Report
on the Assessment of Strengths and Drawbacks of the German versus UK VET (vocational Education and Training) Systems

By G.A.I Group

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Executive Summary

The assessments below are extracted from recent studies done by specialized international bodies to assess and document the status, capacity and performance of VET systems in Germany and the UK. It represents therefore an objective view of specialists in the field.

These summaries speak for themselves regarding the superiority and greater effectiveness and capacity to deliver of the German VET system embodied in the dual system against the UK VET system especially but not only in the fields of technology and Engineering. Particular strengths of the German system according to the studies covered include:

- ✓ **Much longer tradition of vocational training in Germany.**
- ✓ **Vocational skills considered solid and highly regarded and appreciated by society.**
- ✓ **Qualification highly regarded and appreciated by industry worldwide.**
- ✓ **Modular approach can allow skills to be obtained at every educational level**
- ✓ **Higher vocational skills can clear the way for a top career as a manager**.
- ✓ **Well structured, simple and proven system understood by all the social partners.**
- ✓ **Important role of the government as enabler.**
- ✓ **Vital facilitating role played by CCIs.**
- ✓ **Offered qualifications cover a broad spectrum of old and new professions.**
- ✓ **System allow for flexible adaptation to the changing needs of the labor market**.
- ✓ **High degree of engagement and ownership on the part of employers and other social partners.**
- ✓ **Well resourced system blending public and private funding.**
- ✓ **Private funding allows the lowering of the contribution of the public purse.**
- ✓ **Competitiveness of qualification based on quality and not price**.

1. Brief Introductory History

The paragraphs below summarize a brief introductory history of the VET systems in Germany and UK. A longer version can be found in Annex 1 extracted from the study " Towards a history of vocational education and training (VET) in Europe in a comparative perspective; Proceedings of the first international conference October 2002, Florence". The study was developed by CEDEFOP, the European Centre for the Development of Vocational Training which is the European Union's reference centre for vocational education and training

1.1 Germany

In Germany, vocational schools — *Berufsschulen* — have a history stretching back to the 19th century. A German *Berufsschule* is generally a secondary public school and does not charge tuition fees *(F+U is different, it is private organization and charge tuition to the industry which is benefiting from the acquired skills of students).* Today they are part of the dual education system which combines apprenticeships in a company and vocational training in a school, both taking place over the same period of time on different days of the week or in blocks of several weeks.

As part of the dual education system, the *Berufsschule* is a part-time school, with students attending 8–12 45-minute lessons a week. Sometimes schooling is arranged in blocks of several weeks, in particular for trades which are only learnt by a small number of people. The rest of the students' time is spent learning at the company where they take their apprenticeship. The whole course lasts 2–-3.5 years depending on the subject taken, with the vast majority of courses lasting 3 years.

Additionally, there are two other types of vocational schools in Germany. The first one is the *Berufsfachschule*, a full-time secondary vocational school. These schools do not charge any tuition fees either. The course at this type of school lasts 1–3 years. This type of education prepares the students for special job trainigs. Students can also get a higher graduation at the Berufsfachschule: zweijährige Berufsfachschule: Mittlerer Abschluss = equivalent to GCSE, zweijährige höhere Berufsfachschule = Fachabitur = equivalent to BTEC, dreijährige höhere Berufsfachschule or Wirtschaftsgymnasium = Abitur = A-level

The second additional type of German vocational schools is the *Fachschule*, a full-time or part-time post-secondary vocational school, and also most often a private school (but not in Hessen). Only graduates of a Berufsschule, with (often) a minimum of 1 year work experience after graduation, are permitted to attend this type of school. The course at a Fachschule lasts 1–2 years for full-time students and 2–4 years for part-time students, and is comparable in level to the Higher National Diploma in the UK.

1.2 United Kingdom

The first "Trades School" in the UK was *Stanley Technical Trades School* (now Harris Academy South Norwood) which was designed, built and set up by William Stanley. The initial idea was thought of in 1901, and the school opened in 1907.

The system of vocational education in the UK initially developed independently of the state, with bodies such as the RSA and City & Guilds setting examinations for technical subjects. The Education Act 1944 made provision for a Tripartite System of grammar schools, secondary schools, secondary technical schools and secondary modern schools but by 1975 only 0.5% of British senior pupils were in technical schools, compared to two-thirds of the equivalent German age group.

Successive recent British Governments have made attempts to promote and expand vocational education. In the 1970s, the Business And Technology Education Council was founded to confer further and higher education awards, particularly to further education colleges in the United Kingdom. In the 1980s and 1990s, the Conservative Government promoted the Youth Training Scheme (YTS), National Vocational Qualifications (NVQ) and General National Vocational Qualification (GNVQ). However, youth training was marginalised as the proportion of young people staying on in full-time education increased.

In 1994, publicly-funded Modern Apprenticeships were introduced to provide "quality training on a work-based (educational) route". Numbers of apprentices have grown in recent years and the Department for Children, Schools and Families stated its intention to make apprenticeships a "mainstream" part of England's education system.

BTEC are vocational/work-related qualifications that are exclusively offered by Edexcel. BTECs range from Entry Level to Level 8 (undergraduate level) on the National Qualifications Framework, offering a progression route across all levels, starting with BTEC Firsts and Nationals as GCSE and A level equivalents. They are developed in consultation with industry and professionals, with the aim of being relevant, progressive and recognized by professional bodies, employers and universities.

In 2005/06 in the UK, 260,000 students studied BTECs at college; 63,000 studied BTECs in schools; 23,000 studied BTECs at university; and 14,000 employees studied a BTEC while at work. This compares for 2005/06 with over 550,000 students integrated in the Dual System in Germany.

Edexcel is currently in the process of realigning BTEC programmes (Levels 2, 3, 4 and 5) to the new Qualifications & Credit Framework (QCF), ready for teaching in schools and colleges from September 2010.

2. OECD evaluation of VET systems (2009/2010)

In 2009 and 2010 the well known and respected international body OECD developed a series of studies of VET systems in various member states (Learning for Jobs, OECD Reviews of Vocational Education and Training, 2009/2010). The paragraphs below reflect for Germany and the UK the summarized strengths, challenges (weaknesses) and recommendations for the future as reflected in the study.

2.1 Germany

Strengths

- ✓ Vocational education and training is deeply embedded and widely respected in German society. The system offers qualifications in a broad spectrum of professions and flexibly adapts to the changing needs of the labour market.

- ✓ The dual system is especially well-developed in Germany, integrating work-based and school-based learning to prepare apprentices for a successful transition to full-time employment.

- ✓ A major strength of the dual system is the high degree of engagement and ownership on the part of employers and other social partners. But the system is also characterised by an intricate web of checks and balances at the national, state, municipal, and company levels that ensures that the short-term needs of employers do not distort broader educational and economic goals.

- ✓ The VET system as a whole is well-resourced, combining public and private funding. Germany has maintained strong financial support and maintained the apprenticeship offer for the VET system even during the crisis.

- ✓ Germany has a well-developed and institutionalised VET research capacity, including the Federal Institute for VET, (*BIBB*), and a national network of research centres that study different aspects of the system to support continuous innovation and improvement in the VET system. *(F+U works closely with them)*

Challenges (Weaknesses)

- ✓ The transition system, now serving nearly as many young people as the dual system, suffers from undue fragmentation and an absence of transparency. Despite the very substantial resources devoted to the system, too few programme participants make a successful transition into the regular VET system.

- ✓ Career guidance seems highly variable across the *Länder*, with no single agency responsible for assuring delivery of quality information and guidance services to all students. *(In Baden Wuertemberg where F+U is headquartered, careefr guidance is exceptionally developed).*

- ✓ Some students leave compulsory school with weak core academic skills. The VET system is not currently organized to ascertain whether this is in fact a problem or, if so, to address it.

- ✓ The evaluation of dual system students at the end of their apprenticeship is dominated by the Chamber exam. Because their school performance does not count in the Chamber exam, students may not take their schooling seriously, thereby limiting their ability to participate successfully in some form of tertiary education.

- ✓ Germany has recently opened more pathways from upper-secondary VET to tertiary education. *(F+U is spearheading very successfully this development).*.

- ✓ Shrinking cohort numbers due to demographic decline is providing an important contextual challenge.

Recommendation for improvement

1. Create a coordinating committee for the transition system within each Land to improve co-operation between stakeholders and make transition offers more transparent. Evaluate the cost-effectiveness of individual transition measures and roll out the most promising initiatives to the whole country.

2. Reform the career guidance system to deliver well-informed guidance to all. Fix lead responsibility for career information and guidance in a single governmental agency. In the longer run, consider structural reform of the dual system to facilitate effective career choice.

3. Assess the literacy and numeracy skills of all students entering the transition system, and those entering apprenticeships without a school leaving certificate from a Realschule or Gymnasium. Provide explicit basic skills instruction for those in need of remediation. Place greater priority on general education and broad academic skill development in the part-time vocational schools.

4. Make inclusion of the school mark in the final certificate mandatory and include an explicit assessment of literacy and numeracy skills in the final school exam. In the longer run, merge the Chamber exam and the school exam into a single final assessment. Strengthen collaboration between schools and employers through an integrated assessment process.

5. Open access to tertiary education further and address transition barriers perceived by students. Design adequate guidance, induction and financial support measures for less academically trained people wanting to attend university. Promote dual universities and dual programmes at regular universities and encourage more flexible, part-time university offers and the recognition of prior learning and experience.

2.2 United Kingdom

Strengths

- ✓ England and Wales are committed to a step improvement in the level of workplace skills.
- ✓ Substantial resources have been made available for this task.
- ✓ The conscious attempt to engage employers is commendable.
- ✓ VET policy making in England and Wales is self-evidently dynamic and innovative.
- ✓ The system is flexible and allows for tailor-made training solutions for employers.

Challenges (Weaknesses)

- ✓ The meaning of employer engagement is very fluid.
- ✓ Few countries have achieved strong employer engagement without an equally strong apprenticeship system, which remains elusive in England and Wales.
- ✓ In spite of the government's declared intention to have much VET employer-led, the delivery of the Leitch targets will require a very strong lead from government.
- ✓ Policy structures are both more complex and more unstable than in most other OECD countries, and this inhibits employer engagement.
- ✓ A demand-driven system may imply more of a market in providers. But attempts to open up the market have been halting and the effects uncertain.
- ✓ While there is a substantial base of data and analysis, it remains fragmented, with inadequate attention to international experience.
- ✓ The current sharp economic downturn is imposing a number of pressures on the skills system.

Recommendation for improvement

1. Priorities for employer engagement should be clearly defined and the rationale for seeking that engagement should be set out by the governments of England and Wales. Evidence on employer engagement should be further developed. Fragmented surveys should so far as possible be consolidated and co-ordinated.

2. Given that complexity and volatility in the VET system hinder employer engagement, the institutions of the VET system should be simplified and stabilised. We welcome and

support the proposals of the UK Commission for Employment and Skills (UKCES) in this respect. These proposals need to be sustained and further developed.

3. As a way to engage employers so as to reach the skills targets identified in the Leitch report, governments in England and Wales should explore measures including those designed to reduce the cost of training, the establishment of a stronger evidence base to encourage employer support for training, and, possibly, the use of compulsive measures including training levies.

4. Attempts to foster employer engagement in England and Wales should be closely linked to the development of the apprenticeship system.

5. Governments in England and Wales should take account of previous experience, including international experience, when extending the market in VET provision. In particular users need good information about the quality of different programmes and institutions.

6. England and Wales should take account of international evidence more routinely in its policy-making process. Consider the establishment of a national VET institution to oversee VET research and analysis.

3. Role of the Social Partners in VET System

Contribution below are extracted from the study " The Role of Social Dialogue in European Approaches to Vocational Training" by Jonathan Winterton, *Director and Professor of Employment and Human Resource Development, Employment Research Institute, Napier University, Edinburgh*

3.1 Germany

The nature of Industrial Order in Germany means that managers are able to take a more long-term perspective than in the UK, which encourages investment in both technological innovation and human resources. Moreover, a highly-developed national system of VET, continuing the traditions of the old crafts (*Handwerk*), operates in all sectors, with certification by the Chambers. The tripartite administration of the VET system involves labour representatives in monitoring training arrangements at enterprise level. The system permits progression from craft worker to technician or even to professional engineer, and management education emphasises expertise relevant to production, so technical skills are valued more highly in Germany.

The dual system of apprenticeship training (*duales system*) is central to VET in Germany, and entails education in vocational schools (*Berufsschulen*) linked with a 3-year apprenticeship. Individual states (*Länder*) are responsible for vocational schools, while the Chambers of Industry and Commerce (*Industrie-und Handelskammern*) or Craft Chambers (*Handwerkerkammern*) oversee half a million approved training providers and monitor the content of occupational training. Under the dual system, tripartite determination of strategy and training content, with co-investment by workers and enterprises, leads to a nationally-recognised certification of skills for two-thirds of young people who become apprentices. Social partnership exists in the dual system and in arrangements for initial vocational training, although in continuing vocational training, it is much less developed.

Germany has the most highly-trained workforce in Europe, with 60% qualified to the equivalent of at least NVQ level 3 as early as 1978. The vast majority of apprentices take the formal examination, and 90% pass this to become qualified skilled workers (*Facharbeiter*). With two year's further experience, workers can enter higher vocational training, providing access to supervisory and managerial posts. Although some managers rise from the apprenticeship system, most are initially educated in universities and polytechnics, where the emphasis is on knowledge and functional skills, especially production-related functions. German managers are highly qualified, with 37% of Management Board members holding doctorates, and in-house management development is extensive (Randlesome et al, 1990).

Social dialogue over VET is extensive, involving social partner representation in joint sector bodies as well as discussion at enterprise level and in Works Councils. There is less trade union involvement in continuing training, especially ad hoc and adaptive training, which is increasing

in importance, but institutes like "*Hans Böckler Stiftung*" are actively researching ways of increasing social dialogue in these areas.

3.2 United Kingdom

The character of Industrial Order in the UK, with the resulting focus on short-term return on capital employed, results in inadequate investment in technology which is matched by under-investment in human resources. The inadequacy of arrangements for skill formation in Britain are attributed to management short-termism and a tendency to compete on price rather than quality, which would require sustained training in place of poaching skilled workers.

Management training is equally inadequate, with an emphasis on practical experience and generalists rather than qualifications and specialists. The UK apprenticeship system was in long-term decline until the recent Modern Apprenticeships initiative. A very low proportion of the UK workforce is qualified to intermediate level (under 40% reach the equivalent of NVQ level 3 or higher), in contrast with Germany where widespread VET produces a high level of skill formation and high productivity. The UK appears to support the conclusion that training market failure can cause economies to get stuck in low-skill equilibriums, and even high-wage differentials may prevent significant supply responses because skilled vacancies are scarce.

In an effort to remedy these deficiencies, the system of VET in the UK was radically overhauled during the 1980s. Training organisations at sector level were de-regulated and a nation-wide unified system of work-based qualifications was developed. The statutory Industry Training Boards (ITBs) which had been established under the *Industrial Training Act 1964*, have been replaced by employer-led Industry Training Organisations (ITOs). The National Council for Vocational Qualifications (NCVQ), and the Scottish Vocational Education Council (ScotVEC) were established to accredit National Vocational Qualifications (NVQs) and Scottish Vocational Qualifications (SVQs) relating to occupational standards.

The standards are developed by employer-led Industry Lead Bodies (ILBs), whether the same organisation as the ITO for that sector or a separate entity. (There are plans for the ITOs and ILBs to be merged as National Training Organisations). Accredited qualifications are certificated by Awarding Bodies such as the City and Guilds of London Institute, the Royal Society of Arts and the Business and Technician Education Council, which had been the traditional qualifying bodies for VET before the introduction of NVQs/SVQs.

Social partner involvement is crucial in the establishment of occupational standards, and even in the employer-led ITOs, trade union representatives play a major part in this process. Despite the marginalisation of the institutions of collective bargaining since the early 1980s, the trade unions have demonstrated commitment to establishing new collaborative arrangements to promote lifetime learning. Social dialogue over VET takes place at sector, enterprise and workplace levels, and the most important level is determined by the structure of collective bargaining. At

sector level, discussion is rarely through a negotiating forum, and mostly concerns union representation on a sector training body (ITOs and the two ITBs).

The FORCE study of union involvement in sector training bodies found that union influence had not diminished in proportion to representation in the two remaining ITBs. In the case of the construction industry, the unions' role is undiminished despite the collapse of union membership through sub-contracting. Similarly, the change in status of the engineering and chemicals sector training bodies from ITBs to ITOs appeared to have made little difference to the degree of involvement of the unions. Social dialogue, which is not seen to involve any negotiation, is an intrinsic part of training body practice for all sectors which are unionised.

Paradoxically, the removal of *statutory* union involvement in the sector bodies appears to have increased union involvement in VET, by stimulating greater union interest in training at workplace level. Since collective bargaining is voluntary, informal and very decentralised in private sector industries in the UK, social dialogue is most developed at workplace level. The TUC proposed a statutory basis for worker consultation through the formation of Workplace Training Committees (WTCs), formulated along the same lines as health and safety committees and with a statutory responsibility to develop a Training Plan for the enterprise. In the absence of statutory support, the TUC Guidance Note *Joint Action over Training* argued that union negotiators should put training on the bargaining agenda and develop a joint approach with employers. Although statutory underpinning of the training system was seen as necessary to give individuals a right to training, individuals' access to training could be promoted through local negotiation.

It is difficult to assess the extent to which unions have generally succeeded in engaging employers on training because the scope of collective bargaining has generally contracted since 1980, but there have been model examples of successful Training Agreements. The analogous New Technology Agreements strategy, adopted by the TUC in the early 1980s, enjoyed little success in practice as workplace negotiators were unable to make inroads into technology as a sacrosanct area of managerial prerogative. In a study of multi-skilling, the cases which exhibited the most significant negotiation over VET were those where extensive work restructuring and highly developed local trade union organisation required management to engage in meaningful social dialogue, suggesting a contingency approach to social partnership in the UK.

3.3 Conclusions

The diversity in arrangements for VET in Germany and UK, including the extent of social dialogue, reflect differences in Industrial Order, traditions and institutions, since training systems are 'embedded in broader systems of social relations with which they interact.

The essential differences between the contexts of VET in various countries are summarised in Table 1 below. In terms of its locus, VET is mostly centred on the workplace in the UK and Germany, whereas training is education-led and centred on school in Italy and France. Whereas

VET is regulated by the state in Germany, in the UK arrangements are market-led, with responsibility for training largely devolved to employers.

Table 1 Locus and regulation of VET in four EU member states

locus/regulation	market	state
workplace	UK	Germany
school	Italy	France

These different contexts of VET, coupled with other aspects of Industrial Order, result in different degrees of social dialogue over training. In Germany, in a context of state regulation and the dual system, the focus of VET is long-term, resulting in the most highly-developed social partnership approach of developed countries. The UK system of VET, almost as market-led as Italy and with a short-term focus, is located in a work context, resulting in a contingency approach, where social dialogue is in some cases highly developed.

In Germany there is a tradition of statutory regulation of the labour market, but also political support for involving the social partners. In the UK, the voluntarist approach allows the social partners to enter into agreements but the state plays a minimal role and the labour market is deregulated in comparison with other member states.

The German trade unions have had extensive success in influencing enterprise and workplace arrangements for vocational training because trade union membership is higher and the unions have influence through both bargaining and works councils. While the deregulated, voluntarist UK context is least conducive to trade union involvement in vocational training, even in the absence of statutory support, there is evidence of significant social partnership involvement in arrangements for vocational training.

From these patterns, it appears that state regulation and a long-term focus on VET are necessary for effective social dialogue. The UK system of VET, despite also being market-led and of short-term focus, is grounded in the workplace, making it conducive to social dialogue where there is sufficient strength of trade union organisation. These factors influencing social dialogue are summarised in Table 2 below.

Table 2 Social dialogue over VET in Germany and UK

dimension/state	Germany	UK
regulation	state	market
locus	workplace (dual)	workplace
focus	long-term	short-term
trade unions	sector, effective	decentralised
dialogue	social partnership	contingency

It is possible that the diversity of forms of social dialogue over VET across the European Union not only reflects the factors identified above, but also different *motives* for establishing social

partnership. The German approach appears to be driven by a consensus that social partnership will result in the most effective and efficient arrangements, thereby raising competitiveness and improving job security through enhancing skills. In the UK, social dialogue is viewed more as a contingency approach, adopted out of necessity where work organisation must be restructured to ensure competitiveness.

In all member states there are limits to reaching agreement over VET through social dialogue because the interests of the different parties are not entirely congruent, despite training being regarded as an area of consensus between the social partners. Employers and employers' associations, along with employees and trade unions, are all 'in favour of' training, but their motives invariably encompass more than an attachment to a highly-educated workforce for its own sake. For employers, the major issue is having a workforce with the competences to perform in accordance with business objectives. For employees, training represents a means of raising and crediting skills and competences, which should provide a route to higher earnings, improved job satisfaction and security, and increased labour market mobility. The representative bodies, employers' associations and trade unions, support these two parties' objectives, but may each have a wider agenda. The employers' associations may take a strategic view of training as a mechanism to support job restructuring via multi-skilling and functional flexibility. The trade unions may see training as a route to increasing employee autonomy, as well as maintaining pay rates.

The table 4 provides an overview of the main differences between the German and United Kingdom VET system.

Table 4: Characteristics of German and British VET systems

Characteristic	Germany	United Kingdom
Number of qualifications	350 qualifications defined within Dual System, no other major VET programmes (BBiG 1969)	800 different qualifications within NVQ system. SVQ, and Welsh and N-Irish systems add another 800 to 1600 qualifications. (Education Act 1996)
Definitions of qualifications	One major programme means one definition and one name for every qualification.	Two major systems and two more emerging means possibly confusing two definitions for one qualification or one name for two different qualifications.
Status of VET and supply of vocational skills	Vocational skills are considered solid and are highly appreciated. Skills may be obtained at every educational level. Higher vocational skills clear the way	Vocational education is for less abled pupils who cannot access the academic circuits. Managers are not supposed to obtain vocational skills.

Characteristic	Germany	United Kingdom
	for a top career as a manager. This increases supply of vocational skills.	
Nature of skills supply	Mainly vocational skills, but always including general component	Mainly general skills and usually vocational and general skills are strictly separated
Social partners	Employers play large role since 1925, labour unions have large impact since 1960s. (Industrial relations are stable after 1950.)	Employers organisations have large impact since government started VET policy in 1960s. Importance of labour unions increased over the 1980s but is reducing again
Public investments	Stable, slightly increasing	Very volatile. Investments increased, but this appears to be a shift in existing resources rather than an actual increase in public spending
Demand	Production structure consisting of batch processes and HQII (High Quality – Incremental Innovation) induces demand for specific skills.	Mass production structure induces demand for general skills.
Supply of vocational skills	Supply is affected by batch nature of production structure and high status of VET.	Supply is affected by mass nature of production structure and low status of VET.
Tradition	Traditional, developed into mature and coherent system.	Hardly building on tradition, suffering from continuous change and policy inconsistencies
Co-ordination : Standards	Determined at national level	Determined at: varying level
Coordination: Equipment	Determined at regional level	Determined at varying level
Coordination: Number of courses supplied by institute	Determined at regional level	Determined at varying level

4. Further Differences between VET System

The contribution below are extracted from the study "Vocational education and training in Australia, the United Kingdom and Germany, 2006" by the "National Centre for Vocational Education Research" (NCVER) in Australia, and independent body responsible for collecting, managing and analysing, evaluating and communicating research and statistics about vocational education and training (VET) issues

4.1 Formal Industry Input

Although the two countries have established arrangements to enable industry to have formal input into the development of competency standards and/or curriculum requirements, In Germany the social partners, and especially the chambers, play a far more significant role in the provision and assessment of training. They certify the technical aptitudes of trainers, develop and conduct examinations for apprentices, and monitor the performance of training companies. These certification and examination roles are not undertaken by the United Kingdom sector skills councils.

In mid-2004 the German Government established a *training pact* with employers whereby employers agreed to provide a certain number of training contracts for apprentices. This has been found to be very successful in increasing the number of new training contracts for in-house training companies.

4.2 Apprenticeships

In Germany apprenticeships are based on the medieval craft guild model of training, whereby individuals enter a training contract with an employer. This training contract specifies the duration of the apprenticeship and requires the employer to provide the apprentice with paid employment, on-the-job training, and time to attend or engage in off-the-job training.

Apprentices are paid a training or basic wage that has been determined by specific industry awards or state regulations. For their part of the contract, apprentices are required to undertake the training, engage in production processes, and generally meet employer expectations with regard to workplace behavior and practice.

In Germany group training companies or their equivalents have also been established to facilitate industry training.

On-the-job training provides all apprentices with practical workplace experience, while off-the-job training provides apprentices with theoretical knowledge and supplements the practical

underpinnings of their occupations they have developed, or will develop on the job. In Germany off-the-job training also provides general education.

Apprenticeships have been consistently more highly valued in Germany as routes to skilled trade qualifications than in the United Kingdom. In Germany about two-thirds of a cohort of German school leavers will move into an apprenticeship pathway.

The German approach to apprenticeship training remains stable with added flexibility of apprenticeship pathways provided over time for certain occupations (especially for information technology occupations). In the UK, the concept of non-time-based contracts has been met with union resistance, especially in the traditional trades. Although there has been some discussion of this approach in Germany, apprenticeship training continues to be time-based.

There is a much longer history in Germany than in the UK of the application of apprenticeship pathways to occupations not associated with traditional trades.

In the two countries those who would like to upgrade their qualifications may move into advanced courses leading to higher-level qualifications. The opening-up of training pathways can enable suitably qualified individuals to enter university courses. The modular approach to training has been in place in the United Kingdom and Germany for some time.

4.3 Institution Based Vocational Pathways

Institution-based vocational education training pathways are observed in Germany and the United Kingdom. In the United Kingdom they are generally provided in further education colleges or sixth form colleges or their equivalents and higher education institutions delivering specialized training. In Germany this training is delivered in full-time vocational schools and vocational academies. The range of offerings in these institution-based programs is greater in United Kingdom further education colleges than in Germany.

A focus on opening up access to formerly restricted pathways is another major aim common to the two countries. It is an aim of the United Kingdom system to enable individuals who have left schooling without qualifications or appropriate qualifications to undertake further training leading to qualifications. This has been achieved by establishing pathways to qualifications that may or may not involve formal attendance in a training institution. These qualifications are based on a competency approach to assessment and are awarded to those who have been assessed to have the skills and knowledge to perform a particular job at a particular standard. The German Government has also implemented reforms to recognize pathways to qualifications which may not involve attendance at training institutions.

In the two countries there is a variety of community, industry, enterprise and commercial organisations which provide training for professional development and skills upgrades.

4.4 Recognition and Credit Transfer Processes

The rationale for the recognition of prior learning across the systems is similar in the two countries. First, it avoids duplication, and secondly, it can provide a pathway to qualifications for those who either have not been able to acquire qualifications from schooling, or who have wanted to use knowledge and qualifications gained previously to acquire further and higher qualifications.

The transfer of students between educational institutions has been common across the two countries and has always depended on the willingness of institutions to provide credit or advanced standing for qualifications or subjects completed elsewhere. Increased student mobility between countries, states and institutions has led to the development of formal mechanisms for accrediting prior learning and transferring credit between domestic and international institutions. The move to establish a European education and training area has meant that Germany and countries in the United Kingdom, acting independently and as a whole, have had to develop formal systems for the recognition and transfer of credit. These are still in the early stages of implementation.

The concept of a certificate supplement attached to vocational qualifications promoted by the EU provides more transparent information for educational institutions when assessing the credentials of applicants for admission or for credit transfer purposes. This is especially important in view of the flexibility of curriculum or learning resources that can be used to deliver training package qualifications and the problems that universities have with understanding the content of prior learning. Such attachment or supplement also helps employers to better understand the nature of the training that has been undertaken.

4.5 Quality Assurance Systems

For the two countries the push for formal quality assurance frameworks has been in response to concerns about the effectiveness and efficiency of educational delivery in an era of increased participation in post-compulsory vocational education and training and the proliferation of government and private training and education providers.

Associated with the move to mass further education there is also an expansion in the way institutions deliver courses, including online delivery, distance learning and franchising of courses to partner institutions. These developments have also made the implementation of quality assurance systems essential.

Quality assurance regimes have also been introduced in an era where business has adopted quality processes as a way to ensure that it can remain competitive by meeting the needs of clients. These developments have also influenced the development of quality assurance procedures and processes in education and training.

Annex 1: Comparative History of VET Systems in Germany and UK

Germany

For German youth, education is compulsory from the age of 6 until the 16th birthday. All German pupils receive the same kind of education until the age of 10. At that age, they enter the first stage of secondary education: *Sekundarstufe 1*. Pupils can choose to attend either the *Realschule* or the *Hauptschule*. The former is similar to high schools or comprehensive schools of general nature, the latter is a vocational secondary school. This stage of secondary education lasts until the age of 14 or 15. It is non-compulsory initial education that is of particular significance. Until the age of 16, there is no distinction between general and vocational education.

The second stage of vocational secondary education usually takes place in both firms and schools (*Berufsschulen*). Usually, it is a combination of one or two days of theoretical lectures, while the remainder of the week is spent on training in a factory or an office.

Besides this dual system, it is possible to attend vocational education at *(Fach)hochschulen*, which also contains a considerable amount of on-the-job training, in the form of an apprenticeship (*Praktikum*).

After finishing the *Realschule,* those who want to continue in general education can attend *Sekundarstufe II*, which prepares for university (*Universität, Hochschule*). It is also possible to attend *(Fach)hochschulen* after finishing the *Realschule*.

Several forms of vocational schools exist in Germany, from the 16th century onwards. Vocational in-firm training is even older, as medieval artisans received their education on the job. So, there is good reason to argue that Germany has a long tradition of vocational education and training. It was mainly crafts skills that were taught in vocational education, while trading skills had a minor position.

Yet, no later than the 12th century general skills were offered by schools for writing and calculus. From the 18th century onwards, schools offered full time education in the field of trade and commerce. During the 19th century, special workshops emerged at larger firms, in particular the railways. Contrary to all forms of education mentioned so far, the dual system is rather young. Although this combination of learning in schools and at workplaces dates back to the 19th century, it did not receive official recognition as a system until 1953.

Policy making concerning vocational education and training, started halfway the 19th century. An employment act defined the status, rights and obligation of trainees, usually starting young craftsmen. At the beginning of the 20th century, specific arrangements for trainees in manufacturing and trading sectors were added to this law, as well as some regulations (e.g. *Meisterbrief*) concerning workshops in the manufacturing sector (*Handwerk*).

Already by the end of the 19th century, there was a first attempt to co-ordinate the existing training programmes. This was meant to result into consistent and uniform programmes for well-

defined occupations. From 1925 onwards, associated employers formulated qualification requirements for each profession that was included on the German Regulation of Technical Education (DATSCH).

Five years later, examinations followed and shortly thereafter the minister of economics approved each of these qualifications and examinations officially. Soon, more than 1000 occupations were officially recognised and for each of them official examination standards were defined.

Nowadays, there are about 3000 different occupations that the dual system provides education for. In 1969, the Act of Vocational Training (BBiG) replaced the DATSCH.

Meanwhile, employees became involved in defining occupational standards and formulating vocational professional qualifications. This means that social partners play an important role in development of the German system of vocational education and training.

Apart from national legislation concerning in-firm training, mainly the BBiG, there is also legislation at the level of the Länder. The Länder co-ordinate the school system with respect to finance, equipment, methods, personnel and other characteristics, but school types and examination standards are determined at national level. This allows for regional differences, meeting specific demands, while still enabling a transparent market for skilled labour.

The dual system is organised uniformly in all industries, throughout the country. This is possible, since it is the federal government that is responsible for implementing the Vocational Training Act. Accordingly this system, pupils start in theoretical classes at *Fachschulen* and continue their education in one or more firms, receiving on-the-job training, at the same time still attending theoretical courses. This means that theory and practise are highly integrated and usually well-balanced. In this way, lower qualifications, equal to *Facharbeiter*, can be obtained in one of 13 different occupational fields.

The number of career areas did not change and their definitions are largely unaltered over the past 30 years. The number of occupational qualifications to be obtained within the dual system decreased from 452 in 1980 to 356 nowadays.

Higher qualifications, known as *Meister*, can be obtained by attending continued vocational education, once an employee has a few years of working experience. Another possibility is to apply for a course at the *Fachhochschule* or the university. The technical college or *Fachhochschule* offers education that is rather close to the dual system, but the theoretical component is very large and advanced, compared to that of the *Fach(ober)schule*.

Fachhochschulen also work closely with industries to meet employment needs of Companies. In fact, as apprentices receive on-the-job training and technical colleges adjust their courses to the needs of employers, the transition of schoolleavers to the labour market is facilitated by the schooling and training system. In a way, this is similar to the way that formal examination standards are set by British employers, but the result is a less scattered and less diverse market for education and training. The number of different qualifications —380 in Germany as opposed

to a mere 800 in the UK, considering NVQs only— is smaller and the contents and quality of those qualifications are more clear.

Although the dual system has a uniform organisation, it's implementation has been largely decentralised. At the level of the firm, the works council influences the educational programme. At regional (*Länder*) level, it is the social partners who determine regional education policies. Besides some administering tasks, they formulate examination standards, monitor the apprentice's performance and the contents of his training, and they examine the candidates.

The German market for schooling and training is fairly transparent. Qualifications and examination standards are always determined at national level, which facilitates choosing an educational career by pupils as well as assessing employees' vocational qualifications by employees.

At regional level, there is still enough diversification to allow schools to compete with other schools in the field of quality and teaching facilities. However, the German composition of the human capital stock has some disadvantages as well. First, in the former German Democratic Republic (GDR), economic and marketing skills, as well as modern management techniques and finance were neglected.

Figures of the Staatlichen Zentralverwaltung fur Statistik (1988) and the Statistisches Bundesamt (1988) show that only 13% of Eastern German students in higher education studied economics, in 1987, whereas in Western Germany the number of students having chosen this subject amounted to 21%6. Hence, business skills are relatively scarce in Germany. Second, there is a lack of expertise in young sciences, which are necessary to engage in e.g. production of semiconductors, fibre optics, telecommunication services, software engineering, and biotechnology cited by Weihrich

United Kingdom

In the United Kingdom, education is compulsory for those from 5 up to and including 15 years old. Until 1986, participation in initial education at the age of 18 was among the lowest in Europe: only 34%. After 1986 this number has increased only slightly. Between 1955 and 1988, vocational education had largely been neglected. Currently, the number of pupils in vocational education is low, relative to many other countries. Pupils leave initial education early and consequently have relatively few skills, with minor vocational qualifications. Therefore, employers who consider vocational skills to be important, need to offer their employees some form of continuing vocational training.

Over the past few decades, there has been a major concern in the United Kingdom that GDP growth did keep up with that of competing economies. Explanations staying behind other industrial nations can be found in developmental theories with regard to industrial leadership, labour economic research concerning wage differences, for instance, and human capital theories.

These theories seem to converge to the idea of the low-skills gap, which states that the growth lag of the United Kingdom is due to a combination of production structure and human capital investments, particularly vocational education and training or, to be more precise, a lack of these.

Nonetheless, policy makers have made serious attempts to increase the amount and quality of vocational education and training, since the 1970s. Sometimes, the approach focused on increasing national authorities' responsibilities, sometimes it involved allowing local organisations more freedom.

Education is largely the responsibility of Local Education Authorities (LEAs). LEAs are, just like other local authorities, locally elected bodies and are responsible for the provision of educational services. Because of their local nature, they have an important decentralising impact on the market for education. LEAs take into account the needs of the local entrepreneurs, reinforcing the decentralised nature of the market. LEAs do not take into account the labour surplus or skills shortages in neighbouring regions. The result is a heterogeneous market for education, because every local market provides for a differently composed skills endowment. It is possible that in one region, too many medical skills are supplied, whereas in a neighbouring region there is a shortage of plumbers, with relatively low GNP and high unemployment as a consequence. Even though LEAs have become less influential over the 1990s, this did not solve the problem of heterogeneity and non-transparency, because their organisational powers were transferred to parents, staff and firms, and the curriculum is determined centrally to some extent only.

British initial education is mainly of a general nature. Hence, those who want to study the supply of vocational skills have to focus on the training system. The United Kingdom has only a three decades long tradition of adult education and industrial training. In 1964 the Industrial Training Act was enacted, resulting into establishing a Central Training Council, together with Industrial Training Boards, which promoted training in each industry separately. Government, employers' organisations and trade unions shared responsibility in the Central Training Council. Yet, as each firm pursued its own training policy, the adjective "Central" was virtually meaningless.

Individual firms paid obligatory fees to the ITBs and received financial support if they proved to invest in training. In the early 1970s, ITBs' training policies became less strict, as the obligatory character of firms' participation was moderated. Still, investments in schooling and training by firms continued to be obliged. The training policies of ITBs concerned firms with more than 100 and at most 200 employees. The large number of very small firms did not profit from this programme. Furthermore, only off-the-job training was considered for financial support, whereas employers revealed a preference for on-the-job training.

In the early 1970s, it was recognised that a centrally organised training schedule was necessary. Apparently, the Central Training Council did not have the appropriate structure. This led to the Employment and Training Act, introducing the Manpower Services Commission, in 1973, which was replaced by the Training Agency in 1988. At the same time, increasing unemployment asked for a special programme for unemployed youths. This resulted in the Youth Training Scheme.

Within this programme, people work in a temporal job, while being trained during 25% of their working hours. While the new programmes were initiated, the old structures broke down and by the end of the 1980s, all ITBs had been abolished. In these ITBs, trade unions had some influence, but their power faded away over time. Training policies of the 1980s were mainly determined by national and local authorities and by individual employers.

From then on, a strong national training policy could be conducted, under direct supervision of the Employment Department. As a first step, it was decided to decentralize the British training policy by delegating responsibilities to local Training and Enterprise Councils (TECs), although the final responsibility remained with the Employment Department. More important is that only less than a tenth of the total budget of TECs were to be spent on job-related training. The financial support by the government was insufficient, creating large insecurities in annual budgeting, and finally that TECs conducted too strict a policy in the final implementation of the program.

Concerning the latter argument, one would understand that firms themselves know best what kind of training is needed. So, strict regulation would be an impediment.

In 1986, a new major programme was added to the existing system of the YTS, introducing National Vocational Qualifications4 (NVQs). These qualifications were to be issued by awarding bodies, under the supervision of the National Council for Vocational Qualifications (NCVQ).

Moreover, the new system facilitated deregulation and was supposed to bring about a competitive market for training, eventually. The major aim of the NCVQ was to integrate existing qualifications of organisations and systems named YTS, SCAA and BTEC, for instance. These training policies emerged to be essentially failure because the network of awarding bodies became too large; too many different qualifications were officially recognized, making the training market nontransparent; NVQs contents concerned tasks that appeared to be too narrow; and employers were reluctant in accepting the new qualifications. Additionally, it seems that workers' interests were neglected, as the government and employers are the main players in the field of education and training. NVQs have not led to a coherent system of qualifications, but has merely added another set of qualifications, causing even more confusion and non-transparency. In fact, within the NVQ system only, there are 814 different official qualifications. This is more than twice as many as in Germany. Taking into account the existence of the Scottish Vocational Qualifications (SVQs), the total number of different qualifications is much larger. It is not clear whether similar qualifications of both systems actually refer to equal skills. This causes a lack of clarity amongst employers and training participants.

The nontransparent nature of the NVQ system is also characterised by the fact that originally it was unknown how many qualifications would actually be created. It was said that the number of different NVQs might be as high as 2000, but it turned out to be much lower.

Another problem related to NVQs is the so-called time-apprenticeship. A considerable amount of qualifications is issued on the basis of the duration of the participant's apprenticeship, rather than his or her skills. This reduces the reliability and credibility of NVQs.

The latest developments concerning the NVQ system is the reform of TECs. The number of TECs is reduced to half of the current number and their name is changed into Learning Councils (LCs). Consequently, less money will be invested in training, LCs are partly centralised and the size of the region that resides under their authority is increased.

Although the reform is presented by the DfEE as the establishment of a new training and education network, it seems that the actual result will be a possibly more efficient but at the same time weaker system with a lack of resources. Other programmes and measures lately added to the collection of British training systems are the New Deal, which started in 1998, and a range of schemes for young people, such as Modern Apprenticeships and Youth Training and National Apprenticeships.

These schemes resemble the German dual system to some extent, but, apart from the small-scale Modern Apprenticeships, they are not as comprehensive as the dual system, neither do they provide the same breadth and depth of skill formation.

A European-wide relevant issue is that of life-long learning. The government has committed itself to promoting life-long learning with the launch of the University for Industry by the year 2000. Its aim is to facilitate investment in education and training by both employers and individuals. It reduces the barriers to learning, *e.g.* lack of financial support and difficulties in finding appropriate courses. Henceforth, it seems that this programme is directly aimed at combating market failures, such as investment externalities —investment in training is beneficial at some larger scale only— and information barriers —non-transparent markets and inability to appreciate qualifications accordingly their true value cause low-scale training investments and thus financial barriers.

Annex 2: Comparative Characteristics of VET Systems in Germany and UK

A. Formal Industry Input

The contribution below are extracted from the study "Vocational education and training in Australia, the United Kingdom and Germany, 2006" by the "National Centre for Vocational Education Research" (NCVER) in Australia, and independent body responsible for collecting, managing and analysing, evaluating and communicating research and statistics about vocational education and training (VET) issues.

Germany

Industry is involved heavily in vocational education and training in Germany. Here the format and level of education and qualifications in schools (including full-time vocational schools) and in higher education is the responsibility of the states. However, industry (that is, employer associations and unions) is closely involved in the development of regulations and guidelines for vocational training in the dual system. Industry works collaboratively with the federal government to develop vocational training regulations and to specify trainee occupations and the period of training. Industry works with state governments to develop curriculum that describes the skills and knowledge to be developed as a result of the training. The Federal Institute for Vocational Education and Training (BIBB) performs an advisory role.

Approximately 480 chambers cover German occupations. However, the chambers involved in the dual system can be grouped under the categories of industry and trades, craft trades, public service, liberal professions, domestic service, agriculture, and maritime and shipping. The role of the chambers is to provide advice to companies, to register trainees, to certify the technical aptitude of trainers and to hold examinations. When apprentices have completed their training, they will undertake examinations set by these chambers or other 'competent bodies'. Such activities enable industry to have a powerful influence on curriculum. The chambers also monitor the performance of companies providing training within their districts or regions and review their ability to provide or continue to provide training. In addition, there are employee works councils which may also participate in the planning and conduct of vocational training and hiring trainers. This arrangement means that the dual system upholds the traditional elements of apprenticeship, the state participates in quality control of company training, and training adheres to principles of vocational education theory.

Nevertheless, there are cases where training companies cannot provide all the training. In these instances special training workshops give trainees access to these skills. Where companies are unable to establish workshops for this purpose (especially small companies), training workshops have been set up by the chambers and professional associations. Small companies can also collaborate to provide joint apprenticeships.

There are currently about 354 state-recognised occupations which form the basis for the vocational education of skilled workers. Training in these occupations then opens up access to other occupations and further training.

United Kingdom
In the United Kingdom, formal industry input into training is undertaken by sector skills councils. These sector skills councils are charged with establishing links with employers in each industry sector and seeking their cooperation in developing priorities and targets for various sector activities. These activities are directed towards reducing skills gaps and shortages, improving productivity, business and public service performance, and increasing opportunities to boost the skills and productivity of all employees in the sector's workforce.

Sector skills councils are also charged with developing priorities and targets for action on equal opportunities and improving the provision of education and training, including apprenticeships and higher education. Sector skills councils are also involved in establishing sector skills agreements to meet priority skill needs to drive business performance. Along with standards setting bodies, sector skills councils develop, maintain, and update national occupational standards as industry needs and patterns of work in a particular sector change.

B. Assessment Pathways to Qualifications

Germany
Curriculum for the dual system in Germany has traditionally been based on prescriptive formal guidelines set by governments and social partners. These relate to teacher qualifications, class contact hours and training contents. Schools and institutions interpret these to develop suitable learning activities. The curriculum of part-time vocational schools is based on state government framework agreements. These agreements have established that one-third of the time is spent on general education subjects (social studies, economics, foreign languages, sports/religion). Two-thirds of the time is spent on specialized vocationally oriented programs (technology, economic fields of learning). The vocational subjects must correspond with the requirements of the relevant training regulations.

Recent reforms have modernised these traditional approaches to the development of curriculum to enable vocational education, especially in the dual system, to be responsive to the needs of the changing workplace. The *Lernfeldkonzept* (learning areas) approach to education provided by the vocational colleges represents an activity-based learning approach which uses the simulation of frequently experienced occupational tasks and processes. Learning areas also combine the knowledge of a range of traditional school subjects with the knowledge and skills associated with occupations; students are provided with problems to be solved using this knowledge. The cross-subject structure of learning areas means that teachers must cooperate with one another to develop suitable programs.

Curriculum based on learning areas provides greater flexibility for enabling teachers to decide on how to design programs to meet established curriculum guidelines. Teachers interact with training companies to ensure that vocational learning activities are relevant to the workplace. In

enhancing the work of teachers (by expanding responsibility levels and range of tasks), provides added flexibility and increases their professionalism.

United Kingdom

National Vocational Qualifications for England, Wales and Northern Ireland and Scottish Vocational Qualifications for Scotland are based on occupational standards identified by industry. In the main they have been introduced to provide qualifications for individuals who want to acquire vocational qualifications and those who may have not had the chance to acquire qualifications during schooling. They apply to production workers, supervisors and managers in organisations, and those who are unemployed. They also apply to those who are still in education.

Assessment usually takes place through on-the-job observation and questioning by assessors who test the candidate's knowledge, understanding and performance of workplace competence. In addition, candidates may also produce evidence to show that they have acquired a particular skill.

National Vocational Qualifications and Scottish Vocational Qualifications are awarded by bodies who have been approved by the Qualifications and Curriculum Authority and the Scottish Qualifications Authority. These bodies in turn approve assessment centres to assess candidates on their behalf. At the same time, they are responsible for ensuring that assessors in these centres have the required training and perform according to required standards.

C. Apprenticeships

Germany

In Germany, once students have completed full-time compulsory schooling, they may enter the dual system for two, three or four years (depending on the prior qualification or the occupation). As already noted, the dual system is a standardised and regulated system in which apprentices combine paid work with training. About 66% of students move into the dual system.

Under the *Vocational Training Act* (*Bundeministerium fur Bildung und Forschung 1969*), students undertaking training for skilled worker qualifications are entitled to a broad-based education. Today there are 354 occupations requiring formal training. These occupations are organised under seven training sectors: industry and trades, craft trades, public service, liberal professions, domestic service, agriculture and maritime and shipping.

In general, the on-the-job training involves apprentices in working on production activities alongside experienced and skilled workers who will teach them the basic skills until they progressively take on more of the work independently. Training in the part-time vocational school (*Berufschule)* provides the underpinning knowledge (theory) and technical skills (for example, operation planning, technology, technical drawing, technical mathematics, business

studies) to support the training provided in the company. Apprentices may also undertake other optional subjects.

Apprentices sit for final examinations set by the examination boards of 'competent bodies', (generally chambers). They must also sit for examinations set by the part-time vocational schools. To qualify for completion of the apprenticeship requires the apprentice to obtain the credential or certificate awarded by the chamber and the certificate awarded by the vocational school. Once an apprentice in the traditional industry and craft trades completes requirements for journeyman status, he/she may continue education to become a master-craftsman (*Meister*) through Germany's continuing education and training system.

Group training companies have been established to provide places for those students wishing to enter the dual system but are unable to get a placement with a training company. Intercompany training is available for those training companies (generally small companies) who do not have adequate facilities to provide all the training for a certain occupation legislated by the *Vocational Training Act*.

In Germany there were a total of almost 1.6 million apprentices in training in 2003.

United Kingdom

Once students complete full-time compulsory schooling in the United Kingdom they may enter an apprenticeship. Popularity among students and employers is low and declined dramatically during the 1980s and 1990s, which in turn has led to significant skill shortages in the technical trades. Modern Apprenticeships were introduced to help meet this shortage and to equip more young people for participation in the changing economic environment.

Apprentices must have a job placement with an enterprise, or full-time employment. They are paid a training allowance or a basic wage. The on-the-job training is provided by the employer and the off-the-job training is provided by the learning provider. The monitoring and assessing of the training is also largely left to the learning provider. Apprenticeship 'frameworks' comprise the mandatory outcomes of the apprenticeship. This includes the level of the qualification, key skills (core skills in Scotland), and technical certificates, and in some frameworks, employment rights and responsibilities requirements.

The contract does not specify the duration of the apprenticeship although there is an expectation that individual contracts will have an expected end date which takes account of the different needs of individuals. These frameworks are developed by sector skills councils, national training organisations or other sector skills bodies.

Today Modern Apprenticeships are open to individuals past the age of 16 years. By the end of 2003 there was 163 000 learners.

D. Institutional Pathways to Vocational Qualifications

Germany

Full-time vocational schools cater for students from the lower or intermediate secondary levels of education (generally aged between 16 and 17 years). Students will enter a full-time vocational school if they have not yet been able to attain an apprenticeship or if they want to prepare for vocational qualifications leading to polytechnic or university entrance certificates. Students may undertake a year of basic vocational education which can be used to articulate into the second year of the dual system of training. The goal of the vocational school is to prepare the student to pursue an occupation. In practice, many students who are unable to find apprenticeships or other jobs end up in the full-time vocational school. Training is aimed at achieving a qualification in an occupation.

In the full-time vocational schools students may pursue training for occupations including in the health, social care and home management sectors for which training is not provided in the dual system. Attendance at these full-time vocational schools may also be credited as the first year of training within a dual system program or lead to university entrance certificates. These programs may last from one to three years.
About 27 of every 100 students in any one cohort of school leavers will move into these vocational schools. One-third of the curriculum is devoted to social studies, German language, foreign language, and sports and religion, while two-thirds of the curriculum comprises studies in the technology and economic fields of learning associated with a particular occupation.

A new initiative has occurred with the passing of the new *Vocational Training Act* in April 2004. It is now possible for graduates from a full-time vocational school to access the chamber examinations to gain a skilled worker certificate equal to that awarded to graduates of the dual system. However, students must first obtain some practical experience in the workplace and provide proof that this has occurred. They must also have passed their school subject examinations.

Vocational continuing education in Germany also includes further in-house training which is not regulated, and further training that is regulated by the chamber (for example, the achievement of *'Meister'* master craftsman and specialist or technician-level qualifications). Continuing education also comprises general education training which enables access to universities, polytechnics and vocational colleges. These qualifications and programs are also associated with federal regulations for further training.

Reforms to the structure of vocational qualifications in the craft trades provide an example of ways in which Germany succeeded in increasing participation in continuing education (Bunderministerium fur Bildung und Forschung 2003). This reform is based on adding another two levels (the intermediate skill level and the meister-plus level) to the traditional pathway to meister status. A modular approach to upgrading qualifications training ensures that credit transferability between intermediate skill level and meister qualifications can occur. Meisters also can upgrade or participate in continuing education to enable them to start new businesses.

The *Upgrading Training Assistance Act* traditionally provided assistance to graduates from the dual system to attain their meister or technician qualifications and those who completed *Meister* qualifications to start new businesses. In 2002 the Act was modified to include continuing education courses from other training sectors, and to provide increased assistance to families,

single parents, and those in part-time studies. Increased grants were also available for programs and students. In 2003 the government extended the modular approaches adopted in the craft trades to other areas and to make continuing education the second major route to higher education qualifications.

United Kingdom

Vocational education and training for post-16-year-olds is generally provided in further education colleges and sixth form colleges. However, there are also some higher education institutions that provide further education; these are specialist colleges, school sixth form classes, local authority adult education institutions and private and voluntary sector providers. Further education colleges also provide academic education (leading to university entrance qualifications), vocational training for adults wanting to find a job, workforce development programs for employers, second chance opportunities for adults, and leisure and personal development programs for the community in general. Further education colleges cater for those wishing to improve basic literacy and numeracy skills, to those wanting to develop technician-level skills; they provide training for part-time and full-time students, existing adult workers and those undertaking leisure courses. They provide simulated workplace facilities, including restaurants, hairdressing salons, travel agencies, classrooms, practical workshops, and e-learning facilities and equipment.

In 2002 the government announced the 'Success for All' reform and standards agenda aimed at reforming the post-16 learning and skills sector (Learning and Skills Council 2003). Five key principles were articulated to guide training provision for 16 to 19-year-olds. These were high-quality, distinct provision appropriate to age group needs, diversity of choice for learners, affordability, value for money and cost-effectiveness.

In February 2005 the Secretary of State for Education and Skills presented the white paper, *14–19 Education and skills* to the English Parliament (Ministry for Education and Skills 2005). This heralded its intention to focus on increased participation in education for 16 to 19-year-olds and to raise the achievement of 14 to 19-year-olds.

Individuals may upgrade vocational skills and qualifications through a variety of programs and pathways, including National Vocational Qualifications and Scottish Vocational Qualifications.

E. Quality Assurance Processes

Germany

Quality assurance in Germany has traditionally been acquired through state supervision and monitoring of education and training. More recent concepts of quality assurance based on meeting specific accreditation and performance standards have also been successfully introduced. However, by monitoring the extent to which training companies are able to provide or continue to provide training in the dual system, the chambers have always joined the government in assuring the quality of programs and services. They have also been involved in the registering of apprentices and in certifying the technical aptitude of trainers.

The 1969 *Vocational Training Act* (*Berufsbildungsgesetz*) stipulates the rights and responsibilities of trainees and training companies, and defines the personal and technical skills required by those who will be providing apprenticeship training. Trainers must not have contravened the law, and must have both the technical and teaching skills to be involved in the provision of apprenticeship training.

The principles of the recently adopted Common Quality Assurance Framework among the European Union member states is also applied in Germany. This framework is tightly associated with the implementation of the Copenhagen Declaration and is based on European Union member states developing appropriate policies and appropriate strategies for planning, implementing, evaluating, assessing and reviewing the quality of their training provision (Technical Working Group on Quality in Vocational Education and Training 2005). Key indicators used in evaluating and assessing the quality of national systems are increased employability, improved match between demand and supply, and better outcomes for people from disadvantaged backgrounds (called vulnerable people).

United Kingdom

Quality assurance is organised differently for different education sectors in the United Kingdom. Inspections continue to be important in assuring the quality of provision and outcomes in further education. The Adult Learning Inspectorate is responsible for publicly funded post-16 work-based training and learning. In England the Office for Standards in Education is responsible for the inspection of schools, non-work-based training for 16 to 18-year-olds, and the inspection of further education institutions.

The Department for Education and Skills noted the weak accountability system that applied to the further education sector providers and the variability in the quality of training provision, and subsequently identified specific quality assurance roles for providers, the Learning and Skills Council (responsible for planning and funding of the further education sector), the Office for Standards in Education and the Adult Learning Inspectorate. Providers were to be responsible for quality provision and were expected to adopt a culture of continuous improvement; the Learning and Skills Council was to define performance indicators and to demand training provision which evoked high satisfaction among employers and students.

The Office for Standards in Education and the Adult Learning Inspectorate were to provide ‘rigorous’ inspection against a common framework. Provider self-assessment development plans detailing Learning and Skills Council agreed success rate targets for improvement were to be a major component of the quality assurance process. There was also to be a government process for intervention in situations where providers were found to be struggling. Excellent education and training provision would be rewarded by applying a beacon status award to high-performing institutions.

Private institutions providing post-16 education may seek accreditation from relevant accreditation agencies. Codes of practice for different sectors also perform a quality assurance role. In addition, some institutions may also seek quality assurance accreditation from

commercial quality assurance companies for administrative processes. The Investors in People program represents the quality standard for professional development for staff.

F. Recognition and Credit Transfer

Germany

Traditionally, the recognition of prior learning and the application of credit transfer based on hours have not generally been used in the vocational education sector in Germany, with entrance to courses based on the completion of prior qualifications. In practice, however, the duration of apprenticeships for students who enter the dual system with higher-level secondary qualifications (*abitur*) is reduced by one year. The federal government has since developed new pathways from vocational preparation programs to initial vocational training that are more flexible.

Amendments to the *Vocational Training Act* to include vocational preparation schemes and agreements between state and federal governments for the transfer of credits from school-based VET have also been passed. Reforms to allow apprentices with flexibility to undertake some of their training abroad and to count intermediate examinations towards final examination results have also taken effect.

United Kingdom

In the United Kingdom the concepts associated with recognizing prior learning are referred to as accreditation of prior learning and accreditation of prior experiential learning. The former refers to prior learning acquired through certificated formal studies and workplace learning and un-certificated learning gained from self-directed study. The latter refers to learning gained from paid and unpaid work and leisure activities. Accreditation of prior learning, regardless of how it is acquired, is a key foundation of the National and Scottish Vocational Qualifications in the United Kingdom. Here workers may apply for assessments of their prior experiential learning and prior studies to achieve qualifications or credit towards qualifications.

Accreditation of prior learning was first used to provide a pathway to further studies. Currently, it is being used in further education to access vocational programs, to facilitate articulation with advanced standing in longer courses, for credit towards competence-based qualifications (National Vocational Qualifications/Scottish Vocational Qualifications) and for entry into ACCESS courses which prepare those without qualifications for entry to university programs. To help applicants deal with the complex process of gathering evidence, a number of further education institutions have established programs to assist adult learners to identify what learning they can include in applications for accreditation of prior learning.

The concept of establishing a set of principles and guidelines to enable students' achievements to be recognised is guiding the development of recognition systems in the United Kingdom. In England the Quality Assurance Agency provides guidelines to universities about how to go about recognising (accrediting) previous learning.

However, it is up to universities to determine the amount of credit provided to students for prior achievement. Credit consortia, comprising a network of universities and colleges of advanced education, aim to promote the development of credit transfer frameworks to make it easier for students to transfer between institutions and sectors. In Northern Ireland the Credit Accumulation and Transfer System provides a framework for the recognition of all learning, however it is acquired, and for the documentation of such attainment on a personal credit transcript. A number of credits are assigned to a block of learning and these can be used to build up a qualification. In addition, credits are also given to A levels and to National Vocational Qualifications.

This process has been developed to enable employers and others to enable an easier comparison of the value of certain qualifications. In Wales the Credit and Qualifications Framework has been established to relate agreed allocations of credit to recognise learning (however it is acquired) and for qualifications. In Scotland the Scottish Credit and Qualifications Framework assigns each qualification a credit and a level. Credits are an attempt to quantify the outcomes of learning that are subject to valid, reliable methods of assessment; for example, one credit point is assigned to ten hours of time spent by students to acquire prescribed outcomes in a qualification. It also includes time for assessment. There are 12 levels in the framework.

The United Kingdom as a whole has implemented a credit equivalence project and is currently investigating ways to establish credit equivalency for the General Certificate of Education AS/A Level, the General Certificate of Secondary Education, the General National Vocational Qualification and other vocational qualifications.