innovation from the ground up.

- Perceptions and Concepts

    1. What are practitioners' conceptions of teaching practice, and how do they relate to pedagogy?

    2. What are practitioners' conceptions of innovation?

    3. Who are the relevant actors in the operationalisation of innovative change?

    4. What role do practitioners' self-perceptions and notions of professionalism play in the implementation of innovative change?

    5. How do practitioners perceive changes in students and societal expectations in relation to innovation processes?

- Documentation of Practice

    1. What are concrete examples of innovative pedagogy and how were they generated and implemented?

    2. How do regulatory change, policy reforms, new qualification frameworks and modifications in assessment regimes affect the design and/or implementation of innovative pedagogies?

    3. How does the work situation of practitioners, including their initial and continued training, affect their role as generators and/or implementers of pedagogic innovation?

- Analytical Perspectives

    1. How are regulatory (top-down) changes received and interpreted (bottom-up) in VET contexts and what are the roles of different actors in this process?

    2. Which factors support or hinder the development of innovative teaching designs?

    3. How do educational reforms need to be formulated in order to result in more innovative teaching practices?

The qualitative interview-based approach proved a good fit for this agenda. This paper concentrates on the initial round of expert interviews, and cannot go into details of the on-going process of data analysis resulting from teacher interviews. However, at the current stage it is sufficiently clear that the design of this question catalogue as a result of guidance received from evaluating the talks with experts has contributed significantly to the success of later research stages.

4 Current Status: Lessons Learned from Expert Interviews

The initial round of one-hour long semi-structured expert interviews in England, Austria and Germany was arranged in order to understand specifics about each country's VET system, and to enable more accurate decisions for the main research phase. Their analysis helped evaluate findings from prior research and provided a first opportunity to fine-tune the comparative analytic approach. In addition, the expert interviews determined the focus for further investigation, and aided the creation of draft interview schedules for teachers, school administrators and further experts and policy makers.

The expert interviews were based on a preliminary interview schedule drawn up for the study's main interview phase. However, their design emphasised interactivity and spontaneity in order to achieve maximum topical coverage, and to increase the chances for serendipitous discovery of topics or points of view that may not at first have been considered. This refinement took place repeatedly and in different forms

- adding or clarifying questions during interview preparation;
- adding themes or modifying questions during interviews in response to specific interview situations;
- re-formulating questions or topics after interviews, based on notes taken during the interview, or based on preliminary impressions from the entirety of previous interviews.

The Austrian interviewees for this phase of research were an expert at the Austrian Federal Ministry for Education, Arts and Culture (*Bundesministerium für Unterricht, Kunst und Kultur* (bm:ukk)) working on coordinating innovation initiatives in the VET sector, and an expert from ARQA-VET, the Austrian Reference Point for Quality Assurance in Vocational Education and Training. In England, they were a senior expert from the newly formed YPLA (Young People's Learning Agency, responsible for funding and coordinating all 16-19 learning), the former head of an FE college who now works for the LSIS (Learning and Skills Improvement Service), an experienced researcher and government advisor in the field of assessment and development who had previously been at a senior role at the QCA (Qualifications

and Curriculum Authority[3]) and a former executive of QCDA who is now heading a major body at the interface of secondary and higher education. In Germany, interviewees included VET experts at two university institutes focused on researching VET; one in Bremen, for industrial training contexts, and one in Paderborn that specialises on VET in white-collar vocations. In addition, an instructor and administrator of teacher training for VET colleges (*Berufskolleg*) in North-Rhine Westphalia provided a link to practitioners' experiences. This stage did not yet include teachers, since it focused on the institutional landscape, history, systemic considerations and innovation cultures. However, several interviewed experts have detailed personal knowledge and significant experience working in VET.

The three countries in this study show markedly different approaches to the provision of education for the age group over 14. Table 1 is not an exhaustive description, education systems are in each case more complex, but it illuminates important distinctions that have effects throughout each system. In particular, it underlines differences in the role of the state.

Each country has different age ranges for initial VET: in Austria, compulsory schooling starts at six, and lasts nine years, and its final year typically ends at age 15. VET colleges start in the last year of compulsory full time schooling, i.e. at 14, and take up to five years, meaning that Austrian VET encompasses roughly the 14-19 age bracket. The UK 'entitlements' agenda seems similar, but does not match the 16-19 age range of the National Commissioning Framework. The latter starts at the end of compulsory schooling (i.e. GCSEs) at the end of year 11, that is, at the age of 16. German initial VET typically starts after the end of compulsory full-time schooling, which differs across *Länder*, but falls within the 15-16 age range, and lasts for at least three years.[4]

Considering this background of different systems, traditions and cultures, the preliminary analysis of interview results suggested several categories for comparison:

- system parameters: e.g. structures, school types, assessment, qualifications;
- innovation strategies, mentality and culture;

[3] Later QCDA: Qualifications and Curriculum Development Agency; legislation to abolish the QCDA in autumn 2010 was announced by the coalition government in May 2010.

[4] The German system is highly dependent on different *Länder* policies, so this depiction should be seen as a rough guide only.

- the use of scientific research into pedagogies in teacher training and pedagogic practice;
- VET participation and societal attitudes towards VET qualifications.

All four thematic areas were relevant for informing the more concrete aims of the subsequent study. They will be explained in more detail in the following sections.

Table 1: Post-14 Education Systems

	Austria	England	Germany
14-19 or 16-19	state runs and funds education institutions anticipation of demand/needs implicit state defines curriculum, qualifications and criteria for assessment (for training part in VET in cooperation with industry and trade organisations) state supports training places in dual system dominance of full-time VET colleges	state runs some education institutions largely non-state providers commissioned from providers by state (local authorities), based on criteria and according to identified needs national curriculum for schools, but multiplicity of other qualifications exist, often offered simultaneously (e.g. A-levels and BTEC) programmes to support specific types of learners and initiatives state support for in-company training places	state runs and funds most education institutions, but responsibility is at *Länder* level with 16 potentially different education systems. curricula are defined by public-private partnerships involving frameworks at the federal level, and detailed curricula at *Länder* level. dual-system training places funded by industry; assessment by industry bodies on voluntary basis dominance of dual system
Over 19	VET in HE sector effectively state-funded but provided by autonomous entities (universities, *Fachhochschulen*) all other VET with little state regulation; providers private or through industry bodies and trade unions state agency largest commissioning body (AMS: unemployment agency) some state support for individual learners and programmes	VET in HE offered by independent bodies (FE colleges, universities), but effectively largely state funded other VET with little state regulation; providers private state supported continuing VET or adult education programmes	VET in HE largely state-funded, but with university and *Fachhochschulen* autonomy all other VET with little state regulation; providers private or through industry bodies and trade unions state support for training and continuing VET initiatives

4.1 *VET System Parameters*

The interrelationship of system characteristics across diverse fields of activity was noted by most interviewees. The role of the state, for example, exerts a determining influence on a number of issues that shape different environments for pedagogic practice. Running the 14-19 VET system from a central ministry, as in Austria, with a limited number of school types and qualifications, contrasts markedly with the English approach of commissioning the provision of education from largely non-state providers. This differs again from German VET whose most prominent aspect, the dual system, lies within a shared responsibility of the federal government (for in-company training) and *Länder* (for classroom-based aspects). The following descriptions highlight the most pertinent findings from expert interviews.

Austrian initial (14-19) VET is split into two streams: the dual system and full-time schooling. The dual system consists of school-based (*Berufsschule*) and company-based components, where responsibility is split between the ministry of education and local governments in cooperation with industry bodies and trade unions (social partners *Sozialpartner*). Dual system education generally takes three years, but offers add-on qualifications for higher education entry. Full-time VET schooling lasts three to five years, where the longer options lead up to *Matura*, which is a series of exams qualifying for university. As in academic schools, teaching in full-time VET schools is based on centrally given curricula, and *Matura* assessment takes place locally by teachers with some elements of centrally organised oversight and quality control. This system is currently being changed, and interviewees drew attention to the transition to *Zentralmatura*, a more strongly centralised assessment regime that is widely expected to change the relation between teachers and students into a more cooperative learning environment. Full-time VET schools fall roughly into three vocational streams: technical (HTL), commercial (HAK) and humanities (HUM). Each of these contains schools with diverse bases of specialisation; e.g. chemistry, agriculture, military aviation technology, glass technologies etc. Some vocations, however, are treated as exceptions, such as nursing training, which takes place from the age of 17 but is considered part of the higher education sector as a ‘university of applied science’ or vocational university (*Fachhochschule*).

England’s initial VET sector is of course much larger in terms of numbers and is much less centralised: the state sector, in the shape of local authorities (LAs), commissions or contracts educational places from a variety of providers offering a

wide choice to learners. This system applies to full-time and part-time schools, but also includes very small programmes geared towards dual-system-type approaches and apprenticeships. FE colleges, forming the core of the VET sector, overlap significantly with the non-VET school system's 6th form, frequently offering several qualifications, including proprietary ones (not state regulated) such as Microsoft Certified Engineer or BTEC, in parallel. In fact, they also teach around 200,000 higher education students[5], have more A-level students than school 6th forms and play a significant role in continuing VET. All interview partners pointed out that the sector and its educational establishments are extremely diverse, and the variety encountered at FE colleges is so great that there are few common characteristics. On the funding side, the situation is similarly complex. One interviewee in England drew attention to an FE college that has over 50 different funding streams. English VET receives significant funds from the state through 16-19 provisioning, which is guided by the National Commissioning Framework in which the YPLA (Young People's Learning Agency) until recently distributed budgets to LAs for commissioning. It is symptomatic of the pace of change in the English system that the YPLA has already been abolished again, to be replaced by the Education Funding Agency (EFA). Most parts of the system are not under direct state control, and there are no binding national curricula, although there have been several initiatives (most recently '14-19 diplomas') to create for VET a set of qualifications that would play a role similar to the 'gold standard' GCE A-Level.[6] This leaves education providers with a high degree of flexibility in terms of courses, qualifications and alternate funding streams. On the downside some experts see this competitive environment as detrimental to the educational responsibilities of colleges. They fear that the complexities of funding contribute to administrative overheads and loss of focus.

German initial VET leans markedly towards the dual system approach of in-company training, supplemented by one to two days per week of classroom education provided at *Berufsschulen* which are either organised as dedicated institutions or form one of several different VET streams at a *Berufskolleg* or similar integrative college.

5 According to an interview partner about one third HEFCE funded, one third franchised by universities, and the remainder funded by employers or NHS (e.g. nursing).

6 It is interesting to note that interviewees were not in agreement on the 'original' or true intentions behind several initiatives; 14-19 diplomas, for example, were recommended in the Tomlinson report as universal qualifications that would obsolete A-levels, amongst others. Now diplomas are seen as 'middle track' applied qualifications, and commentators variously lament their 'academic drift' away from vocational applications, and their lack of academic quality to successfully rival A-levels.

The college component is financed and controlled by the *Länder* based on curricula that are derived from a federally given curriculum template (*Rahmenlehrplan*), but individually modified at *Länder* level. On-the-job training, however, is provided within industry, and regulated at federal level in cooperation with the *Kammern*, industry or trade bodies that are not under direct state control but instituted and protected by law. Although there are generally no subsidies or tax breaks for companies that provide training, the traditional system, which includes the organisation of assessment on a voluntary basis not funded by the state, takes in around 570,000 young people each year (BMBF 2010).

Interviewees gave several reasons for this structure and referred to frequent perceptions of a crisis due to a shortage of training places. However, they generally held a personal view that system functioned reasonably well. In particular, they highlighted the advantages of access to well-trained professionals, and what they identified as German industrial culture, in particular German industrial capitalism in contrast to English finance capitalism. Several experts cited findings that trainees in their second year have been found to provide as much as 40 per cent of a qualified worker's labour output. The dual system takes in learners from the compulsory school system at the age of 15 to 16, as well as students at the age of 18 or 19 who, having achieved general university entrance qualifications, are seeking vocational training (typically in white-collar professions). However, the system is facing problems at both ends: there are growing numbers of young people who do not find labour market placements, and on the other hand, better qualified candidates increasingly opt for Bachelor's degrees. These are provided at universities and *Fachhochschulen* and may in some cases be directly geared towards the labour market, but are not usually considered to be *berufsbezogene Ausbildung*, i.e. VET. To address these developments on the lower end, a growing 'transition sector' (*Übergangssystem*)[7] of full-time VET schools (*Berufsfachschulen*) has been established.

In conclusion, this study's interview partners have indicated that speaking of the 'VET sector' as an entity is highly problematic, despite many parallels. The Austrian Ministry of Education sees *Berufsbildung* as basically initial VET and speaks of 14-19 provision, leaving out vocational training in higher education contexts and

[7] This is not to be confused with Raffe's 'transition system' which describes VET systems as enabling a transition from school to the labour market. The German 'Übergangssystem', by contrast, denotes a system that allows for a transition for students who do not find training places, into situations where they can achieve better acceptance in the dual system.

adult education. Superficially similar, the UK government pursues a '14-19 entitlements' agenda, and delivers part of it within the 16-19 commissioning framework. However, any provision above that age (with exceptions) does not fall within the remit of the DfE[8]. Germany adds to the complexity by having subtly different arrangements in its *Länder*, and generally distinguishes between a highly regulated segment of initial VET that includes many students who have completed compulsory schooling and start VET effectively as adults, and little to no state provision for continuing VET.

4.2 *Innovation Strategies, Mentality and Culture*

Perhaps as a result of their long-standing sector experience, several interviewees speculated about the cultural differences and attitudes towards innovation in different countries. They generally remarked that the issue of pedagogic innovation must not be seen in isolation from its wider context and institutional or organisational traditions.

Austria was characterised as a cautious innovator at best, and the interviewees pointed out that there is no history of across-the-board changes in its education system, with the exception of the then-revolutionary step of forming full-time VET schools in the 1970s. This study's experts explained that Austria's tendency for incremental rather than revolutionary improvements on the systemic level may reflect complacency in its pedagogic traditions: there has hitherto been little directed innovation, resulting in a marked gap between pedagogic literature and practice. This appears to be changing in wake of recent regulatory changes that bring project-based and practice-related assessment in VET to the forefront. However, what one of the interview partners called 'real innovation', for example breaking up subject boundaries or even discussing approaches such as the German *Lernfeldkonzept* (learning areas) has not yet taken place. This study's experts agree that significant change has often been stifled by Austria's tradition of coalition governments and strong *Sozialpartner* involvement. While they contend that innovation will grow at a local level due to developments like assessment change (e.g. *Zentralmatura*), a widening of competency-driven learning (*Bildungsstandards*) and supported bottom-up initiatives such as COOL (cooperative open learning), they fear that the spread of pedagogic innovations may not gain much traction on a systemic level. In their

[8] Department for Education, renamed from Department for Children, Schools and Families (DCSF) by the coalition government.

opinion this is largely due to the lack of evaluation and institutional structures to collect and disseminate new pedagogies.

In contrast, changes in the English education system have been characterised by experts as a reflection of what interviewees identify as an English approach to innovation (often termed in its 'non-germanic' properties): total system changes are attempted at structural and regulatory levels, while essentially the same actors remain out of necessity, which hampers real change and amounts to re-labelling exercises. Moreover the classroom impact of reforms is hard to assess since there are no state mandated curricula or assessments. However, there exists a direct link between state and providers via funding, so central directives trickle down through a web of formal and informal agencies and quangos as recommendations, guidelines, quality assessment regimes and funding decisions. Some interviewees pointed out that the overall climate of change and experimentation has led to the successful adoption of programmes such as 'e2e' (entry to employment)[9], and that colleges appear willing to attempt both new qualification programmes (e.g. diplomas) and radically new pedagogies (one interview partner explained the concept of 'five-minute-lessons'). It was argued that the flexibility inherent in offering several different learning streams at large colleges (e.g. BTEC alongside A-levels) has led to a culture of communication and teamwork at English FE colleges that is increasingly being supported by more formal procedures of quality control and documentation. However, experts also cautioned that teachers already feel stifled by reporting and other non-teaching requirements. The most significant current system change, the move of funding decisions from the Learning and Skills Council to local authorities in cooperation with the YPLA and later EFA, was expected to change priorities within the provisioning process for 16-19 VET, which may ultimately stimulate pedagogic innovation with learning providers.

German experts have drawn attention to *Modellversuchsforschung* (pilot project research), an approach that for over 30 years has generated around 1400 experimental initiatives at schools and colleges, accompanied by scientific evaluation. However, the programme was abolished by policy makers in 2007 due to their perceptions that pilot projects failed to take root. Projects at *Länder* level continue to take the German approach of empirically assessing changes in the education system.

[9] The success of e2e has led to the formulation of a follow-up initiative termed 'foundation learning'.

However, experts agreed that there has been no notable institutional change in recent decades, and only one significant, system wide curricular transformation, the *Lernfeldkonzept* (learning areas) initiated in the 1990s. Changes are described as gradual, and are effected through existing institutions, based on consensus driven policies with significant industry and union involvement. Vocations are circumscribed in a list of approximately 350 '*Ausbildungsberufe*' (training vocations) which regulates assessment standards and learning areas, but also training and employment standards. Innovation on a system level is usually understood as the creation of new vocations or curricular changes to existing ones. Recent years have seen a widening portfolio for the *Übergangssystem* (transition sector, often remedial) for learners that fail to obtain dual system placements, and experts have indicated that they expect significant pedagogic innovation to take place in that area, both in terms of catering for learners that are considered at risk of dropping out of the system and by attempts to replicate some of the practice-based qualities of the dual system.

4.3 *Use of Scientific Basis in Pedagogic Practice*

Interviewees in all three countries noted that there is a gap between pedagogic practice and relevant research. In each case they attribute a significant part of this effect to shortcomings in teacher training. In Austria for example there is no tradition amongst VET teachers of a reflective scientific approach to the field. Austrian interviewees noted an increased focus on pedagogic practice as an element of teacher training at Austrian universities, but VET is staffed to a significant extent by experienced practitioners who frequently lack formal pedagogical training, and are almost never introduced to formalised thinking about teaching practices. In each country, in-company VET trainers are not usually from academic backgrounds, and thus may see their focus in implementing innovation purely in terms of vocational practice or new subject matter. A very similar picture emerges in England, where teaching qualifications are a relatively recent requirement. The German situation has been described as somewhat different, with a much more pronounced tradition of pedagogic research in VET, and until recently strong pilot project research *(Modellversuchsforschung)* and a marked interest in subject specific didactics. Academically trained pedagogues for vocational education in particular place greater emphasis on professional reflection. However, these are generalisations, and the

overall relation between theoretical pedagogy and teaching or learning practice in all three countries is quite diverse.

England's VET system is reported to feature a growing culture of cooperation not only between teachers, but between institutions of varying types. This continues to change the outlook teachers have on their role, and their willingness to adopt new practices or research findings into their teaching strategies. Some VET qualifications pose new challenges for structuring learning experiences: both diplomas and BTECs have been given as examples of qualifications that require teams of teachers to reflect deeply on their practice. All English experts in this study were enthusiastic about a number of education institutions that they described as very innovative. This indicates that successful innovation does seem to be communicated and noticed to some extent, although the dissemination of good practice was still seen as a limiting factor. Austrian experts hoped that several centrally-steered attempts to influence pedagogic practice via structural and curricular aspects in recent years would enliven interest in changed pedagogies amongst school administrators and teachers. Increased school autonomy and European cooperation efforts are expected to accelerate the rate of change. In Germany both initial and continuing VET teacher training has become more strongly interwoven with academic research. Moreover, the German concept of the vocation in the dual system places an emphasis on reflective practitioners training on-the-job learners in a way that has been described by one interviewee as 'deeply linked to the idea of thinking about what one is doing; they may not call it innovation, but it is self-motivated, problem-driven, reflexive and creative'.

Several, but not all, experts suspected financial constraints (which ultimately translate into time constraints) as factors that hinder practitioners' attempts to pick up academic pedagogy and learning theories. Others hypothesised that the problem should more properly be addressed by school leadership, in active attempts to confront teachers with new findings or by challenging them to try different strategies. Interestingly, both the assertions that teachers in VET either come from a purely academic background, or that they have no academic background at all, have been cited as reasons for a lack of innovative pedagogies in VET. In the first case they are seen to have little personal relation to learners and the particularities of VET (expressed by one interviewee as 'VET is for other people's children') and in the latter case they are well-practiced vocational professionals but lack the academic framework for conceptual pedagogic thinking. It is part of this study's main analytical

phase to determine to what extent such a framework is a prerequisite for innovative practice or whether, as the quote in the preceding paragraph suggests, such practice can arise independent from its theoretical research base.

4.4 *Participation and Societal Attitudes Towards VET Qualifications*

Experts interviewed for this study stressed that understanding learners in VET is crucial for putting pedagogic practice into context. The different demographics of initial VET in the three countries result in a variation of policy aims and different scope for change. In each case VET encompasses a very large proportion of young learners and spans a wide range of activities, even setting aside vocational training in higher education, such as practical engineering courses or particular medical degrees.

Austrian VET covers around 80 per cent of 16-19 learners, of which half are in the dual system and half in full-time school-based VET. Of the latter, a growing proportion opt for a five-year option at a higher vocational school (*Berufsbildende Höhere Schule* BHS), leading for many to university entry. Nevertheless, Austrian experts state that subject focus, assessment and mentality at BHS differs notably from those at purely academic (i.e. non-VET) schools (*Allgemeinbildende Höhere Schule*, AHS). They knew of little formalised research in this area, and expect that practitioner interviews will prove fruitful in exploring the self-perceptions of teachers in Austrian VET. Strong social stratification in Austria still makes for rigid paths through the education system: students from non-academic backgrounds rarely pursue academic schooling and are seldom found in the five-year stream at BHS that opens up options for university entry. Thus the social divide largely runs within VET, not between academic schools and VET. There are some opportunities for dual-system learners to proceed to university entry exams (e.g. '*Lehre mit Matura*'), but the uptake and support of such programmes is still very low, according to the interviewees.

In England, with its more diverse 16-19 education system, the delineation of VET is less clearly recognisable. FE colleges carry out multiple tasks, and teaching staff may be involved in both VET and academic streams. However, purely academic 6th form colleges or school 6th forms leading to A-levels or similar qualifications are still afforded the highest social prestige. 'Parity of esteem', a repeated aim of English VET qualifications reforms (for example with the introduction of GNVQs[10]), has not

[10] General National Vocational Qualifications; phased out in 2007

been achieved. Interviewees reported that there exist significant regional variations in the social prestige of vocational training, especially apprenticeships. Whereas gaining an apprenticeship has always been an achievement in the north-east of the country, the south-east has no such tradition. This can probably be hypothesised to be the result of underlying economic issues, different employment structures and traditions and different regional industrial patterns. Similarly, social class differences mean that a large majority of policy makers, decision makers, administrators and teachers have never experienced VET themselves.

This situation is markedly different from Germany, where dual-system apprenticeships continue to be the norm for initial VET, even including learners who have already achieved *Abitur*, i.e. university entry qualifications. According to interviewees, the system has not yet acknowledged that the social status of some training vocations is falling relative to others. Theoretically all vocational qualifications from the dual system are equivalent, which differs increasingly from how they are perceived by society. Apprenticeships can be followed up by one-year *Fachoberschule* programmes that result in qualifications to enter *Fachhochschulen* that offer Bachelor's degrees. This path continues to be popular, with for example 60 per cent of Germany's academically trained engineers having completed an apprenticeship beforehand. However, social stratification still persists in the choice of vocations and in reality entry requirements for apprenticeships in different occupations are very diverse. In recent decades there has been an increasing number of learners who did not find apprenticeship places in the open market due to demographic factors, German re-unification and the eastern region's associated dissolution of industry and economic cycles. In response, *Berufsfachschulen* are on the rise, offering full-time vocational courses. However, their students are frequently seen as socially at-risk, and the emergence of these schools is considered symptomatic of increasing dysfunctions in the dual system. One interviewee stated that 'the system nowadays does not nearly exhibit the same socially integrative function that it did in the 1970s'.

4.5 *Research Focus Decisions Based on Expert Interviews*

To enable both comparative and contrasting approaches, it was decided to hold certain parameters constant for the main part of this study. Focusing on the classroom-based elements of initial VET in all three countries enables a comparison of similar age

groups, while still allowing for institutional diversity. In particular, schools and colleges in this age range have experienced noteworthy changes in all three countries in recent years, which adds to the opportunity for investigating the internal mechanisms of pedagogic innovation. For example, the expert interviews have drawn attention to the interdependence of VET and other parts of education systems, most notably higher education. The HE sectors of all European countries have been subject to changes and pressures in conjunction with Europeanisation (e.g. the Bologna process), widening participation agendas, and changes in state involvement (an overall rise of neo-liberal or new public management ideologies). This has significant effects on VET, since the VET sectors are increasingly expected to enable smooth transitions into some form of HE, and since liberalised institutional arrangements enable new modes of interlinking VET and HE institutions.

Such thematic choices do not reflect all that is interesting in the respective countries' VET systems. The transition from pedagogic academies to higher education *Pädagogische Hochschulen* for teacher training in Austria, for example, is a highly relevant recent development, both because it concerns teacher training and because it is in itself vocational training. However, interview partners have suggested that the transition has been politically contested and organisationally heavily criticised, which may prove fatal to research at the moment. Similarly, the change in provisioning in England alters the arena of operations for FE colleges and may therefore change innovative practice. However, the reforms are so recent that their effects fall outside the time frame for this study. In Germany, pressures on the dual system are highly relevant, but its education and training is fundamentally different from exclusively school-based contexts in Austria and England, so that the choice for comparison falls on an emerging element of German VET that represents a full-time schooling approach.

5 Conclusion

The analysis of expert interviews enabled discoveries that aided designs for data gathering and analysis in the project's main research phase. They are summarised in this section, together with topics that may be of interest for further research. The analysis presented in this paper indicates clusters of commonalities between different VET systems that provide reference frames for comparison:

- Invariably, VET is a complex sector, featuring both a variety of college types and colleges with highly specific profiles. Increasingly, VET institutions branch out into other sectors such as higher education and academic 16-19 provision.

- There is no clear delineation of the 'VET sector' in any of the three countries. While the Austrian and German demarcation runs along institution types (academic vs. VET) and age (post-19 vocational education and training is not recognised as VET proper), the English system splits by qualifications (e.g. A-levels vs. diplomas).

- As far as a 'VET sector' can be seen as distinct from the academic school sector, it constitutes a very significant part of 16-19 education by any measure.

- Public perceptions of VET are limited or skewed, both in terms of the quality and pervasiveness of the system. VET policy is often pursued by people with little first-hand experience in the sector and is therefore frequently dominated by academic preconceptions.

- In each case experts reported a gap between the proclaimed importance of innovation and its lack of emphasis in teacher training.

Overall, experts identified key developments that may lead to innovation in teaching and learning practice. This list does not reflect an abstract enumeration of all possible factors that may lead to new pedagogies, but represents a summary of influences mentioned in interviews. They include:

- top-down curricular or assessment change ('*Reife- und Diplomprüfung*' as *Matura* and changes in conjunction with *Zentralmatura* in Austria; Diplomas in England; creation of new *Ausbildungsberufe* in Germany or changes to existing ones);

- the move of vocational training into the higher education sector (*Pädagogische Hochschulen* in Austria, HE at FE colleges in England, Bachelor degrees crowding out the high end of dual system education in Germany);

- the strengthening of school management and autonomy (recent in Austria and Germany, on-going in England);

- quality assurance initiatives (a double edged sword, often placing an extra burden on teachers, but also stimulating the exploration of new avenues);

- the development of pilot initiatives at schools (bottom-up approaches to innovation; cooperation between schools or different types of institutions such as FE colleges and 'academies', changes resulting from halting *Modellversuche* at a federal level in Germany).

Several of these findings revolve around the lack of clear definitions, understandings and delineations. In response, the interview schedules for the main

research phase were designed to include questions that elucidate teachers' own understandings of relevant definitions. This includes conceptions of terms such as 'pedagogy' and 'innovation', since there appear to be different relevant traditions: experts in Austria and England frequently addressed innovative approaches in structures, initiatives and pathways. Pedagogic practice was not at the forefront of their attention. By contrast, German experts related more strongly to the tradition of *Modellversuchsforschung* and were particularly interested in subject-specific didactics.

Several aspects of the preliminary findings go beyond the scope of this study. It is hoped that they may inspire research along lines that have not been explored in detail. Discovering a better way to delineate the meaning of 'VET sector', for example, would have a bearing on much of the research in this field. In terms of understanding VET policy, an investigation into the skewed public perceptions of VET, especially when taking into account differences across countries, may be an interesting line of inquiry. This connects to issues surrounding its changed status in relation to socio-economic developments, and VET is in so many cases driven and managed by people who do not have a VET background themselves.

Within the current research, uncovering the dynamic relationships of the VET sectors in England, Austria and Germany with politics and curricular and regulatory change, is an on-going process. Findings show the dependency of conceptions of 'innovation' on different societal and institutional arrangements, so that the emergence of commonalities and general patterns will be particularly helpful for hypothesising about ways to formulate VET policies to maximise their potential for affecting classroom practice.

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