Certification and legibility of competence
Annie Bouder, Laurence Coutrot, Édith Kirsch, Jean-Louis Kirsch, Josiane Paddeu, Alain Savoyant, Emmanuel Sulzer

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Certification and legibility of competence

Annie Bouder, Laurence Coutrot, Édith Kirsch, Jean-Louis Kirsch, Josiane Paddeu, Alain Savoyant, Emmanuel Sulzer

Abstract
This report looks at various aspects of the role that certification systems, understood in the broad sense, can play in the very different ways in which competences are recognised in enterprise or in the labour market. There is undoubted interest in these certification systems in the European Union. Faced with the ‘maze’ of education systems and the fact that the certificates that they award are felt to be unable to adapt to new qualification needs, the problem of identifying competences is raising increasingly urgent questions as regards certification systems. Being able to identify the learning acquired from occupational experience and providing the best possible match between individuals and production functions, while ensuring that they are still adaptable, and therefore more employable, seem to be the current expectations. The answers that the various systems are providing in this respect are examined below from both an institutional and a methodological point of view:

- from an institutional point of view, the report looks at the role that the state has played in the past in constructing systems responsible for education and training and certification, and goes on to examine contemporary developments that are tending to make certification more independent from education and training with the result that skill identification is tending to make these skills independent from formal learning routes;

- this therefore raises new methodological problems. First, defining competences through performance standards raises the question of how and to what extent actual work can be taken into account. Second, the construction of assessment standards, analysed here using the accreditation of prior learning as an example, must include thinking about the nature of the competences that are being validated and the legitimacy of validation bodies.

Competences are certified and recognised in different ways, depending on national traditions, but the procedures used in all cases have to address the same kind of problem: they must be precise enough to enable efficient adjustment and socially legitimate enough to pave the way for their general validity.

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1. Introduction

1.1 Why this topic?

The theme of the certification of occupational abilities has occupied its own space in discussions of vocational training since the beginning of the 1990s. Major events in this area have included the OECD symposium on this issue in 1992 in Lisbon, the various works that Cedefop has published on national situations and the White Paper on the learning society – and in particular those parts of the White Paper that set out proposals for new forms of accreditation. Before the 1990s, little attention seems to have been paid to this issue: certification was seen as a natural and logical stage of a process of education that it both completed and sanctioned.

Two questions helped to call this sequence into question:

a) Was too much emphasis being placed on the labelling of academic knowledge that lacked an immediately evident link with the actual knowledge used in the practice of an occupation?

b) In what ways could other forms of acquisition of occupational knowledge, reflecting the mutual expectations of jobseekers and job providers, but not forming part of institutional education and training systems, be recognised?

For these reasons, we felt that it would be interesting to propose a report entitled ‘Certification and legibility of competence’ to Cedefop. Part 1 looks at the issue of the increasing autonomy of certification systems and the different outcomes of this increasing autonomy in different countries, in particular as regards the reorganisation of the links between training and certification. This increasing autonomy has highlighted the question of skill identification and the need to rethink performance and assessment standards, an issue that is examined in Part 2:

- the link that occupational analysis and definition of performance standards has with education and training is examined using three types of reference: an overall occupational target, jobs described in varying degrees of detail and the occupational skills attached to these jobs;

- assessment issues are analysed from the point of view of the ways in which informal experience is validated, focusing on the construction of assessment criteria, their links with existing systems, the ways in which they are put into practice and on assessors themselves.

The current systems in Germany, Belgium, Spain, France and the United Kingdom, which show interesting differences in this field, provided a basis for our work. The documentation available on this issue varied from country to country, but there again our objective was not to conduct a comparative study. All these countries have a range of certification systems and any attempt to characterise them by their dominant system – diplomas in France, dual certification in Germany, NVQs in the United Kingdom – was problematic. This would have run the risk of presenting each country by its most firmly rooted characteristics and of disregarding various kinds of innovation. We therefore chose to approach the issue in a different way and to consider that a number of forms of certification, whose proximity has not been systematically shaped by national traditions, can be found throughout Europe.

1.2 Terminology

‘Certification and legibility of competence’: there has been a great deal of research into some of these notions that could be developed in a whole range of ways. The diversity and in some cases the contradictory nature of the definitions proposed, their proximity to other notions – such as recognition, validation, qualification, experience, etc. – which could at least partially explain them, bear this out. It therefore seemed of little use to propose yet another definition for terms that have already received a great deal of attention. Nevertheless, the fact that they are so difficult to place on a formal footing and their protoplasmic ability to find their way into issues involving
the links between training and employment, and to reshape these issues, bear witness to the current turmoil surrounding this field. These terms are therefore used in a broad sense, since the phenomena that they reflect are changing, subtle and part and parcel of wider-ranging debates. Some terminological precisions are needed, however, to explain some of the ways in which they are used in the following report.

Certification is used to mean the formal and official recognition of a person's occupational abilities. It seemed preferable not to determine the extent of this formal and official recognition too far, and merely to contrast it with domestic forms of recognition based solely on the agreement of particular individuals and to note that it provides a more global framework for the latter. Certification is therefore seen as a process and an outcome: a process that involves implementing standards and defining the criteria by which these standards are assessed, and an outcome resulting from these assessment procedures, whether or not they lead to the award of a qualification.

The use of the term 'credential' also needs further explanation: the concrete form that certification takes is expressed by a variety of terms—certificates, diplomas, credits, etc. A detailed study would be needed to understand and explain this variety. In the meantime, we opted in this report to use the general term 'credential' for these different expressions, and to use their particular names when circumstances so required. Moreover, classification, as defined in collective agreements for instance, is not perceived as certification as it takes account more of the qualities mobilised by a particular job. The difference between certification and classification is nevertheless tenuous and questionable in some cases and deserves a detailed study of its own, as its development raises problems. Leaving it out may well have been questionable, but including it would have been unrealistic.

The term 'skill' was unavoidable because it has so many different meanings and is used in such different ways in the worlds of education and training and work, representing an entity to which everyone gives meanings that are close enough to stimulate a debate and different enough to keep the debate going, in the same way that Binet defined intelligence as what was measured by his test, a skill here is what is identified by certification.

The term 'legibility' is frequently used by decision-makers and consultants, but has not been taken up—as far as we are aware—by academic language. It is part and parcel of those new terms—‘visibility’ and ‘transparency’ are other examples—that are being used to suggest a different form of intelligibility. The growing extent to which they are used should be linked to the introduction of new forms of social rationale reflected, among other things, by the growth of standardisation practices in the production of good and services…but that would be another story.

2. The gradual emergence of certification systems

Judging by historical works, specific mention of certification seems to have been relatively late and piecemeal. Is this because certification has gained importance only in recent years, or, even though it was already playing a role, because it was long seen as a dependent element of the vocational training system? The importance that modern societies attach to assessment makes it impossible to reject this second hypothesis. The few references to certification in historical works show, moreover, a trend towards gradual appropriation by the state, accompanying the state's growing involvement in the education of individuals, starting with higher-level qualifications and moving on to lower-level qualifications. This trend did not, however, follow a harmonious course and encountered opposition from some protagonists, in particular as regards the lower occupational levels. In addition, referring merely to the state is not enough as the state could—and can—intervene through bodies linked to the production system or the education system, depending on policy options linked to one or other sphere, and thereby give certification different objectives. In these circumstances, therefore, it seems logical that occupational certification seems to be rela-
tively recent as a specific issue and that de-
spite a common historic dynamic, it takes dif-
ferent forms, even within the same country,
and is not moving in the direction of trans-
national harmonisation.

It would therefore seem that certification sys-
tems are becoming more independent and are
no longer being considered as the completion
and outcome of an educational process that
Bertrand (1997), taking up Gordon (1993),
breaks down into the following stages:

- definition of educational objectives
- design of education
- practice of education
- assessment of education
- certification
- recognition of certification on the labour
  market (Bertrand, 1997, p.5).

Four developments are now accentuating this
tendency towards autonomy:

1. comprehension of the specific nature of a
   ‘credential effect’;
2. labour market changes;
3. new qualification needs;
4. different forms of knowledge and of ways
   of acquiring this knowledge.

Two issues are also examined since they re-
fect very topical questions:

a) the criticism of credentials, in the broad-
est sense of the term;

b) the construction of a single national refer-
ence.

2.1 History

The history of certification remains to be writ-
ten, as does that of its impact on vocational
training. The academic literature has covered
the history of education and higher education
and, in most cases, deals with certification only
as an allied variable. To our knowledge, the
only work that has set out to retrace the his-
tory of technical and vocational education
qualifications is that of Guy Brucy (1998), con-
cerning France. An outline comparative analy-
sis has also been undertaken as part of a Eu-
ropean ‘Eurocertification’ project (Céreq, 1998).
Patricia Broadfoot (1996) has conducted a com-
parative historical study of assessment in
French and British education which clearly
highlights the role of certification.

Assessment processes have much to do with
the construction and award of certification.
Assessment is part of all areas of life: ‘Assess-
ment is a central feature of social life. Pass-
ing judgement on people, on things, on ideas,
on values is part of the process of making
sense of reality and where we stand in any
given situation’ (Broadfoot, 1996, p.3). This
assessment has been part and parcel of edu-
cational processes throughout their history.
Traditional learning was a long sequence of
assessments that culminated in the produc-
tion of a ‘masterpiece’ that provided free but
necessary proof. The beginnings of certifica-
tion can be traced back to the transition from
assessment placed to some extent on an offi-
cial footing to specified and formal assess-
ment. While we tend to see certification only
as the completion of an educational process,
history shows that the reverse is more often
true. Having specified what result was to be
obtained, what should be taught and how its
acquisition could be verified was then deduced
therefrom.

The state tried, in this way, to impose its au-
thority on social groups that had up to then
functioned in a broadly independent way and
that did not therefore necessarily feel the need
to formulate certification strategies: they pos-
sessed the source of knowledge, had passed it
on and recognised its acquisition by award-
ing a title. History also shows, however, that
social groups have used certification to affirm
their social and economic identity, often with
state support.

In general, although with differences from one
country to another, the trend has therefore
been for the state gradually to take responsibility for vocational training (for young people) and its certification in order to provide it with a national dimension and a national validity. The process by which it has done so started from the higher and moved down to the lower qualification levels. Over time, and more rapidly after the second world war in most countries, the norm assigned to certification and, therefore, to training was initially of a theoretical and then of a general type. It was the productive citizen who needed to be trained, thereby creating a distance with respect to purely practical norms connected with immediate employment.

2.1.1 A top-down construction

European societies had placed procedures for the identification of their elites on a formal footing at the latest by the beginning of the nineteenth century. This process involved education, recognised in some cases by the award of ‘certificates’, taught, depending on the country, in an essentially general way (Britain, Spain) or in a general and technical (France, Belgium, Germany) way (Bruccy, 1998; Dore, 1997). Paradoxically, at a time when the industrial revolution was in full swing, the higher levels tended to remain academic and generalist – with a few notable exceptions: ‘In France, there is the long standing tradition of the grandes écoles – Ponts et Chaussées (1715), Ecole Polytechnique (1794), Ecole Centrale (1828-29) (…) In Germany the Technische Hochschulen (now Universitäten) enjoy equal status, with the prestigious D. Ing. of Engineering being the special preserve of the T.H.’ (Sanderson, 1993, p.55). The state’s aim in setting up these schools was, among other things, to meet its need for military officers: ‘This was so with the Ecole Polytechnique which has always produced generals as well as businessmen and politicians. Likewise at Charlottenburg the Prussian army supported science which could be used for military purposes’ (Sanderson, 1993, p.55). In Belgium, it was in the second half of the nineteenth century that ‘industrial schools and the first university chairs were set up to train managers for industry. The latter had close links with modern industry: metallurgy, chemistry, mineralogy, geology…(and) were largely supported by the state, especially during the depression (1870-1896)’ (Alaluf and Vanheerswyngel, 1998, p.10). The education of the technical elite differed, however, in Britain: ‘Britain’s industrial strength lay in its amateurs and self-made men: the craftsman-inventor, the mill-owner, the iron-master…In this rise of British industry the British universities played no part; indeed formal education of any sort was a negligible factor in its success’ (Ashby, 1961, quoted by Dore, 1997, p.14). On top of this strong ideology of the ‘self-made man’, the academic training of industrial managers came up, despite some attempts to change the situation, against the humanist university tradition. The Victorian state’s attempts to impose new practices failed: ‘the mechanics’ institute movement from the 1820s was a failure. The civic universities were a noble expression of Victorian civic pride. Yet in their early stages Manchester and Durham were but deferential Northern reflections of Oxford’ (Sanderson, 1993, p.55).

The ongoing vitality of the traditional corporations and guilds placed the main obstacle in the way of state intervention. This was particularly true for engineers. Engineering was taught at the universities of Glasgow and London from 1840. The profession did not, however, recognise the certification of these studies: ‘it was to be several decades before the possession of a university degree helped by gaining formal exemption from the normal training requirements of the engineering institutions’ (Dore, 1997, p.19). Training run by the profession had been established, however, in 1897 and it was not until 1970 that a higher education (university or technology college) qualification became an entry requirement for the engineering profession. Spain followed a similar route since reforms of its university tradition, strongly impregnated with Catholic and absolutist values, began only in 1845 on which date the state assumed complete control over universities. It did not, however, introduce technical subjects into courses: ‘the main faculties were those that educated lawyers, doctors and teachers of the scientific and literary disciplines of secondary education. This policy continued up to the reforms of the 1980s’ (Hernandez Diaz, 1998, p.38), with the
Certification and vocational training for middle-grade staff (middle managers, supervisors) were introduced in a different way. They were introduced into systems at a later stage. They led to many general outcries against state intervention: ‘technical schools were not set up (…) in osmosis with but in opposition to the production world. They were structured according to logics other than those current in the social fields in which the knowledge that they proposed to impart was (…) The establishment of technical schools to some extent removed this twofold power – training and certification – from the practitioners, so that it became the almost exclusive property of training professionals (…) The certificates that these schools award crystalise this ambivalence’ (Brucy, 1998, p.57). They impose a different way of building on knowledge and involve an external assessment that does away with traditional methods without necessarily providing advantages, at least for the profession itself. In France, ‘technical education of an elementary and middle level was sketched out during the eighteenth century. It was the Order of 25 February 1803 that genuinely organised the first school of arts and crafts in Compiègne’ (Brucy, 1998, p.25). The certificates ‘for elite workers’ (idem, p.33) date, however, only from 1894. Their regulation set out the practical and theoretical organisation of the teaching of the Écoles pratiques de commerce et d’industrie (EPCI – practical trade and industry schools). The ‘certificates for future foremen’ (Brucy, 1998, p.45) came even later: ‘the introduction of an official examination for the award of a certificate to students of the ENP (Écoles Nationales Professionnelles – National Vocational Schools) came relatively late (…) it was not until 1904 that an Order set out the list of examinations and their marking methods for all such schools’ (Brucy, 1998, p.48-49). In Spain, and in as controversial a way, ‘organised and structured vocational education unconnected with the education system and under the supervision of the Ministry of Labour’ (Roure, 1998, p.26) was introduced from 1925: the technical institutes. These offered training for ‘officers’ and ‘skilled’ workers which was certified. In Britain, ‘only towards the end of the (nineteenth) century did technical institutes begin on any substantial scale to provide some skilled workmen with a general basic understanding of mechanical and metallurgical principles which helped them to absorb new techniques’ (Dore, 1997, p.18). It was not the state, but rather those structures representing the interests of what remained of the guilds and corporations, that imposed these institutes as a solution. This solution did not involve certification.

For the rest of the working population (manual workers) and in all the countries, the guilds and the commercial sector ran apprenticeship schemes in which it was enough to ‘do one’s time’ without the outcome being certified. Attempts by a public power to interfere in vocational apprenticeship took place at relatively different times in the five countries being examined here – the latest being Britain. It was also training and certification for manual workers that generated the most controversy and disputes. The dual aim of state intervention in this field is also the most visible at this level: to break the monopoly of the old corporations over the vocational training of apprentices by making them subject to national rules administered by the state and to achieve the political objectives, stated in all the countries, of education for the masses. The reciprocal impact of training and certification is difficult to assess in this particular field. The introduction of the CAP (Certificat d’Aptitude Professionnelle – Certificate of Vocational Ability) in France in 1919 was an obvious attempt to ‘humanise’ the training of young apprentices by broadening what they learnt to include subjects that were not occupational. Its detractors criticised the differences in the ‘skills considered necessary to practice a trade (…) in different regions (and) the very unreliable assessments of examination panels’ (Brucy, 1998, p.63), ruling out the possibility of a single, national certification. A further fear was that assessment methods would call into question the quality of the training given by the employer: ‘an employer whose apprentices suffered too many failures would be showing the world that he was unable to train workers’ (idem). ‘At this level,
the certificate fulfilled a dual function: it proved and it graded (...) supporters of certification were in one or other camp’ (idem). Thus, ‘traditional economic sectors and workers’ trade unions were from the outset hostile to the development of technical education and this continued right up to the Second World War’ (Céreq, 1998, p.39). This highlights the power struggles and ideological disputes about the aim of education and training and certification. Manual apprenticeship schools were nevertheless set up in 1880/81 and were assimilated with the public complementary primary education schools (under the responsibility of the Minister of Trade) which offered vocational education courses (Brucy, 1998) and were responsible for ‘popularising’ the CAP. Prior to the post-war period, however, making it compulsory for apprentices (but not as yet employers) to attend vocational courses as well did not have a great deal of impact. In Spain, the technical institutes set up in 1925 also certified apprentices but, until the mid-1970s, most manual workers continued to receive training that was not certified (Roure, 1998). In Belgium, state technical and vocational education was not organised until the end of the First World War. At the same time (1921), the main political parties launched their Ecoles Ouvrières Supérieures (Higher Workers’ Schools) (the socialist Belgian Workers’ Party) and the Central School for Christian Workers at Héverlee, which later became the Cardijn Institute (Alaluf and Vanheerswynghels, 1998), one of whose tasks was to train workers, partly for union functions. ‘By the turn of the (nineteenth) century Germany already had an established system of vocational schooling to complement the training undergone at the workplace’ (Schmidt, 1998, p.21), which externalised theoretical education, whereas well before that date the ‘guilds (had) laid down detailed rules to govern apprenticeship, including some concerning the training to be provided’ (idem, p.21). There had therefore been some schooling of apprentices. In Britain, ‘it was not until towards the end of the nineteenth century, for example with the passing of a Technical Education Act in 1889, that organisations like the City and Guilds of London Institute were able to make arrangements for technical education and its certification, working with local coun-
cils’ (Young and Leney, 1998, p.52). Certification was left to the initiative of a whole series of Examining Boards for which it was a business, but which attempted to develop alongside the professions.

As most of the examples illustrating the preceding developments show, certification is far from being no more than the consecration of a training route or the process by which a skill acquired elsewhere is recognised. Certification is one of the tools that our governments have used to regulate their education and training systems. The recent example of the national qualifications system in the United Kingdom offers further proof of this: the development of National Vocational Qualifications (NVQs) has been grafted onto the existing systems that it was attempting to call into question, like the stranglehold of teachers, and educators in general, over certification and training. For many, the new qualifications have remained empty shells – i.e. with no candidates – but their mere existence and the vigour with which the government has tried to push them forward have led to major changes in the structure and content of the supply of training in the United Kingdom. ‘So it became an article of faith that awarding enough vocational certificates would somehow transform the nature of the UK economy’ (Wolf, 1997, p.39). This has nevertheless brought about a far-reaching reform of the British system and made the state responsible in a field from which it had up till then been largely absent. This intervention had become necessary, as Hilary Steedman (1996, p.16) stresses: ‘The fact that low-level qualifications go together with mediocre quality helps to explain why enterprises settle for standardised mass production, encouraged by the low-level qualifications of their labour force, and why there is little chance of better qualifications equating with high quality unless training infrastructure is modified at a national level’. While the reform was keen at the outset to keep its distance from theoretical and general education, recent developments seem to commit the system to the same path as that taken by other countries at different times in their past. The developments illustrated above also highlight the permanent tension between two conceptions of cer-
Certification and vocational training: specialised knowledge geared towards employment and immediate activity or broader knowledge with a better theoretical basis and including aspects of general culture. This tension is also to be found in subsequent developments within, among others, continuing training.

2.1.2 Plural state, enterprises and national reference frameworks

In most of the countries in which it has been most heavily involved, the state – as well as the other players who have tried to extend the academic or theoretical and classroom basis of vocational training (and to make it compulsory) – have encountered resistance. For the state, this resistance has not just been external but internal as well. In most cases, the conflict has been between ministries working with the production system (trade, industry, employment, labour) and ministries involved in ‘mass’ education (public education, education). In general, the measures introduced have tried to some extent to break the traditional supremacy of enterprises over the construction and recognition of qualifications, with the result that enterprises have been unable spontaneously to support reforms. In a relatively paradoxical way, however, bearing in mind their different histories, the five national systems have looked for and managed to establish, at different times, a common reference framework for national certification placed under a single authority.

In France, in the nineteenth and at the beginning of the twentieth century, diplomas were created under the authority of the powerful Technical Education Division of the Ministry of Trade (which had several names during that period). They were administered, however, especially the CAP, during the initial years of its launch, by the Departments. The stated objective was to bring certification and training as close as possible to the needs of local employers. From 1880 onwards, teachers were heavily involved in the construction of these certifications, although they were for a long time in a minority on examination panels. Little by little, reforms changed the panorama of national diplomas, strengthening the Jacobin management of vocational certification, but also the numbers of teachers involved. The standard was single and national. Under laws passed in 1942/3 only state institutions (those of the Ministry of Trade) were entitled to award national diplomas. As these various developments took place, responsibility was increasingly passed to the state with the Ministry of Education (or its equivalent at that time) taking up this responsibility rather than the Ministry of Trade and Industry. The Fouchet reform of 1963 gave the Ministry of Education responsibility for vocational and general education (Brucy, 1998). This is still the situation today. In Germany, the introduction of free trade at the beginning of the nineteenth century, which marked the end of the supremacy of the guilds, was the turning point in the system’s development. Thereafter, various commercial codes sought to regulate the conditions under which apprenticeship was given. The ‘1897 Trade Regulation Code granted autonomy to the chambers of crafts in matters relating to apprenticeship. In 1925, the first formal regulatory instruments were passed on vocational training in the industrial sector. From the 1930s at the latest, these instruments have contained descriptions of occupational profiles, rules for the conduct of examinations and directives on the award of final certificates’ (Schmidt, 1998, p.21). Since 1964, the dual system has been the basic reference for the certification of vocational training. Its certification and training standards are laid down by trade at national level. The similar timings of these French and German developments are interesting to note, as are those of Spain and Belgium. In Spain, the 1970 General Education Law (LGE) integrated vocational training into the education system (Roure, 1998), with a single certification that was overhauled in 1994 to become the ‘Títulos profesionales’. Rationalisation also took place in Belgium (Wallonia) and it was by 1970 at the latest that all general and vocational education, apart from that for small enterprises, was placed under the authority of the Ministry of Education with a single certification. Similar processes came much later in Britain. A national curriculum for compulsory education and a new qualification structure, the National Vocational Qualifications, were introduced towards the end of the 1980s and the
beginning of the 1990s. The system was unified in 1997 with the creation of the Qualifications and Curriculum Authority (QCA), placed under the authority of a single ministry in charge of both education and employment. Although processes similar to those of the other countries started much later, Britain has taken its institutional and organisational changes much further.

Paradoxically, at the same time, in some of the countries where centralisation had been achieved much earlier, certification systems are now diversifying. The compromises of the past, resulting from power struggles and negotiations, are being shaken up. In most cases this has been caused by the tension that underpins the various conceptions of certification: this tension necessarily brings up the notion of types of certification said to be closer to immediate occupational activity. This can be seen in France and Spain where the state itself is playing a part in this diversification by introducing particular kinds of certification for adult jobseekers or employees: Ministry of Labour qualifications in France, Certificados de Profesionalidad in Spain. Based largely on the principles used to construct the British NVQs, these certifications use other methods of assessment (see below). Pressures for new negotiations are therefore increasing.

Analysts are still needed, however, for the recent history of certification. Other developments also need to be studied more closely. At the beginning of the 1970s, in Germany, the largest national lifelong learning association (the Volkshochschulverband) launched a whole programme to design certification for the training that it offered (Tiegener et al., 1974). Apart from modern language certificates, however, this programme was not followed up.

In another connection, enterprises, or rather industries, are trying to formalise qualifications that they are manifestly prepared to certify. In France, for instance, the industries are constructing their own certificates of vocational qualification (CQPs) and using them to certify their employees’ continuing training. In Germany, at the initiative of employers, post-Abitur (the upper secondary certificate, leading to higher education) certified training schemes started to appear for young people at the beginning of the 1970s. In addition to the continuing establishment of vocational schools, other forms of dual training course are currently being developed in the higher education sector in Germany. They lie somewhere between traditional training in the dual system and study at a (specialised) higher education institution (Krekel et al., 1997, p.281). The existence of these ‘intermediate’ qualifications, which are not in fact intermediate, is undoubtedly calling into question the architecture of certification and the award of jobs in enterprise.

Some of the past ways in which our present systems have developed are being echoed by current concerns about the management of our systems. They may help us to define and possibly to resolve current problems in different ways.

2.2 Recent trends

The increasing autonomy of the certification system has been bolstered by relatively recent dynamics that have given the ‘credential’ an increasingly important intrinsic quality with respect to a labour market marked by a growing mobility and that point to the need to diversify the ways in which this credential can be obtained, thereby helping to detach it from the training system.

2.2.1 What is a ‘credential effect’?

The work of economists makes it possible to pinpoint a credential market, irrespective of the training conditions in which these credentials have been acquired. Various surveys of the integration and mobilisation of the labour force confirm that those who possess a credential have an advantage over those who do not – even when their specialism, length of training and occupational experience are the same.

2.2.1.1 A credential market

Economists have highlighted the existence of a ‘credential effect’. The signal theory (Spence) and the filter theory (Arrow, 1973)
provide a basis for this. While works based on the theories of human capital evaluated the return from the training investment on the basis of the number of years that people had devoted to this training, these two authors showed that the possession of a credential had a specific effect, acting as a signal on the labour market and for society in general. There is therefore a ‘market of “credential acts”, i.e. certificates and diplomas linked to formal education’ (Béduwé et al, 1998, p.5). According to Vinokur (1995, p.152) the originality of a credential economy lies in the following: ‘all the analyses surveyed here assume that the education system (or the education services market) and the production system (or the labour market) are independent, the former (…) producing the skilled work purchased by the latter. These economic analyses diverge: on the one hand, about the relative weight accorded to the two functions of the education system, i.e. educating and certifying and, on the other hand, about the competitive or non-competitive nature of labour markets (and therefore education services). The human capital theory, constructed in the United States at the beginning of the 1960s, masks the certification function of the education system and focuses only on the function of imparting knowledge or production practices, and assumes the labour market to be competitive. Qualifications have historically been taken into account in economic analysis as a result of the rejection of both of these hypotheses:

- the main function of the education system is to certify, i.e. to “filter”. By awarding diplomas, it demonstrates the existing production abilities of workers and thus supplies the information needed to make a competitive labour market transparent;

- the function of the education system is to educate and certify, but the markets are not competitive; the diploma is a “barrier to entry” into jobs.

In this context, the author points to the hypothesis of a reversal of values in which the vocational training system would be steered by a system of certification that would be completely detached from it. Irrespective of this hypothesis, the interest of this approach lies in the fact that it proposes a rereading of the various works analysing the relationship between training and employment by asking whether certification has a specific effect that cannot be confused with that of training.

2.2.1.2 What are the benefits of credentials?

The statistical data available at European level corroborate the existence of a ‘credential effect’. In France, data on the occupational integration of young people demonstrate the link between the possession of a diploma and transition to employment (Martinelli et al, 1999). In Germany, unemployment seems to be most widespread among people whose vocational abilities have not been certified (Butpler and Tessaring 1995; Möbus and Verdier, eds., 1997). Comparing the results from different countries is problematic, however, bearing in mind the problems raised by different nomenclatures and the lack of comparability of the procedures that they cover (Duru-Bellat et al, 1997). The establishment of surveys along the lines of the ‘Labour Force Survey’ (Murray and Steedman, 1998; Kirsch, 1999) is therefore a major step forward since such surveys provide a more accurate picture. It would therefore seem, all things being equal, that people who possess qualifications have an advantage over people who do not possess them (Scherer, 1999). This variable needs, however, to be heavily weighted by considerations relating to hierarchies of specialisms and training levels, on the one hand, and to the possession and length of job experience, on the other hand, using ratios about which little is known and which vary greatly depending on the ways in which the labour market functions.

2.2.2 Changing labour markets

The role that certification plays in the labour market can be tackled from two angles. The calling into question of the distinctions traditionally drawn between different forms of labour market generally related to particular national situations provide a first angle. The nature of the contract of employment, and in particular its incompleteness, provides a sec-
ond angle. In both cases, certification becomes more important:

- it makes it possible to signal, using a formal code comprehensible to both job-seekers and job providers, the qualities of people who are increasingly mobile in increasing numbers of enterprises, which is a very important factor as regards the free movement of workers in Europe (Bjørnåvold and Sellin, 1997). This signalling concern is especially great as this mobility may, much more so than in the past, take the form of breaks in employment due to contractions of internal and professional markets (Ministry of State for Women’s Rights and Vocational Training, 1999);

- it becomes a reference that is more stable than those previously represented by task or job descriptions which, because of the need to adapt to rapid changes in production constraints, are increasingly variable.

2.2.2.1 Calling the traditional models into question

Vinokur (1995) stresses that the theory of human capital masks the function of certification in that it assumes that people are fully and completely informed about the labour supply and demand and in that ‘the quality of work is a direct function of the cost of education and therefore, for a given educational technology, of its duration’ (Vinokur, 1995, p.153). Marsden (1989) notes, as regards this model, that there are in effect situations of incomplete information corresponding to three modes of operation of the labour market: professional market, internal market and casual market. This raises questions about the nature and function of certification as regards each of these markets:

- in a professional market, certification is important and strongly controlled by members of the profession, ‘professional markets have a number of key features. The first is the establishment of quality standards concerning the combination of the skills acquired and the level achieved by those trained for a given situation. The second is that the content of jobs is fairly uniform from one enterprise to another. These two characteristics ensure that qualifications are transferable, which is a key characteristic of professional markets. An employer recruiting someone from a market of this kind wants to know about a worker’s training, the level that they have achieved and their occupational experience’ (Marsden, 1989, p.223);

- certification acts as an entry filter in an internal market, and is then subject to individual forms of recognition based on non-standard signals or on training specific to an enterprise;

- an official certification, rather than non-standard signals, is of particular value in a casual market (Stoeffler-Kern and Tchibozo 1999), bearing in mind that ‘casual markets operate with little regulation because of the low level of investment in training that is required and the fact that jobs lack specific technical features’ (Marsden, 1989, p.232).

In the light of the most recent works, thinking is also moving in two directions:

1. the first is a result of acknowledged changes in national markets (Hancké, 1998; Guergoat, Marchand et al, 1999). Whereas the main feature of the French market was the importance of the internal market and main feature of the British model was the importance of the professional market, both are tending to be deregulated (Bertrand, 1997), or even to be delegalised (Supiot, 1994). At the same time, the German system is retaining, with increasing difficulty, the characteristics of a professional market and is seeing increasing numbers of people continuing their education and a growing gap between the field of the certified qualification and jobs held, while the social reality of the ‘Berufsprinzip’ is in doubt (Beicht et al, 1997). We consider that the risks with which the dual system will be faced in the future lie less in its inability to react to short-term or demographic developments than in the gradual withdrawal from the dual system, on the one hand, of a propor-
tion of enterprises which see more efficient and less expensive ways of covering their future qualification needs and/or, on the other hand, of seekers of training who consider that training options other than those within enterprise offer them better job and career prospects’ (Koch, 1998, p.45);

2. more detailed analysis of the forms taken by labour force mobility and turnover makes it necessary, moreover, to introduce the notion of employment systems: ‘theoretical work on the notion of employment systems provides an alternative conception of the movement of the labour force which appears to be structured by different modes of management forming part of a societally constituted space. In this context, analysis of the role of enterprises in the integration process makes it necessary to study the relationships between the ways in which young people and beginners are mobilised, on the one hand, and the ways in which the labour force is managed and mobility is institutionalised within integration schemes, on the other hand’ (Moncel, 1999, p.250). This then highlights past developments, sectoral and enterprise approaches and local forms of labour force management in which certification assumes different distinctive values, whose importance varies, which have more meaning with respect to the production system than the education system and involve different balances between officially validated certification and more internally generated forms of recognition linked to experience.

2.2.2.2 Incompleteness of the contract of employment and increased uncertainty

‘The incompleteness of the contract of employment, more generally called “radical uncertainty” or “qualitative uncertainty”, reflects the idea that labour power cannot be assimilated with goods whose properties are completely specified. This means that the contract of employment does not cover the delivery of work as a product, but the provision of labour power. The specific nature of the employment relationship is that it includes two separate operations: the signature of the contract – the exchange – and the provision of labour power following the exchange...The incompleteness of the contract of employment makes it necessary to introduce rules to assess individual behaviour and to define the methods of the exchange’ (Reynaud, 1988, pp.158-159).

In this context, certification specifies labour power, the use to which it can be put by the employer and the expectations that the employee may have of it, in keeping with one of the rules discussed above. The use of this rule has been studied, in particular from the point of view of its mobilisation in agreements intended to provide a framework for relationships between the social partners in the sectors (Jobert and Tallard, 1997; Aventur and Möbus, 1999).

As a supplement to this current usage, it is interesting to note, following Supiot (1994), that this rule is rooted in different traditions that can be related to the different philosophies of certification:

- a German tradition which considers the employment relationship as a ‘situation of personal belonging to a community (p.18)...Thus, the personal element of the employment relationship is integrated into the definition of the employment contract through the notion of personal subordination which thus differs from the French notion of legal subordination. This idea of personal subordination is linked to notions such as the duty of loyalty of the employee and, its counterpart, the duty of care of the employer’ (p.29). In this context, the possession of a qualification provides proof of identity of belonging to a group;

- the situation in the Latin countries has more to do with the romanist tradition and ‘labour law in these countries has been dominated by the predominant role of the public power in regulating the employment relationship’. The contract of employment ‘triggers the application of a systematic set of provisions, irrespective of the will of the parties to this contract’ (Supiot, 1994, p.30). The reference to qualifications in collective agreements discussed above falls into this context;
the situation in Britain is also shaped by the romanist tradition, but ‘derives its legal force from the notion of the contract of services, set out in common law, which gives the provisions of collective agreements a legally binding force... This incorporation is not linked to an explicit reference to the collective agreement by the individual contract’ (Supiot, 1994, p.29). The qualification is thus perceived from a functional point of view, attesting that individuals are able to perform in the ways that are expected of them.

Current labour market changes, in particular the increased stress on worker mobility, point to the fact that certification is increasingly being called upon to provide this function, as it is replacing internal forms of job allocation or occupational advancement that were based on the existence of a relatively permanent labour collective within a stable labour organisation in the enterprise. This is clearly stated in an OECD report (Bertrand and Durand-Drouhin, eds., 1996): ‘The ideal system of vocational certification is one which identifies, for the employer, the individual corresponding to the job on offer. If school or practical education has already provided the skills needed to carry out a particular type of work, the employer is able to save valuable resources which would otherwise have had to be channelled into this training; the new employee is more productive, which the employer recognises by paying him a bonus (wage differential)’ (Steedman, 1996, p.32), or ‘the interest of certification lies in the fact that it forms a credible reference that can be trusted by all the players concerned, in a given area of mobility’ (Campinos-Dubernet, 1996, p.124).

### 2.2.3 New qualification requirements

In a context of increased mobility the new forms of labour organisation made the use of traditional references to situate individuals more difficult, since an identified job characterised by a relatively stable content of activity can no longer be seen as a predominant model (Besucco-Bertin et al, 1998). There has been a reversal of values that has emphasised workers’ initiative and autonomy, whereas in the past workers were required to apply the prescriptions that had been specified to them as strictly as possible. These new conceptions are leading to new ways of expressing the quality of work and of assessing this work, with respect to which the notion of competences is often used. The traditional methods of certification, represented by the diploma for the European Commission, are therefore raising questions as they give out signals that are not geared to the requirements of the current production system that mobilises new forms of knowledge that are acquired by different rules.

For the European Commission (1995), these new requirements are a result of three major upheavals that society has had to face: the information society, internationalisation and scientific and technical knowledge. Bertrand (1997), reviewing the analyses conducted from this point of view, proposes the following summary:

’It is generally accepted that these developments have had the following impact:

- less job security and a less certain correspondence between job skills and workers’ qualifications;
- the need for a periodic updating of knowledge and skills, as the qualifications acquired from initial education may not be enough to support career development throughout life;
- the need for a higher standard of general education which should in particular enable a broader understanding of the professional environment and greater adaptability;
- a new emphasis on a set of skills that are not technical: relational abilities, communication and team-working, problem-solving, autonomy, etc.’ (Bertrand, 1997, p.94).

This problem goes beyond Europe, and the same kind of concerns can be seen in the United States: ‘the Departments of Labor and Education have intensified their commitment to the development of a national system of
voluntary skill standard and certification. Most recently, the Administration introduced and the Congress passed the “Goals 2000: Educate America Act.” This act underscores the need to strengthen the connection between education and employment, specifically through the establishment of a National Skills Standard Board. This Board would ensure a framework for the development and implementation of a national system of voluntary partnerships which have the full and balanced participation of business, industry, labour, educators, and other key groups.

For decades, America has held the competitive advantage in the world marketplace on the basis of superior mass production. Now, we find ourselves in a new economic environment where this track record is no longer sufficient to ensure our continued success. Today, there is increased emphasis on quality, variety, timelines, customization, and convenience. Furthermore, with the increased mobility of capital and technology, it is easy to replicate the factors of production anywhere in the world, with one exception – workforce skills. The skills, adaptability, creativity and know-how of American workers must be the foundation for our continued competitiveness. Our problem lies in the lack of connection between the skills needed in the workplace and the skills imparted through education and training. We are further hindered by the limited range of nationally recognised credentials; these are usually reserved for the college educated with few options for the 75 percent of Americans who do not obtain a four-year degree.’ (United States Department of Labor, Employment and Training Administration).

A set of new qualities through which working situations can be analysed and individuals assessed is therefore emerging (Mandon and Sulzer, 1999). ‘Adaptability, mobility and flexibility are becoming the key professional values. The economy needed a key concept to cover this situation: competences seemed more relevant than qualifications’ (Bellier, 1998).

This explains why two extremely widely used terms (Commissariat général du plan, 1978; Ropé and Tanguy, 1994) – used in a relatively indiscriminate way in everyday language or according to complex codes in academic discourse – have been crystallised in opposing systems of representation (Colardyn, 1996), corresponding to different ideological and political options.

Taking account of these new competences raises questions about the ways in which they can be acquired and recognised, an area in which the traditional certification models are felt to be inadequate. ‘In most European systems, diplomas are designed with a view to filtering out at the top the elite which will lead administration and companies, researchers and teaching staff. In certain countries, they are even the quasi-absolute reference points for assessing competence, which makes it a powerful incentive to pursue long-term studies and to take one’s chance in very selective courses. Moreover, a worker’s occupational status is in many countries defined by the diploma held. This link between qualification and status, however logical it may be, accentuates the internal lack of flexibility of the labour market…This is not, of course, to say that the paper qualification is not a valid route…But in parallel with this, we need to make the best use of skills and abilities irrespective of how they were obtained and to enhance everyone’s potential by catering more closely for the needs of the individual, business and industry. What is needed is a more open and flexible approach. Such an approach should also encourage lifelong learning by allowing for and encouraging a continuing process of skill acquisition’ (European Commission, 1995, pp.33-34).

2.2.4 Different forms of knowledge

Taylorist forms of organisation and the principles of rational organisation of work assumed that occupational knowledge would not exist in the long-term as it would have to be transformed into applied theoretical knowledge. The transformation of forms of production rationalisation (Kirsch and Peyrard, 1991) have called this view into question. The result has been to open up three types of thinking about the nature and acquisition of knowledge that constantly raise the question
of the assessment and recognition of this knowledge:

1. the first involves characterising the different forms of knowledge brought into play by the performance of a job;

2. the second raises questions about the different conditions under which this knowledge can be acquired and recognised;

3. the third considers that we need to move away from the model according to which there is only existing exogenous pre-existing knowledge, to take account of new knowledge, constructed in situations, generally in a collective way.

Various works claiming to be rooted in the theories of knowledge developed by Habermas, in particular his critique of scientism, have helped to break away from the view of a single form of knowledge. They offer various typologies of knowledge in general and of knowledge mobilised by jobs in particular. Bjørnåvold (1997, pp.62-63), taking up the proposal of Kvale (1993), therefore proposes three kinds of knowledge:

a) dogmatic knowledge, derived from God or from a divine authority, whose validation is based on forms of revelation that lie outside our sphere;

b) objective knowledge, derived from nature, which may be assessed by objectively-based methods (multiple-choice tests, for instance);

c) prescriptive knowledge, created and defined by society, whose assessment makes it necessary to judge the ‘cognitive process’ and not the ‘objective cognitive product’.

To the extent that certification is a social construct (Tanguy, 1991), it seems normal to take account of the proportion of prescriptive knowledge contained in professional knowledge. In some ways, this dimension was recognised in the traditional education system, since it imparted, alongside objective elements of technical mastery, cognitive and behavioural abilities with a more social bent, such as punctuality, obedience and basic communication skills. It is the nature, however, of the abilities passed on in this way that has changed.

Several proposals of fields of knowledge that may be assessed and certified have therefore been put forward. The French system thus differentiates between knowledge, know-how and know-how-to-be (Pinel, 1998) whereas the European Commission differentiates between:

- basic knowledge – languages, reading and writing, arithmetic, etc. – considered as ‘the foundation on which individual employability is built’ (European Commission, 1995, p.31);
- technical knowledge which ‘is knowledge which permits clear identification with an occupation...Within this framework of knowledge, certain “key skills” are central to a number of different occupations and (are) therefore essential in order to be able to change jobs’ (p.32);
- social aptitudes which ‘concern inter-personal skills, i.e. behaviour at work and a whole range of skills corresponding to the level of responsibility held, such as the ability to cooperate and work as part of a team, creativeness and the quest for quality’ (p.32).

With respect to this first type of proposal considering the diversity of knowledge, thinking that focuses more particularly on tacit knowledge, that Bjørnåvold (1997) and Lam (1998) attach to Polanyi’s work on the organisation of learning, introduces two new elements:

1. the first consists in approaching the acquisition of knowledge as a contextual practice. The key characteristic of knowledge acquisition as a contextual activity is one of defining a process that we call ‘legitimate peripheral participation’. In using this term, we would like to draw attention to the fact that the learner is inevitably part of a community of practitioners and
that the mastery of skills and knowledge requires newcomers to commit themselves to full participation in the socio-cultural practices of a community...An individual’s intentions from the point of view of learning represent an undertaking and the meaning of learning is configured by the process that leads to full participation in the socio-cultural practice’ (Lave and Wenger, quoted by Bjørnåvold, 1997, pp.66-67);

2. the second distinguishes learning as the incorporation of existing knowledge from learning as the creation of new knowledge that Lam (1998, pp.4-5) presents as follows: ‘Our analysis focuses, in particular, on the education and training system, and the types of labour markets and careers as key societal institutions in shaping the patterns of work organisation and the knowledge base of the firm. The education and training system contributes to the social construction of “knowledge”, and determines the extent to which this is used as a basis of qualification, work status and job boundaries. As such, it shapes the relative status and importance of different types of knowledge, and the nature of their interaction within organisations. The types of labour market and careers determine the locus of learning, the incentives for developing different types of knowledge, and define the boundary and social framework within which individual learning interacts with collective learning’.

In the same spirit, Benarrosh (1999) criticises the notion of skill transfer based on the idea that skills acquired for a given occupation can be re-used in an identical way in a different occupation. On the basis of a study of retraining of unskilled workers, she notes that skills change as a result of the need to tackle the problems entailed in the new job.

This acknowledgement that permanent knowledge creation is necessary can also be linked to the acknowledgement of a transformation of production methods for goods and services, and more particularly these latter, since they increasingly elude a principle of predetermination and are part and parcel of a model of ‘co-construction’ by seekers and users (Reboud, ed., 1997).

2.3 Current issues

2.3.1 Certification and exclusion

Certification excludes! This is one of the leitmotifs of the detractors of national certification systems. History would tend to prove, however, its role in social advancement. Certification made it possible for the middle and working classes to occupy occupational and social positions from which they had up to then been excluded. People are now saying that the ‘credential effect’ on the contrary entails exclusion. What are the major changes that could have reversed its previous function in such a total way? The controversy seems to lie in that duality that shaped the construction of certification systems in the past: immediate proximity to employment or wider, more theoretical and more encompassing knowledge?

Since they are based on forms of recognition that are said to be academic, some people have felt that diplomas had more to do with social selection and exclusion than with the signalling of people’s occupational capacities: ‘an essential process of social selection of those possessing productive abilities rather than proof of skills acquired’ (Arrow, 1973, p.193, quoted by Vinokur, 1995, p.155), diplomas ‘will be judged not as such, with respect to the human capital that they are supposed to reflect, but as a “container” allowing a degree of selectivity and comparability of young people who have successfully passed the training course’ (Dupray, 1999, p.141). In this context, the traditional certification systems are more likely to make social stratifications more rigid than to enable individuals to have the socially and economically useful skills that they possess endorsed. The European Commission (1995) seems to reflect this point of view when it writes that: ‘...society “locks out” in this way much talent which is frequently unconventional but innovatory and that it therefore produces an elite which is not truly representative of the available human resource potential’ (p.33).
This places two models in opposition (Bellier, 1997):

1. certification based on selective and elitist approaches, the most tangible manifestation of which is the reference to academic knowledge, that helps to strengthen and increase social segmentation;

2. certification intended to highlight and identify individuals’ aptitudes, thereby helping them to achieve a recognition from which they are currently excluded and promoting their integration by enabling, at a collective level, a fairer and more efficient use of human resources.

Two main types of proposal are being put forward in this respect:

1. the first are intended to adapt existing systems and propose various forms of individualisation of these systems based on modularisation (Sellin, 1994) and recognition of prior experiential learning, but continue to respect existing socially recognised standards;

2. the second propose alternative systems calling into question established standards in a more or less fundamental way:
   
   – conversion of the norm, an example of which is the accreditation system proposed by the European Commission;
   
   – limited application of the norm, i.e. the establishment of certifications valid in restricted areas such as an industry, an enterprise or a geographically limited area;
   
   – abolition of the norm. The skill review approach in France reflects this trend, since this review was introduced as a way of finding a kind of signalling that makes it possible to meet the market’s immediate needs. In practice, it seems more appropriate in this case to speak of a shift of the norm from the respect of objectives to the respect of procedures, leading to the proliferation of bodies responsible for defining formulation criteria, implementing practical methods and following up individual strategies moving along these lines.

   Some of these methods are not exclusive, with the result that it is possible to find a whole range of combinations that can reconcile very different perspectives. Some references structure combinations of skills significant with respect to jobs that are much more contextualised than those that have been used to draw up the qualification criteria. Even though they contain elements common to certifications attesting to a “qualification”, their combination applies to more restricted spaces and is based on immediate practicability. This information is particularly useful for employees or jobseekers whose experience has never been certified. For some people, this is a first step towards qualification’ (Charraud, 1999, p.5).

   This seems to be pointing the way towards an ideal model enabling people to build up their own certification routes by using the different existing schemes which would also offer modular principles of equivalence with one another in order to promote procedures of accumulation and progressive access to certification.

   While the intention is praiseworthy, some limits need nevertheless to be outlined. First, there is a need for a full and complete information model, as discussed above, and the ability of people who are not socially well integrated to ‘surf’ the certification network raises particular doubts. Second, systems could well have a cumulative effect likely to reinforce the obstacle of gaining a credential presents: for instance, in France, industry certification seems to be used in some cases as a second filter for the holders of diplomas in the corresponding specialism. There is therefore a major risk of problems that make it necessary to set up supervisory bodies and methods. Similarly, in the dual system, there is a hierarchy of specialisms that is reflected by the initial school education level that is required to gain entry into them: bank training is reserved for holders of the Abitur, whereas construction training schemes have much more modest recruitment criteria.
More fundamentally, the views put forward are somewhat paradoxical since they require both a signal able to resolve uncertainty, and therefore to select individuals, while refusing to exclude them. In this sense, bringing the signal closer to actual work and combating its academic drift would modify the rules of exclusion, but would not alter their principle. Similarly, any temptation to lower the norm is an error as it would help to downgrade the qualification. It would, however, be desirable to promote everyone’s right to assess themselves and gain access to credentials, making it necessary to set up information networks that are not well-developed at present. To return to the question raised at the beginning of this analysis, it seems that there has been a reversal of the causes by which certification is accused of generating exclusion, while the exclusion mechanism is primary and finds a way of manifesting itself through certification.

2.3.2 Legitimacy and legibility

When detached from training, and therefore from standardised curricula and knowledge, certification cannot be based a priori anymore on references that are prescriptive and potentially universal at a time t, as are subject knowledge attesting to the possession of skills and enabling individuals to be matched to jobs at a general level.

In face to face interactions, for instance between an employee and his direct superior, skills are in some ways ‘immediately’ legible but are then valid only between those interacting or their counterparts. The generalisation of this kind of recognition is not self-evident. According to Eymard-Duvernay and Marchal (1997, p.45), it requires implicit ‘skill agreements’ which underpin empirical assessment systems and may take the form of:

- negotiated qualifications linked to the mutual acquaintance and interpersonal networks of a particular profession;

- standardised qualifications whose macro-social efficiency supposes the existence of validation methods whose legitimacy and scope are proportional to their general nature.

In this way, the qualification attested by a certificate is not ‘negotiable’ as it is assumed to be shared by all those possessing the same certificate. This register of ‘standardised qualification’ is less geared to adjustment and is criticised because it has the effect of making the labour market more inflexible. If the legibility of competences may be a factor of flexibility, their larger-scale legitimacy makes the acceptance of standards unavoidable.

It is thus possible to put forward the hypothesis of a tension between legibility and legitimacy, as one decreases when the other increases. This is suggested by Jens Bjørvåvold (1997), quoting Habermas, when he speaks of the opposition between barter and monetary economy as the ‘decontextualisation’ of information on what is being traded. This is also, more empirically, the principle of the ‘market versus network’ (Eymard-Duvernay and Marchal, 1997, p.36). Some segments of the labour market thus operate on a prescriptive basis in terms of the recognition of skills that necessarily have to be attested by a diploma (senior managers, civil servants, etc.) while some professional markets, such as the photographers’ market, assess candidates more by interpersonal recommendation and the presentation of previous work (press book). In one case, competences, of a generic and transposable nature, are perceived to be linked to certification and in the other case, competences, of a specific and empirically attested nature, are linked to individual characteristics. In other words, the methods by which an individual’s skills can be recognised are not independent of the ways in which these skills themselves are defined.

The recognition of skills through certification is also a recognition of the ability of certification to guarantee and define the skills possessed. The ‘competition between signals’ is also a competition between ‘what is being signalled’, i.e. between different forms of skill definition. While the diploma is seen in France as guaranteeing general competences (subject knowledge that is assumed to be transposable, the archetype of which is the general baccalaureate) and, as a corollary, the ability of people to adapt a certain range of situations, it is also criticised for its inability
to guarantee that workers can be set to work immediately (see below). Certifying skills in a working situation may seem a possible way of remedying this, but the stress is nowadays being placed on the adaptation of employees to change and on its corollary, employability. The resultant tension between immediate efficacy and potential adaptability means that the stress is being placed in a somewhat contradictory way on the contextualisation (specific nature) of competences and their transverse nature (general nature). In the case of the British NVQs, this tension is particularly evident from the proximity of very specific skills (whose method of attribution is linked to a real or simulated work situation) and very generic skills that are assumed to be employable in all circumstances (the ‘core skills’, for instance communication).

If these skills, whether general or specific, can be readily attested within an enterprise through performance in a work situation, certifying them to provide them with a wider recognition assumes that they can be identified, described and validated in a way that is both precise and general enough. The question of identifying individual skills becomes particularly acute if there is an attempt to move away from existing and collectively recognised references. This leads to complex problems, on the one hand in defining skills and describing the activities in which they are constructed and manifested, and, on the other hand in transposing these elements into assessment procedures. These questions will be examined below.

3. Specifying standards

The main argument for the autonomy of certification systems is the overly strong academic constraint that their close proximity with the education system imposes on them. As far as we are aware, this has not led to any stated and militant desire to abolish all certification systems. It is even possible to interpret the fact that NVQs have been successful in places where qualifications lacked structure (Aventur, Möbus, eds., 1999) or, in France, ‘the professional fields in which alternative forms of certification have been most developed are those in which employers control a training scheme specific to the industry’ (Merle, 1997), as a desire to create or strengthen forms of legitimacy where there had previously been no or little such legitimacy. As Colardyn (1996, p.213) notes: ‘one question concerns the apparent contradiction between the recommendation of a deregulation of collective bargaining and the need for a national strategy to define standards and systems for recognising qualifications and skills’.

The aim of criticisms of certification is not therefore to abolish it, but to make it more legitimate by bringing it closer to actual work in order to remedy the problems of generalisation, standardisation (Bjørnåvold, 1997; Campinos-Dubernet, 1998) and ritualisation reflected by the bureaucratisation of recruitment procedures, censured by Dore (1997), over the last quarter of a century. This need to return to the reality of work is put forward both as regards the definition of the occupational objective of credentials and the forms of assessment through which they are awarded. This is not a new criticism, and the historical data may well show that it is congenital in the introduction of certification systems.

In the case of French diplomas, two kinds of criticisms are traditionally levelled:

a) the objective of these diplomas is not in keeping with the typical content of occupations, or the jobs for which they are intended, as the content of general academic teaching given in the educational establishment is too heavy;

b) they are assessed in school examinations or artificial situations having only a remote link with the actual conditions under which an occupation is performed.

This is the starting point of the questions examined below, where priority will initially be given to an approach in terms of content and process. This makes it necessary to return to the relationships between the certification system, the production system and the training system. In the production system, it is
necessary to tackle the question of the description of work activities and to identify the performance standards specifying the occupational aim to which the certification should attest. In the training system, it is necessary to define training standards that specify the knowledge (in the most general sense of the term, including experience, knowledge, practices, competences, etc.) needed to perform the activity described.

3.1 Occupations and performance standards

The main focus here is external validity, and therefore the relevance of the relationship between the qualification and the production system: in many cases this latter relationship has been strongly questioned, often in a very negative way, the most common criticism being the lack of satisfaction expressed by enterprises with the ‘products’ with which it is supplied by the education system.

These questions need to be refined as the congruence of this relationship is shaped in various ways. It is for this reason, even in Germany where employers are directly involved in defining the objectives of training and then in putting them into practice in the dual system – and where, therefore, the problem of congruence should be less acute – that questions can be raised about the degree to which training should be ‘wide-ranging’ and the degree to which it should be ‘theoretical’. In this context, the relationship between credentials and the production system will be examined from three points of view:

a) domains of competences with reference to nomenclatures of training specialisms and occupations;

b) fields of competences with reference to occupational standards;

c) levels of competences in the context of a cognitive approach.

3.1.1 Domains of competences

This is the most general level in which the main fields of occupations are defined and a fully coherent relationship between training and the production system at this level would correspond to a complete coverage of the classifications of training fields and classifications of trades and occupations.

In order to develop an international classification for fields of initial vocational education and training, Andersson and Olsson (1996) conducted a very detailed comparative study of the classifications of training fields used by the EU Member States and some other countries. They discovered major differences between the different systems, the aspects of which that are most relevant from our point of view are examined below:

- 'there seem to be two main ways to classify programmes into fields, by subject content or by intended occupation(s)' (p.10). The French situation offers a good illustration of the first method: ‘the technico-professional specialities are grouped together more in relation to the knowledges transmitted than in relation to the socio-logical or sectorial closeness between jobs for which the training may be conducted' (Annexes, p.9). The United Kingdom is also fairly close as ‘SUPERCLASS II was designed to classify the subjects of all UK courses and learning opportunities, both academic and vocational' (Annexes, p.21). Germany offers an illustration of the second method: ‘ultimately all classifications of vocational education and training (...) are derived from the Basic Classification of Occupations' (Annexes, p.8);

- 'some classifications of fields of study look like sector-oriented' (p.10). Spain can perhaps be included in this category but in practice the classifications used by the Ministry of Labour and the Ministry of Education ‘are not really classifications of fields of study, but rather classifications of occupation (job) families. Each family groups together programmes leading to jobs having certain closeness, especially in terms of sector activity or technical system’ (Annexes, p.7). It should be noted that the Spanish system has changed since the work of Andersson and Olsson, but retains a concern for coherence: the second voca-
tional training plan drawn up in 1997 for implementation in 1998 includes ‘the creation of the National Vocational Qualifications System (which) should help correctly and permanently to identify existing qualifications and make it possible to update the supply of vocational training and set up schemes for the validation and equivalence of different methods of vocational training’ (Roure, 1998, p.28; Manzanares Núñez, 1998).

The Spanish and German classifications seem to be those where the gap between training and the production system is smallest. The question is then one of finding out whether, at this level of analysis of domains of skills, the maximum reduction of this gap is an objective to be pursued. In this respect, Andersson and Olsson (1996) stress two points that may well indicate the contrary:

- ‘it is difficult to use directly a classification of sectors or branches to classify fields of study: there are in each sector many occupations which exist also in other sectors (secretary, clerk, etc.). A sector-oriented classification aggregates in each broad field the programmes aiming at the typical occupations of a sector. The definition of these typical occupations is however very implicit and ambiguous. Where, in this sense, is the borderline of the category “maritime and fishing activities”? And which is the common point, in terms of vocational training, between aquaculture and sea transport?” (p.10).

- in order to formulate their proposed international classification of fields of training, Andersson and Olsson (1996) note that ‘although occupation is a very important aspect for the fields of training, it must be remembered that fields of training (education) and International Standard Classification of Occupations (ISCO) are two different things’ (p.3). They give a number of reasons why ISCO is not the most relevant choice for their objective: ‘there is not always a straight line between training, or diplomas, and occupations…; there are many training programs which aim at broad sets of occupations or to transversal functions (maintenance for example) …; the classifications of occupations are based on sociological closeness between occupations…Thus, even if many training programmes correspond to specific sets of occupations, it is not a good choice to use the same principle to aggregate them as in a classification of occupations. It is more relevant to build a hierarchical classification in which the aggregates are based on “knowledge closeness” ’ (p.4). It therefore seems that a complete congruence between training specialisms and the production system, which would be reflected by a match between the classification of training fields and the classification of trades and occupations, is not desirable at this level of analysis of domains of skills. This leaves, however, the question of the use to which a classification of fields of study drawn up in this way can be put. In this respect, the main aim of the classification proposed by Andersson and Olsson is statistical, in the context of setting up databases containing information on initial vocational training (the study was carried out under a contract with Cedefop/Eurostat). To what use can it be put from the point of view of constructing new training programmes and developing existing programmes? We do not have enough information to answer this question, but simply note that in France the nomenclature of training specialisms is used to classify vocational education diplomas, but has nothing to do with the CPC (Commissions Professionnelles Consultatives – Advisory Professional Committees) which are bodies within which diplomas are constructed and overhauled and which tend rather to follow a sectoral approach.

3.1.2 Fields of competences

Within each domain of competences, it is possible to identify fields of competences which are more or less coherent sets of occupational activities and tasks that help to define trades, occupations, qualifications, jobs, occupational profiles, functions, missions, occupational targets and, obviously, competences, both in the production system (in terms of demands and
needs) and in the education system (in terms of objectives).

A first discrepancy between a diploma’s target and the production system in this respect may lie in the fact that the list of tasks and activities for the same trade (or occupation, qualification, etc.) differs in the two systems. Veneau (1997) provides a good example: through a detailed comparison of the occupational standards of a diploma (the vocational baccalaureate in ‘mechanical automation’) with the work actually performed in enterprise by holders of this diploma, the author highlights considerable discrepancies, not only from the point of view of the weighting of activities, but also from the point of view of the inclusion of some of these activities in the list: in other words, the qualification seems to include training in activities that are not actually performed in enterprise. One of the main reasons for this lies in the fact that the occupational standards are drawn up from an assessment of work activities by people who are not very aware of what actually happens in enterprise: not just people in the education system, but also industry employers’ representatives serving on the CPCs and more broadly all those experts carrying out forward studies of trades and qualifications.

This is borne out by a second analysis by Veneau, on the standards of a Certificat de Qualification Professionnelle (CQP – vocational qualification certificate) for a machining operator-setter in heavy engineering. Veneau demonstrates that this qualification reflects the current industrial situation much more closely than the vocational baccalaureate: ‘In heavy engineering, the CQP scheme is shaped by enterprise demand. The standards for these certificates are drawn up by enterprises and reflect their needs (…) various staff from operational departments (workshop supervisors, technical directors, etc.) in enterprise are involved. CQP standards are therefore drawn up directly from existing working situations. The drafting of standards does not therefore distort the reality of production to any great extent (by confusing types of activity, for instance). The more the people involved in formulating standards are removed from production situations, the more these distortions are likely to come into play (…)’ (Veneau, 1997, p.170).

It should be stressed, however, that the discrepancy between the activities taught and the occupational activities expected by enterprises is not systematic and account needs to be taken here of the type of enterprise concerned and the training specialism. Campinos (1998) notes, for instance, from investigations conducted among thirty-eight small and medium-sized industrial enterprises, that the training supply in electrical engineering and electronics is well-matched: ‘there seems to be a genuine satisfaction (among the SMEs surveyed) with the supply of training in the three levels in question (…) The knowledge imparted is in keeping with the various manufacturing activities, tests, controls, studies and methods on which newcomers are employed’ (p.6). Eckert and Veneau (1999, p.3) make the same kind of observation in a study on training in ‘electrical engineering’ (electrical technology, electronics and industrial computing), when they identify various cases in which the ‘basic trade is associated with a training specialism. The fact that the training specialism is in keeping with the basic trade can be explained by the fact that a reference common to both has been taken into account: the technical field’.

The way in which the standard is drawn up is also important and, from this point of view, genuine in situ analysis of work, involving ‘work experts’ and ‘education experts’, may make the description of occupational activities in standards, and their reflection in the content of training, easier and more relevant. The work of Liaroutzos (1997) on the administrative service sector illustrates this well.

It would therefore seem that the identity of the people involved in formulating standards and the actual way in which this formulation is carried out are key factors in making these standards congruent with actual work activities. From this point of view, the ‘consensus model’ typical of Germany, in which agreement between the social partners, among other things on the content of training, is essential, seems more propitious than the French ‘consultative model’ in which the edu-
cation system is primarily responsible for steering and supervising the system. This comparison has already received a great deal of attention (see, among others, the most recent works of Möbus and Verdier, 1997, Béret et al., 1997), and we shall take it up here only to highlight two recurring questions concerning, on the one hand, how specialised, and, on the other hand, how theoretical diplomas should be.

3.1.2.1 How specialised?

Whether training should be broad or narrow is a major discussion topic in Germany, with the trade unions arguing for a field of competences that is broader than employers would like. The fact that most training takes place in enterprise in the dual system might well mean that training is limited to the specific activities of enterprise but, as a counter-part, the training profile and outline plan make some kind of generalisation necessary as they are drawn up so that they can be put into practice in a wide range of enterprises. While a compromise is always found, it should also be stressed that this tends to be at the cost of the concrete nature of the activities listed in this training profile and outline plan. In other words, the necessary generalisation seems rather to take the form of an abstraction. In this respect, the abilities and knowledge listed in the training profile and outline plan for industrial mechanical engineers, a technical processing option, in Germany, do not seem in practice to be more concrete than those set out in the occupational profile and diploma standard of the vocational baccalauréate in maintenance of automated mechanical systems in France – irrespective of the proximity of these two diplomas (Möbus, Verdier, eds., 1997, Annexes 1 and 2). This may point to the fact that the degree of extension of an occupation cannot be tackled solely from the point of view of fields of competences, i.e. by extending the list of activities in the standard, which in most cases involves making them more detailed by adopting more abstract formulations since, if too much effort is made to break an action down into more elementary actions, the end result is to lose any concrete content and meaning (Savoyant, 1999). The extension of the activity has more to do with the range of situations that the individual can handle in a given field of competences and can be perceived more in terms of the knowledge required to perform a range of actions than via a simple list of these actions. In other words, the extension of the activity refers to the level of competences required.

These cannot be assessed solely by observing performance, and it is for this reason that an activity cannot be reduced solely to its operational aspects: account needs to be taken of the 'how' of the activity, i.e. the cognitive processes that underpin it. It is also from this point of view that it seems pertinent to tackle another aspect of the extension of an activity that is becoming increasingly important in work, i.e. the 'action competences' involving 'the ability to plan, implement and supervise independently' (Koch, 1997, p.38). Very clearly, these abilities are not competences or activities that can be added to other occupational activities in a standard; their effect is more to modify the level of competence of these activities.

3.1.2.2 Theory and practice

The criticism most commonly made by enterprises is that training is too theoretical. The question is then one of finding out what this criticism really means and in this respect it has to be said that the distinction between theory and practice on which it is based has more to do with common sense than with any kind of scientific approach. Theory is not seen here as a foundation and validation of practice, making it possible to understand the 'why' of the actions that one performs, but merely as describing what is to be done (Savoyant, 1996) and is reflected in day-to-day language by formulae such as: 'more easily said than done'. In other words, excessive theory is predominantly a lack of 'practical' expertise gained from actual working situations. This point of view obviously has some foundation, and nobody can dispute the existence of experience-based knowledge that can be gained only from actual working situations. The problem is that, quite naturally, if theory and practice are differentiated in this way, the end result is to differentiate places
of training: theory in the classroom, practice in enterprise. It is difficult to articulate these two worlds in these circumstances and supplementing a list of occupational activities with a list of ‘theoretical’ knowledge is not enough to ensure this articulation in a satisfactory way. We must be clearly aware that activity takes place in the classroom and in the enterprise and that there is theory and practice in both cases. Analysing activity solely in terms of performance does not make it possible to address this question.

3.1.3 Competence levels

Competence levels give an idea of the degree of mastery of an occupational activity by an individual. In this respect, the relationship between diplomas and the production system cannot be reduced to a simple comparison of the skill levels required by enterprise and covered by the diploma since this would merely involve approaching an activity in terms of performance, specifically by placing these skill levels on a practical footing in performance lists. To go beyond performance alone, account has to be taken of the processes that underlie it and the conditions under which such processes are developed.

We shall therefore approach this question through a cognitive approach to alternance and more specifically to the conditions and content of the articulation between schools and enterprise. This is a vast issue and is a direct part of research into the construction of knowledge and competences in a working situation, with the result that it cannot be examined in an overall way here. Reference can nevertheless be made to the contribution of Dybowski and Dehnbostel to this report, and to the work of the European Work Process Knowledge network, recently involved in the TSER Work process knowledge in technological and organisational development programme. We shall merely look briefly here at some theoretical aspects of a cognitive approach to alternance.

‘Taking a cognitive approach means giving a central role to the activity of the individual and, in the case of learning by alternance, to the activity of the learner, in both a classroom and a working situation’ (Savoyant, 1996). The dissociation and specialisation of places of learning (‘theory’ at school and ‘practice’ in enterprise) express a discrepancy which is reflected, in overall terms, by the lack of practical ability, criticised by enterprises, of people leaving the education system. This discrepancy can be analysed from two points of view:

1. a first aspect is well-illustrated by formulae of the type ‘it is one thing to know how to do something and another thing actually to do it’. This discrepancy is normal and largely unavoidable, and merely highlights the fact that there are experience-based competences that can be acquired only in an actual working situation;

2. the knowledge acquired at school is not the base knowledge of work activity. When put in this way, this notion makes it useless to seek any articulation between school and work. The most common situation is rather that the knowledge taught at school does not cover all the base knowledge called into play by work. The main reason for this is that this base knowledge cannot be reduced to subject knowledge and is formed largely by perceptions and concepts that are closely linked to this work. When formulated through and for this work, it is difficult (and in some cases impossible) to place this base knowledge on an explicit and objective footing in the form of external knowledge, which would be a prerequisite for it to be imparted and validated outside the actual working situation. This is a key question in alternance and, in this respect, occupational teaching approaches seem particularly relevant in identifying and formalising this base occupational knowledge (Vergnaud, 1992; Pastré et al, 1995). Analysis of actual work in terms of conceptualisations and representations specific to each field of activity that it involves occupies a key place here and thus makes it possible to go beyond the boundaries of identification by standards systems that is too often exclusively based on an analysis of prescribed tasks. Moreover, this more objective approach should also help to ensure a common reference for school teachers and enterprise trainers or mentors.
If we fully accept the idea that the activity of the learner is as essential at school as it is in enterprise, the question is not one of applying the ‘theoretical’ knowledge learnt at school to the work situation but one of articulating the activity of appropriating knowledge at school with production work in enterprise. ‘From this point of view, if the acquisition of knowledge involves only listening and learning by heart (by the learner), the only activity in which it can be directly used is the activity of speaking and restituting this knowledge. (...)’. If it is appropriated solely in this way, knowledge remains “formal”’ (Savoyant, 1996, p.2) and is therefore difficult to put into practice at work as it remains external to this work instead of being integrated into it. The aim is therefore for the teacher to encourage ‘good’ activity by the learner. While it seems of little use to make this activity coincide directly with actual work (since that would be on-the-job training), it nevertheless seems necessary for it to be sufficiently representative of this work.

3.2 Assessment: standards in action

We mentioned above that the signalling effect of paper qualifications was being called into question as the training that leads to them is often felt to be out of kilter with labour market needs. This type of criticism is common in France (Tanguy, ed., 1986) and probably in Spain too, where, in the case of vocational options, ‘enterprises’ perceptions have always been marked by mistrust and misinformation’ (Muñoz, 1997, p.50). In France, employers’ representatives consider that the ‘diploma makes it possible to certify, at a given moment, the existence of some individual resources, in particular knowledge, but not the practical application of occupational skills exercised in real working situations throughout the vocational course’ (CNPF, 1998, pp.68-69), a point of view that is obviously not shared by educational institutions. This is part and parcel of an ongoing debate on the nature of competences and, more recently, on their methods of validation.

The validation of learning involving individuals, employers and the education system is crucial to these questions. The following analysis will focus on these schemes and on the certifications to which they lead as these seem to be good indicators of the links or tensions between certification, training, competences and occupational performance. What the validation of learning says about competences depends on the ways in which assessment systems are designed and put into practice.

3.2.1 The design of learning validation schemes

The ways in which learning validation schemes are designed defines the framework that will be most in keeping with the target objectives. The schemes examined below offer exemption from all or part of a training course leading to an existing qualification, or award a specific certification to endorse the value of experience. The same assessment criteria will not be used in both cases. The standard used in the first case will be the standard of the qualification. In the second case, it will in principle be the job description, i.e. a performance standard. In practice, the divide is less clear cut. After comparing learning validation schemes with other qualifications, we shall then examine assessment criteria.

3.2.1.1 Validation of learning and conventional certification systems

We initially located learning validation schemes with respect to the conventional pairing of education + certification placed on a formal footing through work under the European ADAPT programme by the Délégation académique à la formation continue of Strasbourg (Abisse, 1997). The following schemes were examined:

- the German Externenprüfung;
- the Spanish Certificado de Profesionalidad, awarded by the Ministry of Labour and Social Security;
- the French Validation des Acquis Professionnels (VAP), organised by the Ministry of Education;
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- the French Certificat de Compétences Professionnelles (CCP), awarded by the Ministry of Employment and Solidarity and organised by AFPA (national association for adult vocational training) which it runs;

- the British Accreditation of Prior Learning (APL), which is not always clearly differentiated from the NVQs to which it may lead (Scottish Qualifications Authority, 1997);

- the NVQs which are not, properly speaking, a learning validation scheme but which, as they themselves contain no compulsory training element, are tending to become a compulsory point of reference in this area. They have also provided inspiration for the Spanish and French Ministries of Employment.

We shall not look at Belgium where thinking about these questions has been underway for several years in the French Community where 'there is no global and concerted mechanism for coordinating and recognising the skills acquired from continuing vocational training schemes (...) (the Community does not have) a rational public system of vocational qualification covering the whole of the field. The only system of certification that has social recognition throughout the French Community is that run by the education system' (Conseil de l'Éducation et de la Formation, 1999). This situation can perhaps be explained by the fact that it is more the reputation of the school than certification that provides a signal on the labour market.

The French VAP and the British NVQs are the best documented of all the schemes examined here. They are the outcome of vocational training systems that oppose formal education and apprenticeship. The NVQs are rooted in experience and while training elements are part and parcel of the VAP, it does not make it possible to obtain the diploma as a whole.

The learning validation scheme closest to the certification systems in use in its country is the German Externenprüfung under which exemption from all or part of the training leading to national examinations can be requested. The Spanish Certificado de Profesionalidad, which validates skills listed in a national list, is the furthest removed. It is nevertheless close to the NVQs, like the French CCPs which validate skills acquired solely from experience. The differences between these schemes have not been fundamentally shaped, therefore, by their national connections. Differences within the same country are also shaped by an institutional factor: the separation, in some cases controversial, of responsibilities for the validation of occupational learning between the Ministries of Education and Employment, as in Spain and France. This separation has been shaped by different attitudes and links, the Ministry of Education covering schools and the Ministry of Employment covering enterprises (see point 2.1.2). In France, therefore, the VAP, under which exemption from some of the units making up a diploma can be obtained, is supervised by the Ministry of Education, while the CCPs, focusing on occupational experience, are administered by the Ministry of Employment and Solidarity. This dialectic between school and employment brings up the key question that is at the heart of the problems of validating learning: that of the complex relationships between doing and knowing in what Yves Clot (1999) calls the unfathomable skill.

3.2.1.2 Reference profiles and standards

In all the countries examined here, the state is the guarantor of the validity, reliability, equity, objectivity and therefore of the legitimacy of assessment procedures. Assessment standards are among those rules that have to be approved by the state. If they were not, the reliability of the national assessment system would be diminished. Solar (1995, p.82) indirectly stresses the need for common criteria in respect of skill portfolios, 'a method that involves many people in the assessment procedure (each assessing knowledge) according to their own framework. This means that something that was intended to be objective is not'. In other words, in an assessment, the various points of view must be expressed on the basis of previously defined common criteria, otherwise diversity makes it impossible to reach a consensus.
Employers are involved everywhere in constructing vocational training schemes and in formulating assessment standards. France is among those countries where employers are most clearly calling into question the diploma by giving themselves the sole right to construct skills. Carrying out an assessment according to criteria that they have themselves determined would give employers better control over the other forms of recognition, i.e. grading and pay. It is not just the diploma, however, but the whole regulatory function of the state, that is being contested. British employers are also criticising a system in which they are, however, one of the principal players: ‘many employers (…) expressed continuing concerns about the incoherence of the wider vocational qualification structure, the plethora of traditional vocational qualifications, the burden of assessment in NVQs, some lack of reliability and consistency in assessment (…)’ (DfEE, 1999, p.38). Here again, it is the state’s functions of organisation and control that are being questioned.

It is undoubtedly much easier to contest paper qualifications nowadays. For some years, major French enterprises have been using skills as a tool for managing human resources. In this respect, they have carried out analyses of work in order to develop directories or profiles of skills that can be used for training purposes. The need to write up work procedures for accreditation under the ISO9000 quality assurance standards has also played a part in developing the practice of activity or skill profiles specific to a particular enterprise. This is not without a link with the validation of knowledge gained from experience. ‘Writing up working procedures consists in extracting and articulating action skills which, although socialised and potentially possible to place on a “formal” footing, have up until now remained tacit (…) This involves redefining and rationalising skills acquired from experience (…) The operation of discovery and formalisation provides a kind of validation of action skills’ (Campinos-Dubernet and Marquette, 1998).

For all these reasons, tools for identifying skills that use a wide range of methods are proliferating (Penso-Latouche, ed., 1998). This proliferation would seem to suggest, and caution is needed here, that this is an easy matter. As these profiles are by their nature closer to real work than any profile drawn up outside the enterprise, an artificial convergence resulting from disparate assessments could lead to the notion that the training given by the education system, and therefore paper qualifications, are not in keeping with the skills actually being sought.

The national standards drawn up to validate learning may be similar to those used to validate training courses or may be formulated specifically to validate learning from experience. The Externenprüfung and the VAP fall within the first case and the NVQs and the Certificado de Profesionalidad fall within the second case. The CCP certification profiles are in an intermediate position. AFPA attempted initially to use the Répertoire opérationnel des métiers et emplois (Operational directory of trades and occupations) of the National Employment Agency. It had to supplement it from the analyses of work and reference profiles that it draws up when setting up training schemes (Roman, 1998). Consequently, the performance standards drawn up to assess formal learning from training courses are very evident in the assessment of informal learning. It seems to be the case that, as the validation of learning is a recent development, specific methods are under construction and use has initially been made of existing, reputedly reliable, tools.

This pragmatic choice may not necessarily be the best way of meeting the objectives being sought. ‘The context of the validation of occupational learning mobilises experience from the point of view of its “school” assessment and this mobilisation is not the same as the mobilisation of experience for the action of work itself. Skills will not be organised in the same way in both cases’ (Clot, 1999, p.31) The questioning of diplomas by French employers then highlights a basic problem: are the criteria and methods used for assessment inappropriate because they are too heavily marked by the school world? Reciprocally, the abandonment of the initial principles of the CCP experiment, based on very short (one-page) job descriptions drawn up for the pur-
poses of placing jobseekers, shows that making do with the ‘employment’ dimension is no more relevant for the purposes of validating learning. It is highly likely that any job description drawn up for purposes other than the validation of learning would not have been appropriate either. Are the ideal standards to be found somewhere between the two? The British, who were not impeded by school criteria, have tried to find the perfect assessment standard. Several authors (Green et al., 1999; Eraut, 1996; Wolf, 1996) have stressed that this led them to an ever greater precision that is now causing the government to demand that they back-pedal (DfEE, 1999). Wolf stresses that this deviation is inherent in the type of approach used: ‘The more serious and rigorous the attempts to specify the domain being assessed, the narrower and narrower the domain itself becomes, without, in fact, becoming transparent’ (1996, p.55).

The issue of precision harks back to the issue of the general and the specific raised by transverse skills, key or core skills and qualifications covering a very extensive occupational field that may in some cases concern several sectors of activity. In France, the reference profiles for such diplomas are generally geared to local situations, i.e. ‘contextualised’ for the purposes of training and assessment in work situations (Kirsch, 1989). The reference is nevertheless still the national profile. The overall process entails a whole range of translation operations. If learning is validated from an analysis of written or oral discourse, a further translation will be necessary to establish a link between the description of the activity proposed by the candidate and the assessment standard prescribed by the qualification.

Standards are constructed or adjusted by an iterative process that feeds on prior experience. The question is one of ascertaining whether this iterative process causes a loss of sight of the initial objectives, i.e. in this case an assessment based on skills. One of the paradoxes of a skill is that it is contextualised but is perceived as a predictor of employability. If the context is overly reduced, is it still possible to talk about a skill and, even more so, about employability? What validity do standards based on an excessive fragmentation of the description of an activity have? ‘by stating that someone has “acquired a skill”, it is assumed that he could and would use it in any appropriate context, but the nature and extent of the indices required to support this statement are still problematic’ (CERI, 1998, pp.81-82).

It would seem that the aim of the desire to certify and to draw up criteria or standards for this purpose is to reduce the overall uncertainties in which we live. ‘We are latching onto the notion of skills to cover a new labour market situation, in which qualifications no longer guarantee jobs. This aspect of the new world order cannot be disregarded: skills are to qualifications as employability is to employment. Certainties (qualifications, jobs) are tending to become hypotheses (skills, employability)’ (Bellier, 1998).

3.2.2 The use of standards in assessment

It would seem from the above that standards are the means that the state uses to reduce the uncertainty surrounding the award of the qualifications that it accredits. The practical methods of implementation of standards, i.e. assessment methods, are shaped by this rule. None of this would be of any importance without the people responsible for evaluating candidates seeking accreditation of their learning.

3.2.2.1 Assessment methods

A standard is put into practice through assessment methods and is subject to its own test of validity. Depending on the scheme, assessment may take the form of an examination based on a dossier or a portfolio of evidence or competences, during an assessment in an actual or simulated working situation, may entail an interview or may combine several of these elements. The only assessment methods that completely disregard conventional examination formulae are the CCP in France and the APL and NVQs in the United Kingdom.

Not all forms of assessment are equivalent. ‘APL is necessarily a highly individualised
process and, for quality control purposes, requires the amassing of comprehensive evidence that can be checked and validated. Many candidates do not have evidence of this sort readily to hand and many find that they can only cover parts of an award. It is often as easy, or cheaper, to retest such candidates from scratch, or enrol them on a course. The only area where, in England, the approach seems to succeed and be cost-efficient is with office skills (Green et al., 1999). Ultimately, even when the rules are the same for everyone, they are not necessarily equitable.

Leaving aside cases in which certification entails an examination or a test in a working situation, candidates for validation have to draw up a portfolio or a dossier in which they describe the activities through which they have gained the skills that they wish to have validated. They are generally able to obtain assistance with this. In addition to practical advice and drafting aids, part of the process of assistance for candidates is to help them to place their descriptions on an objective footing, and to distance themselves from their experience as ‘the skills that the person uses are not “ready-made” for the purposes of explanation. Our investigative work is not intended to locate them as invariant learning that can be validated only through analysis’ (Clot, p.31). This maieutic approach tends to be very instructive for candidates who are ultimately responsible for finding the link between knowing and doing as ‘the knowledge mobilised in a working situation, i.e. day-to-day concepts, given meaning by occupational experience, is not the same as the knowledge acquired from training, i.e. scientific concepts. Finding a link between these two spheres of knowledge is a conquest in which the person’s activity plays a key role’ (Clot, p.15). It is also true that this relationship can be forged only through joint work by the candidate and the person helping him or her to draw up a dossier. Joint analysis of the candidate’s activities makes it possible to infer that, despite the one-off nature of the assessment, the skills observed can be transferred to other situations.

When validation is based on assessments in working situations, candidates cannot use the same process of formulation as when assessment is based on a dossier or portfolio. It is then the choice of the assessment situation that should offer them the best possibility of demonstrating their skills. Assessors preparing for a situation of this type are in much the same case as trainers trying to discern formative working situations. In both cases, there are two approaches: ‘the educational learning approach, of an analytical type, which involves breaking down the complex into simple and elementary units, and the occupational activity or cognitive approach, of an integrating type, which involves combining multiple skills and is reflected by activities that can to some extent be isolated as subsets of the qualification’ (Lechaux and Barkatoolah, 1994, p.106).

3.2.2.2 Assessors

All the above points to the important part that the people who put learning validation schemes into practice play in making them functional. The composition of assessment panels is the point at which these systems are closest to conventional systems. This closeness probably has a lot to do with a concern for acceptability and credibility (Bjørnåvold, 1997), as conventional systems still have considerable social legitimacy, whereas learning validation schemes find it difficult to become rooted. The Externenprüfung, established after the First World War, involves some 30 000 people per annum in comparison with the dual system which trains some 1 600 000, with almost 600 000 examinations p.a. (BMBF, 1998). The Certificado de Profesionalidad is finding it difficult to leave the experimental stage. In France, the VAP panels examined 2550 dossiers in 1997 (DESCO, 1997) whereas 715 560 students sat the same technological and vocational education diplomas (DPD, 1998). The second experiment with the CCP is to involve 1000 people, and the first involved 200. It is difficult to estimate the population involved in the United Kingdom’s APL as the statistics do not always differentiate it from the NVQs which, in turn, illustrate how difficult it is for new systems to put down roots and gain acceptance. There are currently 840 NVQs, whereas there are 1800 other vocational certificates complying
with the standards approved by the Qualification and Curriculum Authority and 17 000 which do not or only to some extent comply with these standards (DfEE, 1999). The government is currently taking action drastically to reduce the number of Vocational Qualifications not accredited by the QCA.

The fact that teachers are in the majority, as in the case of the French VAP where ratios of this kind were from the outset laid down in the legislation, may show that more importance is being attached to knowledge than to expertise and that qualifications are still firmly rooted in the school sphere. If this is the case, there is a risk that education standards will have the upper hand over performance standards. Before looking at this hypothesis, however, it should be noted that few categories are eligible for assessment tasks. Since knowledge needs to be related to experience, it is logical that panels contain both teachers and practitioners. Teachers have traditionally been assessors and still have considerable legitimacy even though they are using the knowledge that they have acquired in academic disciplines in the occupational field. Here again, the transfer of skills can be explained by the fact that appropriate ways of conducting spot assessments of occupational performance have yet to be found: good mentors are not made in a day.

Potential tensions of this kind make it necessary to look at the skills of panel members. A competent practitioner does not necessarily possess the skills of an assessor. In France and the United Kingdom, the people involved in the learning validation process receive special training. As they gain experience of validating learning, the risks of academic or professional imperialism are reduced as everyone becomes aware of their own limits. A representative of the Ministry of Education, who has had this kind of experience in France, stresses that ‘paradoxically, a maths teacher is not the best person to assess the maths abilities of a candidate who is a bus driver: the practitioner is much more aware than the teacher of the conditions under which the job is performed and what skills, including maths, are actually involved in the job’ (Bernard, 1997, p.46). At this stage, we should like to put forward the hypothesis that validation decisions cannot be based entirely on the strict application of standards. This does not mean, however, that the prior constructions and tools developed for assessment are of no use. We have discussed the structuring role of standards and predetermined assessment criteria when assessing a skills portfolio. Although at a different level, work to analyse these application portfolios or dossiers for learning validation is just as essential, as a member of an assessment panel stresses: ‘the dossier is less the foundation on which we base our judgment than a document from which we extract information useful for conducting the subsequent interview with the candidate. If we did not have this dossier, the candidate would not be ready for the interview and we ourselves would find it much more difficult to conduct this interview. The interview is often, however, the determining factor’ (Bernard, 1997, p.46). Blindly applying a standard under the pretext of equal treatment is not therefore possible. ‘It is impossible to judge the abilities of adults who have been working or have worked for a number of years in an occupation without taking account of the human density of these candidates (...) The interview makes it possible to find out why a candidate is requesting this rather than another exemption (...) In every case, this clearly raises the problem of the link between the skills required to obtain the diploma and those required for the practice of the occupation for which the diploma is needed. The panel cannot therefore disregard the issue of the candidate’s motives (...) if candidates need a diploma for career reasons (...) should they be exempted from the maths test that they would not pass when we, as practitioners, know that the corresponding skills will genuinely be of no use to them?’ (Bernard, 1997, p.47). As a guarantor of the validity and reliability of procedures, the panel also needs to be a guarantor of their equity.

4. Conclusion

It seems important to stress three points following this analysis:
a) certification is giving rise to a debate about occupational knowledge and the conditions under which it is generated that is calling traditional attitudes into question;

b) the increasing autonomy of certification is also being reflected by its diversification. Assuming that there is a single and federating dynamic shaped by the proximity of production systems, and therefore the proximity of the skills needed, would be untrue. Any dogmatism in this respect is dangerous; placing an eminently social practice, that is trusted because of the high-quality expertise of those who organise and implement it, on an excessively technical footing would be just as dangerous;

c) decisions taken in this field have major moral and civil repercussions.

4.1 Certification and recognition of occupational knowledge

As the preceding analysis has shown, the increasing autonomy of certification systems does not mean that they are independent from training. Justified criticisms of overly academic approaches have in some cases meant that practice, assumed to be enlightening, has been exalted, which does not seem any less suspect. The real question is how occupational knowledge, whose nature goes beyond technical mastery, can be identified, passed on and assessed, making it necessary to break away from the traditional divides between theoretical and practical knowledge and general and applied knowledge. It would seem, moreover, that this knowledge is to some extent being generated and passed on within organisations, which raises two questions:

- internal recognition of this knowledge;
- recognition of the ability of organisations to foster such knowledge creation and transmission.

Internal recognition of knowledge involves ‘negotiated skills’ in the sense of Eymard-Duvernet and Marchal (1997). This raises the problem of the particular signal of such recognition. Some enterprises use existing qualifications (Feutrie and Verdier, 1993) and others are setting up their own certification systems (Périsse, 1998). Choices depend on the ways in which enterprises manage human resources. They are wondering whether paper qualifications can be adapted for this purpose and, although this is not self-evident, it can be politically encouraged. They are also raising questions about the limits of these qualifications and other forms of certification for the recognition of locally generated skills. In other words, not everything is necessarily certifiable and maybe it is better to accept uncertainty than to set up systems that are too sophisticated or too restrictive.

The ability of these organisations to foster knowledge creation and transmission is central to debates on the learning society, but it is striking to note that there are already some prejudices. To our knowledge, nobody anywhere seems to be taking account of the fact that places of training are also organisations, with a collective life, or of the fact that the people who attend these places are increasingly often adults, even in initial vocational training. Bjørnævold’s (1997) logic of ‘legitimate peripheral participation’ (quoting Lave and Wenger, 1991) applies equally to them.

4.2 Diversification of certification

Just as they are becoming more independent, certification systems are also diversifying; the risk is then that they become less legible and may mean that steps need to be taken to make them compatible. It seems difficult to accept, however, that all knowledge can be certified in the same way. This is often the position that is nevertheless defended in the name of individual equality and the transparency of systems.

Different types of assessment can be pinpointed, however, depending on the type of knowledge in question:

- the assessment of objectively-based knowledge is very compatible with more or less automatic forms of accreditation which opens up considerable scope for the development of self-assessment and teaching innovations using the new information and communication technologies;
the assessment of social skills requires recognition by ‘expert peers’ and raises the question of building up a stock of expertise in formulating standards and assessment practices. Ministries need, for instance, to be able to formulate qualification policies providing a framework for their training activities. Moreover, and in the light of the French case, while some people deplore the lack of participation of employers’ and workers’ trade union representatives on panels and juries, it is just as possible to highlight the high-quality involvement of these participants, despite the lack of preparation that they receive and the lack of recognition that they gain; setting up organisations generating knowledge has more to do with the respect of standards that promote this genesis of knowledge that can be validated by formulae along the lines of industrial standardisation.

At present, the greatest danger is undoubtedly that of dogmatism which suppresses differences because they cannot be tolerated. Flawed doctrine is nevertheless almost as dangerous. The first step in making systems compatible may well lie in demarcating their domains and in respecting their missions than in attempts to harmonise their methods and outcomes.

From the point of view, however, of closer links between certification systems at a European level, it is striking to note the lack of interest in trades that are increasingly less national: the transport trades come to mind, although trades in banking and informatics and higher education jobs could also be mentioned.

4.3 A question of citizenship

The certification market is prosperous and expanding. This is leading to practices of a commercial type, sometimes involving public services or states. Current developments seem to be underpinned by attempts to impose formulae in which finance is more important than the lack of substance of scientific and technical arguments. In the social sphere, as in biology, it is dangerous to try out anything and everything, relying on a kind of transcendental Darwinism to ensure that the best solution for the community wins out over other solutions. Setting up national ‘committees of experts’, coordinated at European level, might help to curb this type of problem.

Summary

The theme of the certification of occupational abilities has occupied its own space in discussions of vocational training since the beginning of the 1990s. Before then, little attention seems to have been paid to this issue: certification was seen as a natural and logical stage of a process of education that it both completed and sanctioned.

This report looks first at the issue of the increasing autonomy of certification systems, and the various ways in which this is taking place in different countries, focusing in particular on the reorganisation of links between education and training and certification.

This increasing autonomy has highlighted the question of skill identification. This has been reflected by a need to rethink performance and assessment standards, an issue that is examined in Part 2.

The current systems in Germany, Belgium, Spain, France and the United Kingdom, which show interesting differences in this field, provided a basis for our work.

Certification systems: genesis and increasing autonomy

Judging by historical data, specific mention of certification seems to have been relatively late and piecemeal. Is this because certification has gained importance only in recent years, or, even though it was already playing a role, because it was long seen as a dependent element of the vocational training system? The importance that modern societies attach to assessment tends to bear out this second hypothesis. The few references to certification in historical works show, moreover, a trend towards a gradual appropriation of schemes
by the state, reflecting the state’s growing involvement in the education of individuals, starting with higher-level qualifications and moving on to lower-level qualifications. This trend did not, however, follow a harmonious course and encountered opposition from some protagonists, in particular as regards the lower occupational levels. In addition, referring merely to the state is not enough as the state could – and can – intervene through bodies linked to the production system or the education system, depending on policy options linked to one or other sphere, and thereby give certification different objectives. The state is plural. In these circumstances, therefore, it seems logical that occupational certification, despite a common historic dynamic, takes different forms, even within the same country, and is not moving in the direction of transnational harmonisation.

The report then goes on to look at the contemporary developments that are tending to make certification increasingly independent from training: the special nature of a ‘qualification’ effect, which is becoming increasingly important in a labour market marked by growing mobility and far-reaching change, is thus examined. Certification is being mobilised particularly as changes in production systems are making the ability of employees to carry out the tasks with which they are entrusted less and less certain. New qualification requirements and different forms of knowledge in return raise the question of defining new assessment criteria and standards. Part 1 ends with an examination of two of the questions currently being raised about certification: the link between certification and exclusion and the problem of reconciling legitimacy and legibility.

**Standards and assessment**

The report goes on to address the new methodological problems being raised by certification’s increasing autonomy from training, looking in particular at the ways in which standards are drawn up and put into practice in assessment procedures. This makes it necessary to return to the relationships between the certification system, the production system and the training system. In the production system, it is necessary to tackle the question of the description of work activities and to identify the performance standards specifying the occupational aim to which the certification should attest. In the training system, it is necessary to define training standards that specify the knowledge (in the most general sense of the term, including experience, knowledge, practices, competences, etc.) needed to perform the activity described. The report then looks at the relationship between qualifications, certification and the production system from three points of view: domains of skills with reference to nomenclatures of training and employment specialisms, fields of skills through job reference profiles and levels of skills using a cognitive approach.

Assessment issues are examined from the point of view of procedures for the validation of informal learning which offer a good illustration of the links or tensions between certification, training, skills and occupational performance. The issue is examined from the point of view of the design and use of the various countries’ existing schemes and in particular the standards that underpin them. There are two trends: schemes that offer exemption from all or part of a training course leading to an existing qualification or schemes that award a specific certification to endorse the value of experience. The same assessment criteria are not used in both cases. The standard used in the first case will be the standard of the qualification. In the second case, it will in principle be the job description, i.e. a performance standard. In practice, the divide is less clear-cut.

The report then looks at the formulation of assessment criteria, their links with existing systems, the methods by which they can be put into practice and at assessors themselves. It would seem that standards are the means that the state uses to reduce the uncertainty surrounding the award of the qualifications that it accredits. The practical methods of implementation of standards, i.e. assessment methods, are shaped by this rule. The report puts forward the hypothesis, however, that validation decisions cannot be based solely on the strict application of standards. This does not mean, however, that the prior construc-
Certification and legibility of competence

tions and tools developed for assessment are of no use. Standards play a structuring role as they provide a reference system common to the various people responsible for assessment, who are guarantors of the validity, reliability and equity of procedures.
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