

School of Social Sciences



Working Paper Series

Paper 61



Training and Qualifications in the European Steel Industry

Dean Stroud, Peter Fairbrother and Amanda Coffey

July, 2004

ISBN 1 904815 27 8

Global Political Economy (GPE) Research Group

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The Authors

Amanda Coffey is senior lecturer in the Cardiff School of Social Sciences. Her research interests include young people and the transitions to adulthood, gender and transforming labour markets, and qualitative research methodologies

Peter Fairbrother is a professorial fellow in the Cardiff School of Social Sciences. His research interests include state restructuring, the intersection between locality and global organisation, and questions relating to trade unionism at local, national and international levels.

Dean Stroud is a research associate in the Cardiff School of Social Sciences. His research interests include skills and training, local labour markets and life-long learning.

Address for correspondence:

**Cardiff School of Social Sciences
Cardiff University
King Edward VII Avenue
Cardiff CF10 3WT**

FairbrotherPD@cardiff.ac.uk

Acknowledgements

This Report is one of a series of 13 reports produced for the European Union funded study, 'New Steel Industry Challenges' (Leonardo Da Vinci, UK/00/B/F/pp-129 016). The project is led by the Steel Partnership Training (<http://www.steelpartnershiptraining.org.uk/>), and involves the following partners: Federation Europeenne des Metallurgistes (Belgium), Solidarność (Poland), Talentis (Netherlands), Buro fur Organisationsentwicklung und Berufsbildung (Germany), Acas (UK), London North Learning Skills Council (UK), IDEC (Greece), ASTRA (Lithuania), Istituto Per la Cultura e la Storia d'Impresa (Italy) and Cardiff University Regeneration Institute (UK).

The aims of the project are to:

1. Promote Lifelong Learning within the European Steel Industry
2. Support workers' adjustment to new ways of working.
3. Promote equal opportunities.
4. Support workers' adjustment to new technologies.
5. Provide workers with transferable skills.

In meeting these aims the project undertook the following:

1. Mapped existing qualifications using new and existing research to ascertain the level of need in new and transferable skills.
2. Developed transnational qualification modules comprising new and transferable skills.
3. Developed an on-line training programme.

The duration of the project was three years, from December 2000 to November 2003.

The research for the Reports was undertaken by: Peter Fairbrother, Dean Stroud, Amanda Coffey, Jan Clark, Jenifer Daley, Nikolaus Hammer and Steve Davies, with contributions from all partners.

The Reports are:

1. New Steel Industry Challenges
2. The Internationalisation of the World Steel Industry.
3. The European Steel Industry: From a National to a Regional Industry.
4. The Changing European Steel Workforce.
5. Skills, Qualifications and Training in the German Steel Industry: A Case Study
6. Skills, Qualifications and Training in the Italian Steel Industry: A Case Study
7. Skills, Qualifications and Training in the Netherlands Steel Industry: A Case Study
8. Skills, Qualifications and Training in the Polish Steel Industry: A Case Study
9. Skills, Qualifications and Training in the British Steel Industry: A Case Study
10. Future Skill Needs in the European Steel Industry
11. Training and Qualifications in the European Steel Industry.
12. The Question of pan-European Vocational Qualifications
13. Equality and Diversity in the European Steel Industry

Training and Qualifications in the European Steel Industry

Introduction

The purpose of this report is to compare steelworkers' opportunities for training and qualifications, and in this respect highlight difficulties in comparing steelworkers' skill profiles across Europe. This report outlines and documents the vocational education and training (VET) qualifications (and non-credentialised training) that are available to Europe's steelworkers at national, industry and company levels. The report provides an understanding of how steelworkers' skill/qualification profiles are constructed through the various learning opportunities and structures available to them, and the associated difficulties in comparing skill profiles.

It is important to understand the education, training and qualifications available to economically active people across Europe, but for steelworkers in particular. By examining the different systems, the gaps and deficiencies in (steelworkers') skill/qualification profiles become more visible. What is immediately clear is that the number of qualifications offered across European Union (EU) Member States (and Europe more widely) is vast. Moreover, whilst education and qualification systems on the surface seem similar in structure, their content varies widely. This breadth makes comparing arrangements difficult. Similar kinds of problems also apply to qualifications specific to the steel industry and steel companies.

This report sheds light on some of these debates in the following way. Firstly, the report examines training and qualification provision in the steel industry. Secondly, the principal education and initial training qualifications/systems at national levels are compared. This includes a discussion of how the way training is structured impacts on learner identity. Steelworkers' understanding of and relationship to learning will often be shaped by a single industry, and this has implications for the way that training opportunities are accessed and skill profiles are shaped. The report concludes with an overall assessment of the issues that are raised.

Section One: Training and Qualification Provision in the Steel Industry

As steel companies respond to the wider developments in the steel industry, they have begun to place a greater emphasis on training than previously. Indeed, massive investment in training and retraining has become an essential element of the European steel industry's continuing process of change and restructuring:

Only massive (re)training efforts in all firms and on all levels could make... change possible.... For some firms these efforts meant a substantial intensification of training programmes that were already in place. Most of these had a long tradition in this field and were equipped with large professional training units. For other firms these training efforts were in fact the start of a new process. (Hertog and Mari 2000: 24)

Annual reports by steel companies' are full of statements about investment in training and people, and the development of a 'learning' culture. For example, the Anglo-Dutch company Corus in its annual report for 2000/01 details its policy for 'people development', which is based

more broadly on employees' abilities and potential for advancement. According to Corus this was backed up with a total training investment of £55 million (€86 million), or around £1000 (€1,600) per employee in 2001 (Corus 2000). Smaller companies, such as Finland based Rautaruuki, place an equally high premium on the 'development of competence' through extensive training programmes (Rautaruuki 2000). Most steel company annual reports make similar types of claims.

A further statement often accompanies these claims, on the need to recruit more highly qualified individuals. These statements reflect broader shifts in EU Member States' education policies. Recruiting more highly qualified workers has obvious implications for what training steel companies provide. Qualifications, then, as well as training, are becoming increasingly central to steel companies' human resource and training strategies. There are, however, differences between and within companies in the relationship between training offered and opportunities for workers to accumulate qualifications. Some of these differences derive from external educational structures.

The range of training courses offered by steel companies is diverse, but mainly technical, steel specific and competency based. This focus is however, beginning to change. Rautaruuki (2000) make clear... 'The Group is changing over to a new customer-focused business model', and this is indicative of a change most steel companies are making. It means that (some) steel companies are refocusing their training strategy 'for the development of competence and functions' that will serve this end. These strategies include training (and qualifications) in generic and transferable skills, for example, team-working, communication and computer literacy.

A more qualified workforce is not an inevitable outcome of developments in company training strategies. The opportunity for workers to accumulate qualifications often depends on how national education systems integrate with company based training, the former of which tend to differ widely across the EU and Europe. Indeed, an examination of three European based companies – Corus (UK [plc] and Netherlands), ThyssenKrupp (Germany), and Impex Metals (Poland) – indicate that training is spread across a number of areas, organised and delivered in a number of ways, and with a number of different (qualification) outcomes.

Training Programmes

Company training activities for the production and technical end of operations can be disaggregated by worker status into three broad levels. These are:

- Apprentices
- Production/Maintenance Workers
- Management/Supervisory

The content and curriculum of training programmes for the different categories of worker overlap in some ways. Both *Management Training* for managers and *Teamwork Training* for workers, for example, focus to some degree on communication skills development, albeit with different emphases. Moreover, apprentices, workers and management all tend to undertake health and safety training of some kind. More generally, there is a high degree of similarity and

congruity between the training programmes offered by different steel companies to workers of the broadly defined categories. This perhaps reflects some singularity in the way business (and thus training) strategy is developing across the EU, if not European, steel industry (see Report Three).

However, a closer examination of training policy and practice reveals important differences in approach. Corus plc provides a useful template for the purposes of comparing the types of training programmes offered by steel companies across Europe. Corus plc organise their training programmes across a number of different areas, which it might be argued reflects their wider business plans – particularly for restructuring and the development of work organisation. The structure of the company's programme is as follows:

- Team-working
- Health, Safety and Environmental Training
- Performance Focused Training
- Management Training
- Individual Development Training
- Training for Restructuring
- Graduate Training.

When this programme is compared with Thyssen Krupp, Impex Metals and Corus Netherlands, broad similarities become evident (see Table 1). Training is divided between *social* and *technical* programmes.

Social Programmes: Social programmes are those focused on the development of generic and soft skills, such as health and safety training, environment training and management training. All companies offered these programmes, whether listed in training schedules or noted from visits to plant and company training centres. Thyssen Krupp, Corus UK and Netherlands also placed a particular emphasis on teamwork training. This type of training was less well developed within the Polish plant however, despite the apparent use of team-working as part of work organisation strategy.

Technical Programmes: Technical programmes focus on the development of technical and practical skills. All companies offered programmes in the more technically specific forms of training, such as, for example, welding, crane-driving and technically specialised courses. The making of steel requires workers, after all, to be technically and task competent. This type of training was often operated on a 'when required' basis and not as part of staff development, which is typical of company training strategies across the European steel industry.

Table 1: Company Based Training Strategies

	Corus UK	Corus Netherlands	Thyssen Krupp Germany	Huta Zawiercie
Apprentices	North Lincolnshire Engineering Employers apprenticeship scheme (local company partnership including Corus [Scunthorpe] to form Modern Apprenticeship)	Process Mechanic A Process Mechanic B	Installation mechanic (SA supply technics) Installation mechanic (SA welding) Process conductor electrician Process mechanic (SA Iron and steel metallurgy; SA reshaping of steel) Material inspector (SA metal technics) Computer welder (SA lathe technics) IT electrician Industrial mechanic (SA factory technics) Industrial mechanic (SA machine and systems technics) IT Kaufmann/frau Clerical Kaufmann/frau Industrial Kaufmann/frau Mechanical electrical engineer Chemical laboratory technician Energy electrician (SA factory technics) Computer scientist (SA application development)	
Workers	Teamwork Training (depending on business unit might include: decision making, problem solving, customer awareness, basic engineering skills, health and safety, performance training) Health and Safety Training Team-leader courses Advocate Worker scheme (with ISTC) at Shotton – tuition in computer and other transferable and basic skills Chemical Hazard training	Logistics Crane Driving (cabin, remote control and overhead.) Forklift and other driving (certificated at a company level) Ladle operation Heavy goods movement Furnace training Industry Production Welding (certificated at a European level – valid for two years) Electrical engineering Technical Maintenance Mechanical engineer Bench Work Computer Science Health and Safety (Certificated)	Specialisation Training (a + b) Key qualifications (a + b) Broaden Profile for Promotion (a + b) Linking training schemes that are formally separate (TKS specific) (a + b) Environmental Management (a + b) Teamworking (a + b) Crane Driving Health and Safety Computer courses	Welding. Cutting. Gas installation. Central heating stokers Power and battery-driven trucks driving. Operation of heavy current units. Cranes and hooker operation Teachers Training. Computer training Occupational Safety and Health Bookkeeping Foreign languages (all levels and intensities). Other courses – upon request (seminars, special training and vocational practices). We supply manufacturing and advisory services (fitting, toolmaking, welding, IT0).
Management	i2i (company) training and development: Graduate management Management in international business Leadership in management Local (business unit) training includes: Process Improvement techniques e.financial management workshop Core skills training Language training	Leadership Work organisation processes Production Management Training General Management Training	Three levels (Junior, Intermediate, Higher), with specific courses within generic categories: Foreign Languages/Inter-cultural. Legal Issues. Work Techniques. Leadership. Business Business Simulation	

Notes: 1. SA – subject area.
2. Kaufmann – qualification in business or commerce.
'a' Also available to apprentices
'b' Qualification outcome

Sources: Corus Review of Training (2000 and 2001), Thyssen Krupp Annual report (2000), Corus Netherlands Training Programme (2000), 'Permanent Training Centre' Training Programme (2001)

Training programmes tended to be defined by the workers' job or task. Consequently, not all training programmes were available to all workers, but seemed to relate directly to a worker's role. All the companies, for example, offered computer training, but only particular categories or groups of workers had access to these programmes. Access to training programmes tended to be defined by a worker's occupation, job or task; thus worker skill profiles tended to be task specific, too. However, some workers *may* be able to pick up skills not explicitly associated or connected with their occupational level, for example, through teamwork training.

The shape and structure of training offered by different companies displayed both similarities and divergence. To assess these features the Corus plc training schedule provides a benchmark framework:

Team-working: The company's major initiative in recent years has been team work training. This training builds on programmes for the initial shift in work organisation by British Steel to team-working during the mid-1990s. At the time, teams of steelworkers were involved in months of intensive in-house and external training to improve their knowledge and skills in a number of areas; engineering, technical skills, quality audits, rolling and coating technology, team working and health and safety. This involved training in basic science, engineering and chemistry, and included theoretical and practical application of skills on and off the job.

Team-working remains a huge training focus for Corus UK, and was structured differently across Corus businesses and differently for workers dependent on their place in the occupational hierarchy. (Corus UK is divided into a number of separate businesses [e.g. Corus Colors, Engineering Steels] that operate as individual enterprises but that are part of the Corus group.) Team leaders, for example, received more training in generic skills than team members. The focus for the latter was on multi-tasking so that in theory at least team members were able to work more flexibly and move between tasks.

Strategies for team work training were implemented at individual business levels, with the aim of ensuring that the programmes were responsive to individual business needs. Team-working training comprised training in a range of different skills, including health and safety, generic and technical skills. Training was conducted off-site at Corus's own training facilities (e.g. Ashorne Hill Management College) and on-site, and delivered by both external and internal providers. Examples of team-work training operated by different Corus businesses include the following:

- The Construction and Industrial business developed a three-stage model for progressing team-working from "survival" mode, to "improving" mode to "high performance" mode. Each of these stages incorporates plant specific and generic skills training.
- The Engineering Steels business focused on Team Leader training, health and safety training and basic engineering skills training, as part of a broader team-working training strategy.
- The Skinningrove Works conducted off-site Team Leader training, which comprised training in team leadership, coaching and facilitation, training ownership, quality issues and the company software programme, Lotus Notes. All

team members at the Skinningrove Works received health and safety training through six one day courses, as well as training in generic non-technical areas such as how to improve communications and understanding the roles of others.

Health, Safety and Environmental Training: According to its annual review of training for 2000 all persons employed by Corus underwent Health and Safety training, including all levels of management. Health and safety training was and is seen as a basic part of Corus training, but again as with team-working reflected individual business concerns. Many businesses set up their own programmes for such training. Corus Colors, for example, ran the OPUS programme, which included training in risk assessment, safety auditing, and training in Control of Substances Hazardous to Health (COSHH). Similar kinds of programmes were implemented for environmental awareness training, and the Whitehead Works in association with Interactive Training Services, a private company, developed a CD-Rom to this end. Health and safety courses were organised externally and internally, with many workers following Institution of Occupational Health and Safety (IOHS) courses.

Management Training: General management courses included 'Foundations of Management' and 'Managing in the International Business', and tended to take place at the company's Ashorne Hill facility. In the UK company-wide programmes fell under i-2-i training programme, and separate Corus businesses offered their own tailored management courses. More particularly, the merger of British Steel plc with Hoogovens resulted in a revision of the two companies' respective management programmes to produce an 'International Leadership Development Programme'. This latter programme is modular and concentrates on strategic management and leadership development, and is conducted across venues in France, the Netherlands and the UK. Other management training courses were offered through software packages such as 'QuickPlace', which assisted groups to coach each other on situational leadership issues.

The above provides a picture of the range and scope of training offered by Corus plc. Much of what is detailed above is broadly comparable with what was offered by Thyssen Krupp, Corus Netherlands and, albeit to a lesser extent, Impex Metals. Corus (UK and Netherlands) and Thyssen Krupp, for example, all offer extensive management training. The position was less clear for Impex Metals. There was some evidence of company management training programme curricula, but it was based on hierarchical access to training rather than the development of specific management programmes. Thyssen Krupp's management programme was organised into three levels (i.e. junior, middle and higher) and it is perhaps more developed than elsewhere. Programmes fell under a number of areas, including Foreign Languages/Inter-cultural, Legal Issues, Work Techniques, Leadership, Business and Business Simulation. Corus plc and Corus Netherlands also operated extensive management training programmes, a number of which were jointly administered. Common elements of management training across the three companies included leadership and language, the latter of which perhaps indicate sensitivity in training strategies toward the on-going internationalisation of the industry.

The emphasis on management training in Poland was the same as for Thyssen Krupp and both Corus plants. However, the way training programmes were divided between management and other grades was more pronounced than in the other plants. It is evident, for example, that team-work and IT training was a focus for management training programmes in the Polish plant, and that these programmes were exclusive to management grades. However, team-work and IT training tended to form a major part of training for all grades within Thyssen Krupp and

Corus. This training demarcation extended to tuition in all generic and transferable skills, such as foreign language training for example, which were more widely available in the British, Dutch and German plants than in Poland.

There were other important differences of emphasis within company training programmes. Team-work training, for example, was less widely implemented by Impex Metals, than for Corus (UK and Netherlands) and Thyssen Krupp. Thyssen Krupp and Corus (UK and Netherlands) teamwork training programmes were well developed and mirrored each other in content. The programmes tended to focus on communication, decision making and increasing worker flexibility (See Reports Five, Six, Seven, Eight, and Nine). Corus Netherlands operated teamwork training for all categories of worker, including apprentices, production, maintenance, and management (Report Seven). Corus (UK) included technical training as part of teamwork training, with the aim of improving worker flexibility (see Report Nine). This type of 'flexibility' training found its way into German training programmes through other routes, such as specific programmes designed to broaden worker skill profiles. In Germany collective agreements restricted the level to which team-working could be implemented and this had implications for the way in which teamwork training was introduced and conducted (See Report Five). For production level workers teamwork training in Poland was absent.

All four companies addressed questions relating to health and safety, and the environment, although the programmes differed slightly in content and structure depending on a number of factors. These factors included, for example, the impact of collective agreements, national or state legislation and company policy. In Germany and the Netherlands Health and Safety training programmes were aimed at volunteer officers, whereas in the UK and Poland training was systematic across the workforce. This had implications for the way training was structured, and training outcomes.

Whilst the above in no way covers the wide and different range of courses offered – such as IT training, fork-lift truck driving, crane driving, welding courses and so on – it does highlight the way company-based training is structured and levels of comparability in what was offered. There is a broad comparability in what is offered. However, the content of programmes varied markedly and understandings of what constitutes a particular training programme differ from company to company and country to country. To illustrate, 'team-working' can often mean different things to different people (or companies), which has implications for understanding this type of training. Moreover, where teamwork training for production workers might be absent, as in the Poland, more developed technical training might facilitate the kind of multi-skilled flexible working integral to some kinds of team-working. It was also found that in some cases team and shift were often used as synonymous terms (e.g. Thyssen Krupp), which has implications for our understandings of teamwork training. There are moreover, different training emphases from company to company in terms of business strategies and resources, and this undoubtedly affected the broader training strategy of these companies. More significantly, there were differences in the way formal arrangements for education and training on a national basis impacted on company and industry level training policy. The latter had particular implications for the relationship between training and qualifications.

Training Providers and Methods of Delivery

Training by steel companies was delivered in a number of ways and sourced from a number of different providers. Many companies operated their own training facilities and also utilised external providers. In this respect, training was conducted on an in-house and external basis.

There were pronounced differences in the detail of in-house arrangements:

- *Corus plc* as a single enterprise had a centralised management training facility (Ashorne Hill) and its individual business divisions made their own in-house training provider arrangements. This may or may not involve some kind of training centre.
- *Thyssen Krupp* and *Corus Netherlands* also operated training centres, however the standing of their training centres was quite different to that operated by Corus UK. This reflected the demands of German and Dutch national VET systems. One of the main functions of Thyssen Krupp and Corus Netherlands training centres was to host apprenticeships. The training of apprentices was conducted primarily on site at the plants, which differed fundamentally from the UK approach to this type of training.
- The plant owned by *Impex Metals* presented another set of arrangements. This plant used a private training centre to provide its training, and in this sense was reliant on an external provider in a way that the other three companies were not. There was a special relationship between the training provider and Impex Metals, which reflected the political transitions occurring more widely in Poland. Impex Metals still owned the training centre that provided its training, but rented out the premises and equipment to a private training company provider.
- Similarly, the Corus Netherlands Training Centre was in direct competition with external providers for Corus Netherlands training contracts, aside from apprenticeships. The different sectors of the Corus Netherlands plant, such as the Blast Furnace, Coking Sector, Cold-Roll mill for example, operated in a self-determining way. This arrangement included sector or 'factory' based Personnel departments that arranged training in what they regarded as the optimum way. Moreover, Corus Netherlands workers participated in training in their own time, which in some respects defined them as 'customers'. In this respect, the Corus Training Centre might be viewed as an external provider.

External training took various forms. The suppliers of technology and plant to Corus, Thyssen Krupp and Impex Metals, for example, all delivered some training as external providers to the workers of the different companies. This training took place both on-site and at external locations. External providers, on and off-site, also conducted other training, more central to wider training strategies. Corus Netherlands' 'factories', for example, contracted teamwork training from providers, other than the Corus Training Centre.

In addition to these kinds of arrangements, many companies also cultivated relationships with local education colleges to deliver training. The Corus Colors Shotton Works for example, developed a close relationship with its local college (Deeside), and this had led to the creation of an on-site campus for workers to study. The Dutch and German companies are required to release their apprentices to vocational schools for part of their studies. Impex Metals

concentrated on graduate training quite heavily and in this respect built strong relations with universities.

In terms of delivery, on-the-job and classroom/workshop based teaching was still the primary training methods utilised throughout most companies. However, E-learning, Open Learning and intra-net provided some examples of the way the delivery of training has been expanded beyond traditional methods. With the merger of British Steel plc and Hoogovens there was, for example, the opportunity for British workers to learn Dutch on the company intranet. Moreover, Corus Netherlands and, to a much lesser extent, Thyssen Krupp offered Simulation Training facilities, so that trainees could more closely understand what a particular task on site might involve.

What the above highlights is an increasing diversity in the way steel companies choose to deliver their training, and their choice of provider. There are, moreover, marked differences between companies in the way training is delivered and provided. This variation was especially the case for young people entering the industry, and derived from differences in national VET systems. Such differences also extend to training outcomes for both younger and older workers.

Training Outcomes

Training outcomes were found to be diverse, with education and training accredited in a number of ways. Broadly speaking the training courses open to steelworkers led to accreditation or qualifications at three different levels, although arrangements were often quite different in their detail, particularly at a national level:

- qualification at a company level
- accreditation by external quality assurance agencies
- national (vocational) education and training qualifications.

Company Level Accreditation and Qualifications

In some instances, companies offered their own forms of accredited training, which was organised at either a company or 'business' level. The Corus Colors Shotton Works, for example, operated a Personal Competency Supplement Scheme (PCS). Whilst PCS was not a qualification in itself, it was recognition of acquired skills and on some occasions led to eventual enrolment on nationally recognised qualifications outside the plant, for example, in the UK a City and Guilds or National Vocational Qualification (NVQ). In the following comment a Corus Training and Development manager outlines the way PCS worked:

Very briefly PCS was born at the time of team working and it's a method by which a team member in their own time can go about upskilling themselves and it's got a long and chequered past... there's three routes; the academic route, the open learning route and there was the on-the-job route. The key thing is, is that the guy is prepared to come in on his own time and attain a certain number of points in those areas and when he acquires a magic 20 points he gets a supplement on his earnings (Interview 2001).

Thus, there was a financial incentive to learning. However, there may also be a qualification. As stated:

There's benefits for the business and it has to be something that is agreed by the business as being sensible and not something that the business would deliver... like a lot of people have done IT training and that kind of stuff and maybe developed their health and safety knowledge, so there is a sort of certificate that is given for that. But also within that some people have followed City and Guilds in the rolling and coating of steel, City and Guilds QA (Quality Audit) courses, which we run from our local further education college (Interview 2001).

Much of Corus UK based training was competence and record based, rather than accredited in a formal way. To use the Shotton plant as an example once more, the training principle was based on an appraisal of business objectives and legal requirements (for example, health and safety) and the workers' ability to meet them. Training was then organised to meet the various demands of the business and of legislation.

Company accredited qualifications were more developed in the Netherlands than elsewhere. Even within the same company, the difference between the Netherlands and the UK was marked. Thyssen Krupp (Germany) operated a system of company specific qualification, which sought to recognise different areas of expertise. Impex Metals did not appear to operate its own qualification system. For many companies however, most training at production worker level was organised as on-the-job training and recorded as a competence on personnel records. This approach was a method utilised by companies across Europe in differing ways. Thyssen Krupp (Germany), for example, operated a competency profile listing and the Italy based company Riva relied on interviews to assess competencies, rather than award qualifications.

External Agency and National Accreditation and Qualification

The prime responsibility for systems of national qualification for employment in the steel industry is national vocational education and training structures. It is the case that for most of Europe, vocational education and training and qualifications are part of national structures (and that companies will most often provide at least some training – on an alternance basis). Some of the training offered and conducted by companies might lead to qualifications accredited by external agencies, some of which were national and others that were not. In the UK, for example, health and safety training conducted on Corus's sites was accredited by the IOSH or the National Examination Board for Occupational Health and Safety (NEBOSH). Similar kinds of schemes operated at Thyssen Krupp (Germany), whereby volunteer safety officers worked over a number of years towards an externally accredited award.

National and industry bodies also accredit more technical forms of training, for example, fork lift truck, crane driving, welding and so on. The precise arrangements differed from country to country. At Impex Metals (Poland), for example, workers qualified for licenses as electricians or welders. These programmes of study were accredited by external agencies and were valid for a specified period before requiring renewal. Corus UK offered its young engineers assistance to gain professional membership under the Standards and Routes to Registration (SARTOR) arrangements. Industry-based organisations, moreover, such as MetSkill – the UK steel industry training organisation – also assisted in the development and provision of qualifications formally recognised and accredited at an industry level, (e.g. Metals Industry Health and Safety

Passport, Team-working). Some of these courses and qualifications also formed part of initial vocational education and training (VET) programmes, such National Vocational Qualifications (NVQs) or Modern Apprenticeships in the UK. Similar national bodies elsewhere in Europe were involved in training and qualifying workers.

Young people wanting to enter the industry or those currently employed in the steel industry might also have the opportunity to acquire qualifications that are part of national education and training frameworks. In the UK for example, an individual can enrol on a Metals Industry Foundation Modern Apprenticeship, Metals Industry NVQs or City and Guilds. The way in which an individual trains towards any of these types of qualifications varied. A number of routes were available for initial and further training programmes that combine, to different degrees, college and work based (on-the-job) tuition and training. It is important to state however, that whilst UK companies provided support in a number of ways for employees to complete these kinds of qualifications – for example, help with funding, provision of work-based training, the hosting of work placements – the company was in no way responsible for the administration of the qualification.

In the UK the management of qualifications lays outside the remit of steel companies. This is not to say that companies and external agencies (e.g. MetSkill) in the UK are not involved in the building of national systems of VET programme content or contributing to externally validated courses. Corus's Accelerated Management Development Programme, for example, contributed towards the award of MBAs at Warwick University. Indeed, whilst the acquisition of vocational skills is often regarded as a societal and collective goal, it is individual firms that provide the principal source of these skills. In this case, 'governments have to defer to firms for judgement about what skills should be provided and through what means' (Crouch, 1999: 370). Nonetheless, in the UK government departments control the administration of qualifications, an arrangement that differs in marked ways across Europe.

One principal difference between countries is the degree to which companies are integrated into VET frameworks and the form that this may take. There are significant differences in the degree to which apprenticeships, for example, are enmeshed in VET frameworks in the UK and Poland when compared with Germany and the Netherlands. Indeed, holding the appropriate qualification is a statutory pre-requisite for most occupations in Germany, and companies play a central role in the management and content of these qualifications, at both apprentice and adult worker level. In this respect companies represent industry interests in a different way to most other European states. Even within the same company, the organisation of training outcomes might differ according to national qualification frameworks. Corus UK and Corus Netherlands for example, had quite different structures of training and training outcomes for their respective workers, the latter of which offered training outcomes validated at a national level and which paralleled national qualification frameworks.

Evaluation

In summary there are a number of points to make about training and qualifications in the European steel industry:

- Training was offered at a number of levels: company (or business), industry and national and apprentice, worker (blue-collar) and management (white-collar).

- Training courses offered by steel companies covered a number of areas, and ranged from technically specific skills (e.g. rolling and coating technology) to social/generic skills (e.g. team-working skills) to the fulfilment of legal requirements (e.g. Health and Safety). There are two associated points to make:
 - a. At a general level the nature and shape of what was offered was broadly similar between companies across the EU, if not Europe more widely.
 - b. There were differences in the detail of the training offered by steel companies.
- The training courses offered, at a company level particularly, tended to develop specific skills among specific groups of workers dependent on their occupation and place in the occupational hierarchy. Much training was task or occupation specific, and was not necessarily based on the development of transferable skills or with qualifications as an outcome.
- The relationship between company and national level training was closer and more intimate in some European countries than others, particularly where companies represented the industry at a national level (e.g. German dual system).
- Training tended to be delivered in a number of ways (e.g. on-the-job, workshop, e-learning, simulation) and by a number of different providers, both external and internal. This practice was broadly comparable across the EU, if not Europe, and more well developed in some companies (Thyssen Krupp, Corus Netherlands) than others (Corus UK, Impex Metals). The central role of a training centre was a major influence in this respect. Indeed, the level of resources at the disposal of Thyssen Krupp and Corus Netherlands training centres enabled them to provide a much more enhanced programme of training than Corus UK or Impex Metals.
- The level of training provision and role of the training centre in Germany and the Netherlands derived from the way national systems of VET and company-training programmes were integrated. This relationship was a major factor in explaining the differences between companies and countries in relation to provision, delivery, and credentialisation.
- The relationship between training and qualifications is complex, and not always direct:
 - a. Some company level training resulted in 'business' and company wide qualifications (e.g. PCS). However, it seems the majority resulted in business or company wide acknowledgement of competence. (This outcome, of course, was also dependent on the regulations surrounding the recognition of qualifications/skills).
 - b. Some company/business level training was validated, delivered or developed by external agencies, e.g. health and safety training (IOSH in the UK), electricians licenses in Poland.
 - c. In some cases training conducted at a company level, health and safety training for example, formed part of the qualifications package recognised at industry and/or national levels.
 - d. Steel companies in the UK and Poland did not offer national qualifications; these were the sole responsibility of national education and training frameworks and providers. Therefore, broadly speaking training provided by UK and Polish steel

companies did not have externally recognised qualifications as an outcome. Elsewhere in Europe (e.g. Germany), where in-house qualification focused training was offered and in some cases constituted a standard provision, the outcome was externally recognised qualifications.

The situation is that steelworkers across Europe are qualified in different ways, and this situation derives from differences in the way company and national VET frameworks of accreditation are integrated with each other.

In light of these points there are a number of further conclusions to be drawn:

1. Qualifications operate at company, industry and national levels within the European steel industry.
2. There are 'transferability' implications for the way training and qualifications are organised at a company level:
 - Company level qualifications are unlikely to be widely recognised beyond the administering company, particularly when the training strategy upon which they are built is structured to meet the demands of individual businesses.
 - There are 'transferability' issues when training does not have a qualification as an outcome. That is, steelworkers struggle to employ their uncredentialed skills outside of their current employment within a steel company.
 - Generally, there are problems for the recognition and transferability of company level training and qualifications within companies (between Corus UK and Netherlands for example), as well as at national and international levels.
3. There are 'transferability' implications for the way qualifications are organised at a national level within the European steel industry:
 - The relationship between company training and national systems of qualification is complex and differs fundamentally between countries. The implications for the transferability of qualifications are massive; comparability of qualifications and, therefore, (steelworkers') educational/skill standards is a major problem in this respect.
 - There are limitations to the comparability of qualifications across Europe. These features are exemplified by differences mentioned earlier between the British and Dutch or German education and training systems and the different ways training and qualification provision is structured.
4. Qualifications are not the only measure by which steelworkers' skills might be recognised:
 - Companies might ignore their qualification requirements when faced with recruitment problems. One particular example of this, is the suspension of qualification demands and a reliance on 'experience' by Corus Netherlands in its recruitment of workers from Germany and redundant Corus UK workers from Ebbw Vale, UK. The example is particularly pertinent because it highlights how training regimes and outcomes in terms of steelworker skill

profiles, if not necessarily qualifications, compare to some degree, across Europe. It also tacitly acknowledges that qualifications do not always measure accurately a worker's skill profile.

5. Training, education and qualification systems shape individuals' attitudes to learning:
 - The training of steelworkers does not take place within an educational vacuum and is shaped by education and training at a national level. Education and training systems therefore, will shape steelworkers attitudes to learning and the accumulation of qualifications at all levels.
 - More generally there are on-going debates concerning the value of generic and transferable skills/qualifications and employers' demands for workers with these kinds of skills/credentials.

Section Two: European Vocational Education and Training Systems

An understanding of company approaches would be incomplete without an examination of the vocational education and training systems that apply in each country. Specifically, it is important to understand the structure and shape of vocational education and training across the EU, in order to assess the impact such systems have on the qualification profiles of Europe's steel workforce. This discussion also begins to open up a debate on the measurement and comparison of qualifications across the European steel industry (see Report Twelve). Moreover, the shape of any single education and training model impacts on the way workers experience learning, and the learner identities individuals develop shapes approaches to learning, both at work and beyond. The learner identities that steelworkers bring with them to the workplace, and which are then shaped further by learning experiences during working life, impact heavily on the way workers experience (access to) training opportunities.

Learner identities are essentially personal, shaped as they are by individual and collective experience. Thus educational experiences reflect structures of learning:

however personal learning identities may be, they remain the products of individuals' social experience.... Most obviously, compulsory schooling is a powerful source of learner identity (Rees *et al* 1997: 493; see also Sennet and Cobb 1972, Weil 1986)

Steelworkers' learner identities will be structured not only by their experiences of schooling, but most evidently by the training that has followed in the wake of their employment in the steel industry. This will most likely reflect national structures of VET training, and to some extent for those in the steel industry might be understood in narrowly vocational terms. Furthermore, the learning experiences of younger steelworkers will often differ significantly from older workers. Indeed older workers learning experiences might be entirely restricted to an industry context, and in this respect their learner identities have been shaped by a single industry. In other words, learning identities are shaped by both formal and informal education and training.

European Vocational Education and Training Models

It is the case that global developments have stimulated a demand from employers for a more highly skilled labour force:

The impacts of rapidly developing technologies, increasing international competition and industrial change are powerful and interlinked forces which continue to place increased demands on the skills of the labour force. (DfEE 1997: i)

The restructuring of employment is, of course, more complex than the above statement suggests, with contradictory trends and disputes over what is really happening (see Reports Two and Three). Nevertheless, vocational education and training finds itself 'an important policy tool' in the relationship between highly qualified/skilled workers, economic competitiveness and social cohesion (Bainbridge and Murray 2000). Indeed, 'High expectations have... been invested in education in general and vocational education and training in particular' (Crouch, 1999: 368).

The form of vocational education and training differs across the EU. These differences have implications for the opportunities an individual has for the accumulation of qualifications, and the way in which qualifications might be accumulated. What follows is a brief discussion of some of the main features of different models of initial VET across selected steel making countries; Germany, France, Italy, the Netherlands, Poland (as an Accession country) and the UK:

France

The French system of VET is described as a 'model for regulation' (Heidemann 2000). The focus is on *further* vocational training and discussions between government, employers and trade unions have resulted in a number of regulations to enshrine training as a right. The more general philosophy might thus be regarded as one of 'lifelong learning'.

Initial VET System

Generally, upper secondary education is divided into three distinct branches, general, technical and vocational. The upper stage of secondary education is conducted at a general or technical *lycées*.

- Vocational training is hosted at vocational lycées and divided between technical education, general education and training periods at the work place.
- Apprenticeships provide an alternative VET route. The apprenticeship tends to attract 15 per cent of those leaving compulsory education and is aimed at those 16-25 years of age wanting to learn a trade under a private work contract lasting 1 to 3 years. Students divide time between practical work based activity and training at the '*centre de formation des apprentis*'.

There is national uniformity and central regulation of vocational and education training systems, in conjunction with advisory committees. Since 1983 however, the 'region' in France has developed greater powers to respond to local training needs through manipulation of VET. The professional world, moreover, has become increasingly responsible for regularly updating the relevance of vocational diplomas.

Initial VET Outcomes

There are a number of VET qualification routes an individual might follow:

- the *Certificate d'aptitude professionnelle* (CAP)
- the equivalent but more highly regarded vocational diploma (*Brevet* or BEP, including the technical strand *Brevet de technicien*)
- the vocational *baccalauréat*.
- Apprenticeship (i.e. CAP or BEP)

The CAP is basic craft studies, the BEP is more broad based and the *baccalauréat* an academic and technical route, enhanced by a two year vocational stream. Secondary education is structured to ensure individuals reach a level V qualification, that is, a CAP or BEP. An apprenticeship most often culminates in a CAP, but apprentices are also encouraged to progress to a BEP. Eighty per cent of pupils are encouraged to sit a *baccalauréat*, which in vocational terms was only formed in 1985 and is referred to as the 'bachelier'. These educational paths are designed as training for professional qualifications and provide the minimum required to operate as a worker or skilled worker.

Whatever the branch of study, vocational training is based upon general education, plus technological education and periods of practical apprenticeship in the professional world. Table 2 give some indication of the way vocational training hours relate to qualification route.

Table 2: Vocational Training hours by branch of study

Qualification Route	General education	Technical education	Workplace Training
CAP	14.5Hours - 16H	12H - 17H	12 weeks
BEP	14H - 22H	16H - 20H	8 weeks
Voc.Bac.	12H - 14H	16H - 18H	16 to 20 weeks

NB. Hours vary depending on the specialities chosen by the pupils in the various branches.
Source: Eurydice Information Database (2000)

Further and Adult VET

The General Delegation for Employment and Vocational Training (GEFP) has overall responsibility for adult job placement activities or vocational training measures designed for job seekers or salaried workers. Further training is a right in France, realised thorough a number of initiatives, including training leave (CIF), training time credits (CTF), formal skill assessments and formal and open routes of financial backing.

Recent Developments

The most notable development in French VET of late is the increasing level of decentralisation, and the devolution of powers to regions. This initiative is a response to rising unemployment levels, to make training more sensitive to local labour market needs.

Germany

The stated philosophy behind the German VET model is to ensure training is practical in nature, and ensure employability and labour market relevance. The 'dual system' has primacy and accounts for the majority of those participating in VET.

Initial VET System

Principally, Germany operates a 'dual system' VET model that is company led, but heavily influenced by social partners. This arrangement combines in-company training and education at a vocational school. Most State-recognised vocational training is in accordance with the 'dual system', and some 60 per cent of an age cohort experience this type of training (BAINBRIDGE AND MURRAY 2000).

Within the 'dual system' the larger part of the training is conducted at a company school, with the student released to attend a vocational school on a regular basis. This training often comprises three/four days per week in a company centre and one/two days per week at the school. The latter provides specialist theoretical learning and builds on general education and training provided by company facilities. The duration of training is between two and three and a half years, with trainees receiving a 'wage' from their employer, the company.

Full-time vocational schools include the *Berufsfachschule*, the *Fachoberschule*, the *Berufliches Gymnasium* or *Fachgymnasium*, the *Berufsoberschule*, the *Fachschule* and other types of schools that exist only in certain Länder or are of marginal importance due to their small numbers (Eurydice 2002). Each of these options provides a level of vocational training that will allow entry to an occupation or to further and higher education, but in VET terms take second place to the 'dual system'.

Initial VET Outcomes

The outcome of the German model is a qualification as a skilled worker in a State-recognised occupation. In this respect, the German system of qualification is *process orientated*, in that 'participation in regulated training courses under the "dual" training system largely leads to qualifications which are recognised on the employment market' (Heidemann 2000: 7). A school-leaving certificate is not necessary to participate in many forms of VET. However, qualifications are necessary for movement between the different types of vocational school.

Further and Adult VET

Beyond initial training, German models of further vocational training also consist of two elements: learning and practical application. Advanced vocational training is offered to individuals who have already qualified at a vocational training level and spent a period working in an occupation. The purpose of the advanced training is to ensure the 'freshness' of existing vocational qualifications and prepare individuals for possible promotion.

Vocational retraining is also made available and seeks to address the needs of workers no longer able to locate job opportunities in their trained occupation, or individuals with no prior vocational training. This form of training takes place at 'inter-company' centres, and is based on the same requirements as those expected for young people sitting examinations for State-recognised occupations.

Recent Developments

More recently, the German state has begun to focus its apprenticeship on fewer occupational categories, with the aim of streamlining and making the system less cumbersome and more flexible.

Italy

Typically, VET has not been particularly highly regarded in Italy, although this situation has improved in recent years. The alignment between training and employment is quite poor and regional disparities in qualifications are high. Generally, the practice is to provide regional qualifications for regional demands and small craft employment. In this respect, the VET system is qualification led.

Initial VET Systems

In Italy, compulsory education finishes at the age of 15, with the completion of the *esame di licenza media*. From here, an individual might enter a number of vocational training routes, which tend to be administered under the responsibility of the regions. The main VET routes are through the school based *ordine tecnico* and the *ordine professionale*, which offer training in trades and professions respectively:

- The *ordine tecnico* prepares individuals for work in particular occupations or to undertake technical and administrative duties in the areas of agriculture, industry and commerce. It is conducted over five years on a part or full-time basis.
- The *ordine professionale* trains individuals for specialist professions in a number of employment fields. It is conducted over three years, full or part-time.

Apprenticeships form a smaller part of Italy's VET system and have recently been extended to a wider age group (16 – 24). They take place almost entirely at the work place and in the craft and small industry sector. Work-training contracts also form a small but popular part of vocational training, and offer 12 to 24 months' training within a company.

Initial VET Outcomes

The *ordine tecnico* leads to a diploma. The diploma is issued by the national government, the region or a private company, depending on the nature of the course. At the end of *ordine professionale* a certificate is awarded, a further two years study results in diploma.

Apprenticeships lead to a craft qualification in the sector in which training was received. Work training contracts offer a certificate valid across any sector of the economy.

Further and Adult VET

Further training is very limited and vocational training is held in low esteem generally (Bainbridge and Murray 2000). Some evening vocational training courses are organised by region for adults, and are the responsibility of the '*Centri territoriali*' and social partners. Regional training centres are organised by regional government, employers and unions as part of labour market planning, not the education system. They offer basic craft training, off-the-job training and continuity training.

Recent Developments

The most recent educational development in Italy is the extension of compulsory schooling by one year in 1999, to age fifteen. Moreover, the OECD has recently highlighted deficiencies in

the non-university sector of post-secondary education, to which Italy has responded with the development of the Higher Education Technical-Vocational Training System, this provides higher training for the 'labour world' (Bainbridge and Murray 2002).

The Netherlands

Quality has become an increasing focus for the Netherlands VET system in recent years. Responsibility for setting and raising standards has shifted further toward providers and away from central government. Moreover, qualifications and the education and employment link has become an increasingly central tenet of the VET system. It is primarily a credential led system, although claims are made that it is also market-responsive. Thus, in its philosophy it tries to combine elements of flexibility with uncompromising standards.

Initial VET Systems

Dutch VET has traditionally been highly centralised. However, the Adult and Vocational Education Act 1997 and the formation of the regional training centres have created a more devolved system designed to improve the alignment of education and employment. The 1997 Act includes a clear qualification structure for vocational education with an integrated system of courses and considerable emphasis on practical training. Employers' organisations and trade unions in the relevant sector of employment are represented on the national vocational education bodies, which formulate the exit qualifications. Industry can therefore influence the exit qualifications.

In the Netherlands, there are two predominant routes of learning. First, the majority of students embarking on VET enrol on a *Middelbaar Beroepsonderwijs* (MBO). The MBOs are offered across four different curriculum sectors: technical and natural sciences; personal and social services and health care; commerce, including catering; and agriculture. Generally, MBOs prepare students for intermediate positions, specific vocational sectors and higher education (HBO [vocational/general]). Second, the MBO route is complemented by the apprenticeship programme, the second most widely used form of VET. This programme is aimed at providing tuition in specific trades. Most of these courses combine work and school based tuition.

Before embarking on either of these routes young people have the choice of a number of learning sectors and pathways during pre-vocation secondary education (VMBO, MAVO and VBO pathways). The sectors include engineering, business, agriculture and care and welfare. The pathways combine different levels of management, professional, basic vocational training and general education depending on the pathway chosen.

It is important to note, that private educational institutions are invited to incorporate their courses into the formal educational system subject to the same conditions as government-funded institutions.

Initial VET Outcomes

There are a number of VET outcomes, which are at present undergoing change:

- MBOs provide a higher professional education and qualification.
- VMBO, MAVO or VBO pathways might culminate in certification or practical training, depending on the student's ability.

- Apprenticeships culminate in a nationally recognised diploma.

Secondary vocational education as stipulated in the Adult and Vocational Training Act 1997 is divided into four levels, from level 1 basic skills to level 4 middle-management skills. Courses at private educational institutions lead to qualification for successively higher levels of professional practice.

Further and Adult VET

Adults can participate in any of four levels prescribed under the Adult and Vocational Training Act 1997 on block or day release courses.

Recent Developments

From 1999 the separate MAVO and VBO pathways and certificates will gradually be replaced entirely with the VMBO pathway and certificate.

Poland

VET in Poland forms part of post-primary school education and is based on the acquisition of skilled worker qualifications, and direct access to trades and occupations. In this respect it mirrors quite closely aspects of the German system. Unlike Germany however, school in general does not provide a strong link between training and employment, with young people under 24 constituting a third of the total unemployed. This situation is compounded by employers' increasing skill and qualification demands, as evidenced in the steel industry. This has resulted in a number of new VET measures.

Initial VET System

Until recently, four educational options following primary school offered some kind of vocational education:

- the *technikum* (5-year vocational and technical)
- *liceum zawodowe* (4-year vocational)
- *liceum techniczne* (4 year general and vocational)
- *szkoła zasadnicza* (3 year basic vocational).

However, from 2002/3 the *liceum zawodowe* and *liceum techniczne* will be amalgamated with the *liceum ogólnokształcące* (4-year general education) to form the *liceum profilowane*. This will offer 3-years general and specialised education and will offer the *Matura* exam necessary for admission to university. In addition, the *Szkoła zawodowa* (2-year vocational) will be introduced in 2002/3. This offers access to a trade or occupation after two years.

The *Szkoła policealna* is post secondary education aimed at preparing students to work in blue-collar (e.g. steel) and equivalent occupations. The period of training varies between 1 and 2½ years and depends on the occupation, which (as in Germany) is specified by the official Classification of Occupations.

Initial VET Outcomes

Qualifications are organised on a leaving certificate basis. At the end of the *liceum zawodowe*, for example, following an examination a student will graduate with a *świadcstwo ukończenia liceum zawodowego* (an upper secondary vocational education certificate). Typically, a certificate lists students' specialisms.

Vocational subjects can also be studied to degree level and above, e.g. *magister inżynier* (master engineer). There are distinct vocational routes of higher education, separate from general higher education and run by both state and non-state bodies.

Further and Adult VET

Adult education and continuing education have developed rapidly since the early and mid-1990s, with non-state forms of adult education taking the lead. Adult vocational training and adult general education can be provided both in the school and out-of-school forms. Adult education in the school forms is provided in primary schools, gymnasia, upper secondary and post-secondary schools, in higher education establishments. Vocational training and general education for adults in out-of-school forms (except post-graduate studies) are run by:

- continuing education centres
- schools
- vocational education centres (ZDZ)
- scientific and research institutions
- employers
- associations, foundations, companies, physical persons and corporate bodies.

Post-graduate studies are offered by higher schools, scientific, research and other institutions if provided in legislation.

Recent developments

Most of the above constitutes recent developments, and represents a marked change in vocational education provision. The *liceum uzupełniające* (2-year general education) will be introduced in 2004/5 and offer 2 years extra general education on a full or part-time bases to those completing *Skola zawodowe*.

United Kingdom

The philosophy behind the UK VET model is 'competence', and in this respect it differs significantly from the German and other process led systems. The British system is output orientated, whereby 'qualifications are awarded on the basis of demonstrable competencies, irrespective of the type and duration of formal initial and further training' (Heidemann, 2000: 7).

Initial VET Systems

In the UK VET is divided between a number of programmes: full time study for vocational qualifications in further education colleges, employer supported training and *Modern Apprenticeships*. Some vocational training is also available at secondary school level. The main routes are:

- *National Vocational Qualifications*
- *General National Vocational Qualifications*
- *The Modern Apprenticeship*

National Vocational Qualifications (NVQ) and *General National Vocational Qualifications* (GNVQ) form the primary routes of vocational education. The NVQ is job focused and is the primary form of vocational education. The GNVQ balances academic and vocational studies. The *Modern Apprenticeship* is a job specific course, and is divided into two self-explanatory levels: Foundation and Advanced.

City and Guilds courses provide another means by which initial or further VET qualifications can be acquired. The *New Deal* provides a route by which the young and long-term unemployed might access education and training opportunities.

Overall, the majority of students attend courses that take place solely in education/training institutions. The rest attend programmes that combine education/training institutions and work placement.

The UK is second only to Italy in the number of entirely work-based programmes that it offers. The basic premise behind the British system is to credentialise existing skills and competencies and provide vocational qualifications for 'learners'. In this respect, it attempts to remove the divide between initial and further education and regards individuals as seeking credentialised skills at whatever stage they are in their life.

Initial VET Outcomes

The NVQ forms the basis of the British VET system. The NVQ is a credential defined at five different levels of requirement. It is assessed in companies or in recognised institutions, certified by national independent awarding bodies and the content defined by industry led bodies (which mainly comprises companies, and to a more limited extent trade unions).

The *Modern Apprenticeship* offers certification in a specified skill, usually defined by the labour market/employment sector. *City and Guilds* certificates are nationally assessed vocational qualifications, which accredit at a number of levels. The *New Deal* offer NVQs, *City and Guilds* and other forms of qualifications, depending on the type of arrangements made on acceptance to the programme.

Further and Adult VET

The British system is competence led and in this regard there is an emphasis on credentialising prior learnt skills. To this end, NVQs (and *City and Guilds*) also form a central part of adult education structures and opportunities.

The majority of work based learning for adults falls under the remit of the Employment Service, with decisions made at a local level. Other voluntary organisations, such as the Workers' Educational Association, undertake to encourage continuing education.

Recent Developments

The most recent developments in the UK are the *Modern Apprenticeship* and the *New Deal*.

- The Modern Apprenticeship replaced Youth Training in 1995, and was designed to increase the number of young people with recognised credentials – and hence a shift towards a more credentialised model of VET.
- The New Deal comprises subsidised employment and education and training opportunities for the long-term and young unemployed. Its introduction however, enables employers to take on young people without providing the same level of training they would receive on a Modern Apprenticeship. A Modern Skills Diploma to enhance adults' business skills was introduced in Wales in 2001. It is similar in format to the Advanced Modern Apprenticeship, for over 25 year-olds.

A Summary

All European systems are an amalgamation of the different features and philosophies presented above. There is moreover, a general consensus across most EU Member States that there should be a move towards credentialist models of VET. However, the way VET is structured within each Member State and Europe more widely, impacts on the way a company structures learning and qualification opportunities. This conjunction is where the detail of the different systems matters most, particularly when considering how steelworkers will relate to learning opportunities more widely. These arrangements imply that there are, moreover, limitations in introducing pan-European qualifications, as well as for the measurement and comparison of qualifications.

Section Three: Assessment

This report comprises a layered analysis from the steel company to the VET systems that define educational practice. There are a number of points to make:

- First training is focused across similar areas between companies, although often very different in the detail. This very same point applies to qualifications at a wider level.
- Second, despite superficially similar education systems there is a limited potential for cross-border comparability of individual Member State's VET programmes, and therefore for the comparability and transferability of steelworkers' nationally recognised qualifications (and, perhaps, skill profiles).
- Third, this situation has implications for measuring and comparing steelworkers' qualifications across Europe and for the building of a pan-European qualification. Beyond superficial similarities there is a huge variety of (and diversity in) VET systems and the number of qualifications available to economically active people in the EU.

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