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ABSTRACT

This paper summarizes a conference on the development of midlevel technical personnel in Germany and France. The proceedings of the conference were divided into five presentations: (1) an introduction to the subject of the project and the conference; (2) a comparative presentation of the origins and development of educational training routes in Germany and France leading to technician positions and the use of these routes by company personnel policy for internal promotion or direct access; (3) explanations of the very different developments in Germany and France; (4) the illustration of these national differences using the examples of new midlevel career routes studied in two German and two French enterprises in the chemical sector; and (5) the expression of a number of basic concepts and methods derived from the Franco-German comparison. (KC)

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THE COMPANY AND ITS ROLE IN THE PRODUCTION OF
QUALIFICATIONS: THE CONSTITUTION AND DEVELOPMENT OF
MIDDLE-LEVEL QUALIFICATIONS IN GERMANY AND FRANCE - A
COMPARISON

INTERNATIONAL CEDEFOP-ISF (MUNICH) CONFERENCE, 29/30 MARCH
1990 IN BERLIN

Introduction

1. The conference, jointly organized by CEDEFOP and the ISF, was basically centered on the results of a study funded by the Federal Ministry for Education and Science on "New routes into the midfield of industrial and technical personnel - the conditions for their development and the impact of new recruitment and training routes on the vocational training and continuous training system in Germany and France". Ingrid Drexel and Joachim Fischer who are conducting the study at the Institute for Social Science Research (ISF) in Munich reported on results of interest to the conference.

With respect to the acquisition of information on new middle-level training routes and career paths in French companies, which are to be compared to the German enterprises examined, cooperation has been established with a large-scale French research project on company continuing training and personnel policy (entitled: "Production et usage de la formation par et dans l'entreprise"). The following institutes are participating in this project, led by Philippe Méhaut: GREE (Groupe de Recherche sur l'Education et l'Emploi), Nancy; CEREQ (Centre d'Etudes et de Recherche sur les Qualifications), Paris; IREP-D (Institut de Recherche Economique et de Planification), Grenoble; LASTREE (Laboratoire de Sociologie et de Travail, de l'Education et de l'Emploi), Lille and IAE (Institut de l'Administration des Entreprises), Grenoble. The results of a joint study by Philippe Méhaut and Ingrid Drexel provided the basis for one of the papers presented by J. Fischer; Maiten Bel and Jean-Paul Géhin presented the results of their case studies in two French companies, insofar as they touched upon middle-level qualifications.

2. Alongside Enrique Retuerto de la Torre, Fernanda Oliveira-Reis, Georges Dupont and Peter Grootings from CEDEFOP, the participants of the conference were a number

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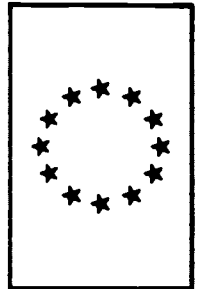
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of representatives from companies and trade unions in the Federal Republic of Germany and above all educational researchers from France, the United Kingdom, the Netherlands, Norway, Spain and the Federal Republic of Germany.

3. Under the general heading of the question "Internal company promotion or direct access from school?", the subject of the conference and its documentary report¹ was the constitution of middle-level qualifications and the differences between the situation in the Federal Republic of Germany and France as a result of historical developments.

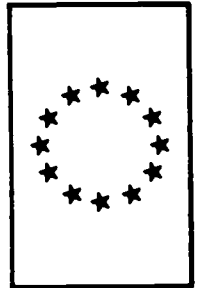
Following an introduction by CEDEFOP (1), the proceedings of the conference were divided into a total of five presentations:

- an introduction to the subject of the project and the conference (2);
- a comparative presentation of the origins and development of educational training routes in Germany and France leading to technician positions and the use of these routes by company personnel policy for internal promotion or direct access. (3);
- hypotheses explaining the very different developments in Germany and France (4);
- the illustration of these national differences on the basis of the example of new mid-level routes studied in two German and two French enterprises in the chemical sector (5);
- the elucidation of a number of basic concepts and methods applied in the presented Franco-German comparison (6).

 1 I. Drexel, J. Fischer: The company and its role in the production of qualifications: the constitution and development of middle-level qualifications in Germany and France - a comparison, CEDEFOP report, publication in preparation.

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THE PROCEEDINGS AND CONTENT OF THE CONFERENCE

1. Welcome and introduction to the tasks of CEDEFOP

The participants were welcomed to the conference and given an introduction to the tasks of CEDEFOP, which provide the basis for its interest in the ISF study, by Georges Dupont and Peter Grootings.

Peter Grootings explained that CEDEFOP had above all been entrusted by the EC with the task of rendering the qualifications existing at the different levels of qualification in the various Member States comparable; it was CEDEFOP's intention to use its long tradition of scientific, theoretically-oriented research to implement this practical and political task. He explained that the overall approach had changed in recent years: whereas the original intention had been to establish comparability by means of statutory provisions, the Member States (and also CEDEFOP) had meanwhile become more modest and realistic with respect to the feasibility of this exercise. One had realized that comparability could only be established gradually and that a stocktaking process was necessary as an intermediate step to improve understanding of the very different realities to be found in the various European countries. It is in the context of this stocktaking process, taking account of the complexity of the situation in this field, that CEDEFOP sees the value of the ISF study.

The main thrust of the presentations which followed this general introduction shall now be briefly described, following which a number of more general issues raised in the ensuing discussions shall be summarized.

2. Introduction to the subject of the conference

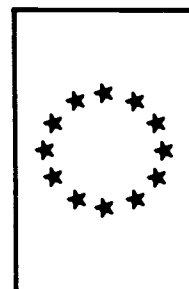
The first presentation (I. Drexel), introducing the research project and the conference, explained the particular importance of middle-level technical and industrial personnel and the subject of the conference: the role of the company in the constitution of qualifications for this middle level.

2.1. The subject-matter of the study covers the entire spectrum of the technical and industrial middle level, i.e. the whole range between the skilled worker, on the one hand, and the engineer who has received his training in the third level of the education/training system, on the other. This middle level has been "set into motion" in the countries studied: it is characterized by qualification gaps and new forms of skill acquisition at various points, phenomena which are not to be seen in isolation but in an overall context. Traditional middle-level qualifications - "Techniker", "Meister" in

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the Federal Republic of Germany, "techniciens", "agents de maitrise" in France - are also to be seen in this broader context; however, for practical reasons concrete studies must first of all be oriented towards this type of qualifications.

The technical and industrial middle level shows a different "cut" in the various countries. This is due not only to the different upper and lower boundary lines, differentiating the occupations from worker and engineer jobs, but also to the specific strengths and weaknesses of the qualifications and the special buffer and bridge function assumed by middle-level qualifications on account of their midfield position.

On the other hand, this midfield position means that new developments in the technical and industrial middle field may have a wide-ranging impact on educational/training routes and qualification structures both at worker and engineer level. This is the general background to the research project.

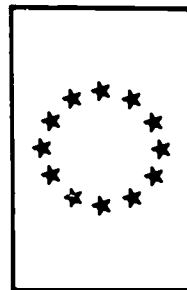
2.2 Against this background, the subject of the conference was the role played on the one hand by the company and on the other hand by the institutions of the state educational/training system in the constitution of middle-level qualifications in Germany and France and developments to be observed in this context: is the in-company advancement of workers to middle-level positions being suppressed by direct entry from the higher levels of the educational/training system? Is internal company promotion being increasingly replaced by direct access, as suggested by widespread hypotheses on the secular trends in the development of work and qualifications, thus reducing the role of the company in the production of middle-level qualifications? What is the role of "innovations" in company training and personnel policy: new forms of recruitment, training and continuing training and inner-company mobility?

3. The route to the position of technician: internal promotion or direct access?

Despite very similar starting positions, very different means of access to middle-level positions have evolved in Germany and France, as was illustrated by the second paper (J. Fischer) on the basis of the example of the categories of the German "Techniker" and the French "technicien".

In the Federal Republic of Germany, the route leading to a "Techniker" position remains characterized by a combination of practical vocational training at worker level, on-the-job experience and in some cases theoretical training at a specialized technical college. Dual training at worker level and vocational experience is typical of

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the German "Techniker" - and even more so for the German "Meister".

In contrast, the French "technicien" is characterized by a uniform and indeed polarized profile: on the one hand, the higher technician who has received his training at school or in the framework of higher education (baccalaureate or two-year short higher education) and on the other hand the company-appointed technician who has advanced from the ranks of the workforce.

Most of the reforms of state educational/training policy and innovations in the field of company personnel policy have reinforced the trend towards the practically pre-qualified technician in the Federal Republic of Germany and have thus strengthened the route of advancement based on further training. In France, on the other hand, a comparably structured form of further training constituting a formal qualification has not developed, not least due to the competition from higher technicians with previous school-based training. In France, in contrast to Germany, the tendency for companies to recruit academically trained technicians directly entering the enterprise has thereby been reinforced.

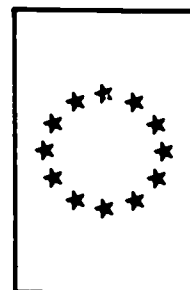
4. The emergence of different development models in Germany and France

The third paper (I. Drexel) dealt with the subject of the interpretation of the interactions between the education/training system and company personnel policy in a dynamic perspective. On the basis of a concept which explains currently observed structural differences as a product of successively emerging and stabilizing, specifically national development models, eight hypotheses were formulated on the key characteristics of the processes of change in the two countries:

Whereas a flexible adaptation from below can be observed in the Federal Republic of Germany, the situation in France is characterized by multiple innovations from above. Accordingly, slow qualification changes with unchanging labels are to be observed in the one country, and the emergence of a growing number of certificates and qualifications, in the other. This explains the basically unproblematic integration of juniors, on the one hand, and problems in the implementation of new types of qualification, on the other.

In this context, and with reference to new rationalization requirements, the continuity of existing workforces in German companies is contrasted by a "breach" in French enterprises, i.e. the frequent replacement of workers and worker categories.

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The main protagonist of these processes of change is, on the one hand, the enterprise and, on the other, state policy. As far as lanes of access to middle-level positions are concerned, this means that advancement via continuing training in the Federal Republic of Germany is contrasted by advancement via a school career in France and, with respect to the qualification process, dual learning (linked work and training) is the essential basis in Germany, as opposed to school-based learning in France. The result is the mutual reinforcement of initial and continuing training in the Federal Republic of Germany and competition between these two forms of training in France.

According to the hypotheses, these predominant elements of training and personnel policy are mutually intensifying and reinforcing and shape relatively stable specifically national development models in the two countries.

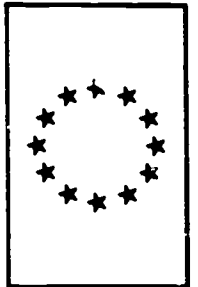
Recent trends, innovations in the field of training and personnel policy in both France and the Federal Republic of Germany nevertheless indicate that it would be rash to simply project these trends into the future.

5. Specifically national trends of development in the light of individual company case studies on four chemical companies

The personnel policy of two German and two French chemical companies then served as an example to specify, supplement and examine the rough trends of the constitution of middle-level qualifications.

5.1. The presentation of the results of two case studies form the French chemical industry (M. Bel and J.P. Géhin) to a certain degree showed an extensive deployment of high technicians having gained their qualifications within the school system. However, various forms of new or reactivated traditional advancement routes also illustrated that French companies do not wish to dispense with upward mobility from within the workforce as a formative element of personnel policy. The upswing to be observed in the field of continuing training is not only being used to provide the workforce in general with higher qualifications, but is also being specifically built into the company career models and the shaping of channels of access to the technical and industrial middle field.

5.2. The description of the two German chemical companies studied (J. Fischer) showed an adherence to advancement in various forms and its reinforcement, not least by formalization of the qualification requirements for promotions. Examples are the introduction of a laboratory technician further training course designed by a specific company and the further training course leading to a qualification as an "industrial master in the chemical



sector" and its implementation on account of the fact that the company laid down that these qualifications were the condition for corresponding promotions, thereby triggering off brisk continuing training activities among the staff. Although the implementation of this policy is more emphatic or cautious, depending on individual companies in question, it nevertheless represents a common frame of reference for innovations in the field of personnel policy.

However, this model of the mobilization of individual continuing training activity by providing advancement incentives - which can presumably be described as typical of German companies - has meanwhile also led to follow-up problems: qualification "reserves" have been built up among laboratory assistants who have received further training as laboratory technicians and also among masters in the chemical, electrical engineering and metal sectors, resulting in promotion bottlenecks and possibly also creating problems with respect to the personnel's long-term readiness to participate in continuing training measures.

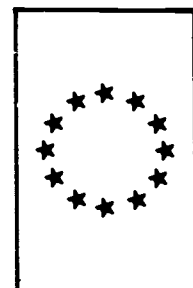
5.3. One particularly notable similarity among all the four companies studied should be emphasized: the vitality or revitalization of upward mobility from the ranks of the workforce, backed up to a greater or less extent by continuing training. Advancement evidently is and remains a key element of company personnel policy vis-à-vis mid-level technical and industrial personnel - a common denominator of the otherwise very different developments in France and Germany.

6. An international comparison of education/training systems and company personnel policy - basic methodology

The final presentation on questions of methodology (I. Drexel) outlined the basic concepts and methodology of the presented comparison: since the French "technicien" is not a German "Techniker" and the French "agent de maitrise" is not the German "Meister", they cannot be compared on a point-by-point basis. For this reason the project works, on the one hand, with the concept of a qualification field, circumscribed and co-structured by the adjacent qualification types, and, on the other, with the concept of channels of access into this field, asking how one becomes a "Meister", "Techniker", etc., what previous qualifications one requires, now much vocational practice and experience one needs and what career stages one has to pass through within the company. This (theoretically oriented) question of the typical social processes and models of access to middle-level positions represents - at a certain level of abstraction - the first step of the international comparison. It permits not only easily manageable empirical operationalizations (previous

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school-based training, on-the-job training phases, etc.), but also the long-term reconstruction of historical developments on the basis of the rough distinction between "internal promotion or direct access" which must be specified and differentiated.

This provides the basis for the second level of the comparison: that of the emergence and successive consolidation of different specifically national development models with inner consistency and (development) logic.

7. Selected topics of discussion

At this juncture it shall of course not be possible to give a full account of the very extensive conference discussions. Instead, a summary follows, firstly, on the question of equivalence, repeatedly raised in the course of the discussions, and secondly, outlining a number of the more general results of the conference.

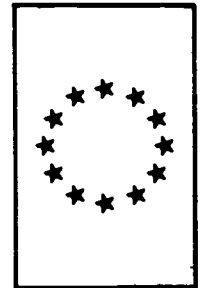
7.1. How can equivalences be established between middle-level qualifications in Germany and France which, as we have seen, are constituted in different ways? Are the higher French technicians with the baccalaureate often leading to worker positions "actually" to be equated with the German skilled worker ("Facharbeiter"), as assumed by a number of the (above all German) participants? Are the higher French technicians with the baccalaureate and the two years of short higher education "really" on a par with a graduate from a German engineering specialized college ("Fachhochschulingenieur"), as assumed by other (above all French) participants? How can equivalents be established? These questions are at the centre of CEDEFOP's current major activities and shall increasingly gain in importance for companies and trade unions with the expansion of the European labour market.

Various solutions as a means of approaching this task were proposed by the participants and their advantages and disadvantages were discussed:

One solution proposed was the comparison of curricula and learning contents; however the limit to this proposal is the fact that the same learning contents have different qualification effects, according to which previous qualifications they are built upon, i.e. vocational, on-the-job experience or (different levels of) school-based learning; moreover the age of the individual learner has a role to play in the resulting qualification.

A second proposal was to conduct comparative analyses of the activities of e.g. a "technician" and a "Techniker" in given fields; the problem with this proposal was that since such analyses are extremely intensive in terms of

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their input, the identification of really exemplary activities and actually comparable fields would be necessary to permit statements of a general nature.

A third proposal finally was based on the traditional comparison of qualification structures and hierarchical levels in companies in the two countries, comparable in size and sector. This proposal takes account of the fact that qualifications, in particular middle-level qualifications, can only be considered and perceived within the framework of adjacent qualification fields. However this proposal comes up against virtually insurmountable problems of input, especially for large-scale enterprises, since it would require a precise analysis of the entire personnel of a company, including the boundary lines between the various qualification categories, of central importance as far as the question of equivalence is concerned. This approach can therefore only give an approximate overview of qualification structures and resulting assumptions on the value of the qualifications, but will not permit any precise conclusions.

Moreover, as pointed out by a number of participants, the selection of comparable enterprises is in itself a problem: French companies of the examined sectors are e.g. on average much smaller than their German counterparts. This means that e.g. a company with a workforce of 1 000 in Germany and an enterprise of the same size in France will have a different significance in the economic environment, a different status on the labour market and, as a result, different personnel policy resources and often different boundary lines distinguishing them from sectors at previous or subsequent stages of the production process.

In a preliminary summary, one of the CEDEFOP representatives pointed out that since there are too many unknown quantities for the establishment of an equation, it is not possible to approach the question of equivalence directly by a lineary comparison; one must instead find identical and overlapping zones as a basis for possible comparability. One example for this could be industrial experience, an element of qualification for both French and German master craftsmen. This explains the importance of the question of the constitution of qualifications by - different forms of - school, vocational education and experience and the various sequences of these processes, as examined by the ISF project.

A second summary was presented by a representative from industrial practice who expressed the opinion that qualifications produced in a different country must be "shaded into" one's own personnel, i.e. successively integrated into personnel and wage structures, whereby

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aspects of personnel policy in the narrower sense of the term - e.g. elements of appeal, the image of a multinational company - have a role to play. This made it clear that the relative value of the various qualifications must also be clarified in the framework of negotiating processes and conflicts of interest between companies and unions/works councils, between politicians/lobbyists from the various countries and also between the workforce categories concerned themselves.

The determination of equivalence has an important function for orientation in this context. However, the methodological problems of international comparisons which again became impressively discernible at this conference once again highlighted the complexity of this question.

7.2. Over and above this practical and political issue of the equivalence of individual qualifications, the conference produced a number of important results and fringe benefits for qualification and vocational training research in the run-up to the Europe of 1992.

The various contributions made in the course of the discussion by participants from France, the United Kingdom, the Netherlands, Norway and Spain clearly underlined the growing importance of middle qualification level in Europe - an importance which in some countries is already evident and in others is in the course of expansion. It also became clear that the present level of research does not always do the same justice to this importance in all countries. In comparison to the very extensive research on middle-level qualifications in France, and perhaps also to that of the United Kingdom and the Netherlands (albeit only briefly touched upon in the course of the conference), this field of qualification and vocational training research represents virtually unknown territory in the Federal Republic of Germany.

The fact that attention has been drawn to this field by the ISF project was warmly welcomed by in particular the German participants.

The CEDEFOP conference can therefore also be regarded as a contribution to the stocktaking process of the development of qualifications, vocational training and personnel policy in the technical and industrial middle-level in various European countries, helping to publicize existing research in this field. From this angle it also represents an important step towards the establishment of a "Network 92" on research on middle-level qualifications.

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