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ABSTRACT

Vocational teachers and trainers in France belong to four groups: teaching personnel employed by the Ministry of Education, teaching personnel in private technical education, teaching personnel in educational establishments accountable to other ministers, and trainers in other bodies (apprenticeship training centers and company training centers). Most teachers and trainers servicing full-time secondary vocational training courses are required to hold a qualification from the higher education cycle. Those servicing practical vocational sections are also required to have practical occupational experience. For teachers and trainers in apprenticeship training centers the recruitment standards are statutorily defined at a lower level. The two recruitment training tracks for trainers are occupational experience or a baccalaureate degree, diploma, or certificate in technical studies. After recruitment, primary emphasis in training is on the pedagogic aspect. Implications of contemporary trends for teaching personnel in establishments run by the Ministry of Education include reorganization of the teacher training system to create uniformity, inservice training to familiarize them with technological advancement, and continuing training provision. General problems facing vocational training are exposing students to technological progress; relating education to work; changing the institutional environment to provide vocational guidance, articulation, and flexible educational approaches; and introducing technological culture. (YLB)

Teaching personnel in initial vocational training in France (Conditions of service, qualifications, training tracks)

CEDEFOP

CEDEFOP

Report drawn up at the request of CEDEFOP, Berlin 1983

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ONISEP

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INTRODUCTION

1. In July 1981, the Management Board of CEDEFOP undertook to conduct a study on the vocational situation and the improvement of the qualifications and skills of teachers and trainers.
The study aimed at defining the working hypotheses and the resultant initiatives required both at Community level and in the individual Member States in view of the development of the necessary initial and continuing training of teachers and trainers by means of which it would be possible for them to cope with the technological, economic and sociological challenges of their times.

2. The study spanned the period running from December 1981 through November 1982 in the course of which specialists in the matter in each Member State systematically compared their results with the views of groups of national experts.
Consistency of the study at the European level was facilitated by the use of a common network for the exchange of documentation and information and also by the joint comparison and discussion of the working hypotheses and the national results at meetings in Berlin.

The subsequent eight reports served as the basis for a synthesis prepared by Quaternaire Education - Paris.

The present monograph drawn up by A. Cogblin & A. Quincy - ONISEP and available in French and English thus represents the French contribution to this European study.

The monographs on seven of the other EEC countries are also available from CEDEFOP in French and English and the language of the country concerned.

The study in question should be read together with the general synthesis report entitled "The training and vocational situation of trainers" prepared by Quaternaire Education - Paris and

likewise to be found at CEDEFOP in French and English.

Finally, an ongoing study on the training of trainers involved in alternance training designed to complete the present general study will be made available by CEDEFOP in the course of 1983.

3. CEDEFOP will examine the results of this project with the Commission of the European Communities and the other competent Community and national authorities. Already the following conclusions emerge from the national reports :

a) The average age of the trainers is 40, be they in vocational schools or in enterprises, and the present population trend points to a slowdown in their recruitment. The combination of these two factors brings out the importance which ought to be given to the continuing training of trainers and teachers and which should vary according to their kind and to the forms of vocational training. In any event, it should be guaranteed by the right to educational leave estimated at a minimum of two years for a career (or 15 days a year).

b) Such further training of teachers and trainers should focus of course on teaching methods and practices and above all enable them to keep pace with technological developments, heighten their sense of social awareness and become acquainted with the enterprises for which they train the young.

c) It therefore would be most desirable to encourage the organization of in-firm training courses for the teachers and the trainers of training centres which in turn would require the revision of the currently laws and regulations as these are frequently a real obstacle to the alternance of the training duties of the teachers and trainers and of the production requirements of the enterprise. The provision of similar courses in organizations essentially geared to meet social needs and so forth is also recommended.

d) The teachers and trainers must prepare young people to cope with the unforeseeable and to achieve mobility which thus calls for a recasting of the technical education and training system in order to provide young people in training with both a genuine

qualification and the ability to stand on their own two feet. The continuing training of teachers and trainers obviously must be organized and adapted accordingly.

e) To be able to fully and constantly assume their training duties the in-firm trainers should have the opportunity, as required, to undergo further training and in particular to work together whenever possible with vocational school teachers.

f) The improvement of the abilities and skills of teachers and trainers requires more however than the right to continuing training or the recurrent return to the enterprise to acquire further practical experience. As things now stand, vocational training institutions are all too often sheltered and static worlds. The advancement of teachers and trainers calls for a streamlining of the structures, the status and the operation of these institutions as a way of opening them to the outside world in order to provide them with a new vision of things and thus enable the continuing improvement of their staff.

If all this seems to be ambitious and exaggerated, it must be realized that the success of the vocational training systems is directly dependent on the quality of the men and women staffing them, as such, a close look at the existing situation in each Member State reveals an urgent need for prompt and thorough reform.

Bernard Pasquier
November 1982

The scope of this Report falls within the general framework of the research currently being conducted by the European Centre for the Development of Vocational Training and bears particular relation to the reports it published recently on the problem complex "Youth Unemployment and Vocational Training":

- Emergency measures for the employment and training of young people in the European Community (1979/80)
- Occupational choice and motivation of young people, their vocational training and employment prospects (1980)
- The material and social standing of young people during transition from school to work in France (1980),

and also to sectoral studies now being prepared on the topics Alternance Training and The Consequences of Technological Development for Vocational Training.

For a better comprehension of this study, the reader is advised to refer to the CEDEFOP paper entitled Description of Vocational Training Systems in France, published in 1980.

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Preface

Priority is given in this Report to teaching personnel employed in establishments run by the Ministry of Education. Indeed, with an enrolment figure of almost 1,500,000 for initial training courses covering the range from the vocational training certificate (certificat d'aptitude professionnelle - CAP) to the university diploma in technology (diplôme universitaire de technologies - DUT) (excluding the some 220,000 apprentices registered at apprenticeship training centres (centres de formation d'apprentis - CFA), the Ministry of Education is in fact the largest employer of teaching personnel in France. The other training institutions, although much less important and very varied in nature, are examined as closely as possible under the circumstances. The latter include the apprenticeship training centres, with 220,000 trainees the largest; the public institutions run by the Ministry of Agriculture with 50,000 trainees, the private agricultural training institutions with 75,000 trainees, the establishments run by the Ministry of Social Affairs with 23,000 trainees, those run by the Ministry of Health with 87,000 trainees and, finally, the technical training establishments run by industry and employers associations, which accommodate only a few thousand students or trainees in initial training courses (some 65,000 altogether).

Introduction

It is expedient at this point to refer briefly to the basic structure of the initial vocational training system in France, which is depicted schematically on page 3. The diagram is taken from the CEDEFOP publication Description of the Vocational Training System in France.

The reader's understanding of the diagram may be facilitated by the following brief résumé of the various tracks of education offered in France:

Non-obligatory nursery schooling is followd by a five-year period of primary education. All schoolchildren then attend a secondary school, a "collège", for a four-year first cycle of secondary education, learning from a standard curriculum which includes an introduction to technology.

Pupils entering the third year of this first cycle of secondary education (i.e. prior to completion of the period of compulsory education), are given an opportunity to select a training option from the following:

- pre-apprenticeship training at a "collège" or a vocational secondary school (lycée d'enseignement professionnel - LEP);
- preparatory course leading to the vocational training certificate (CAP) at a vocational secondary school (LEP).

Pupils must have reached 14 years of age before selecting their training option.

At the end of the first cycle pupils intending to continue full-time education may commence

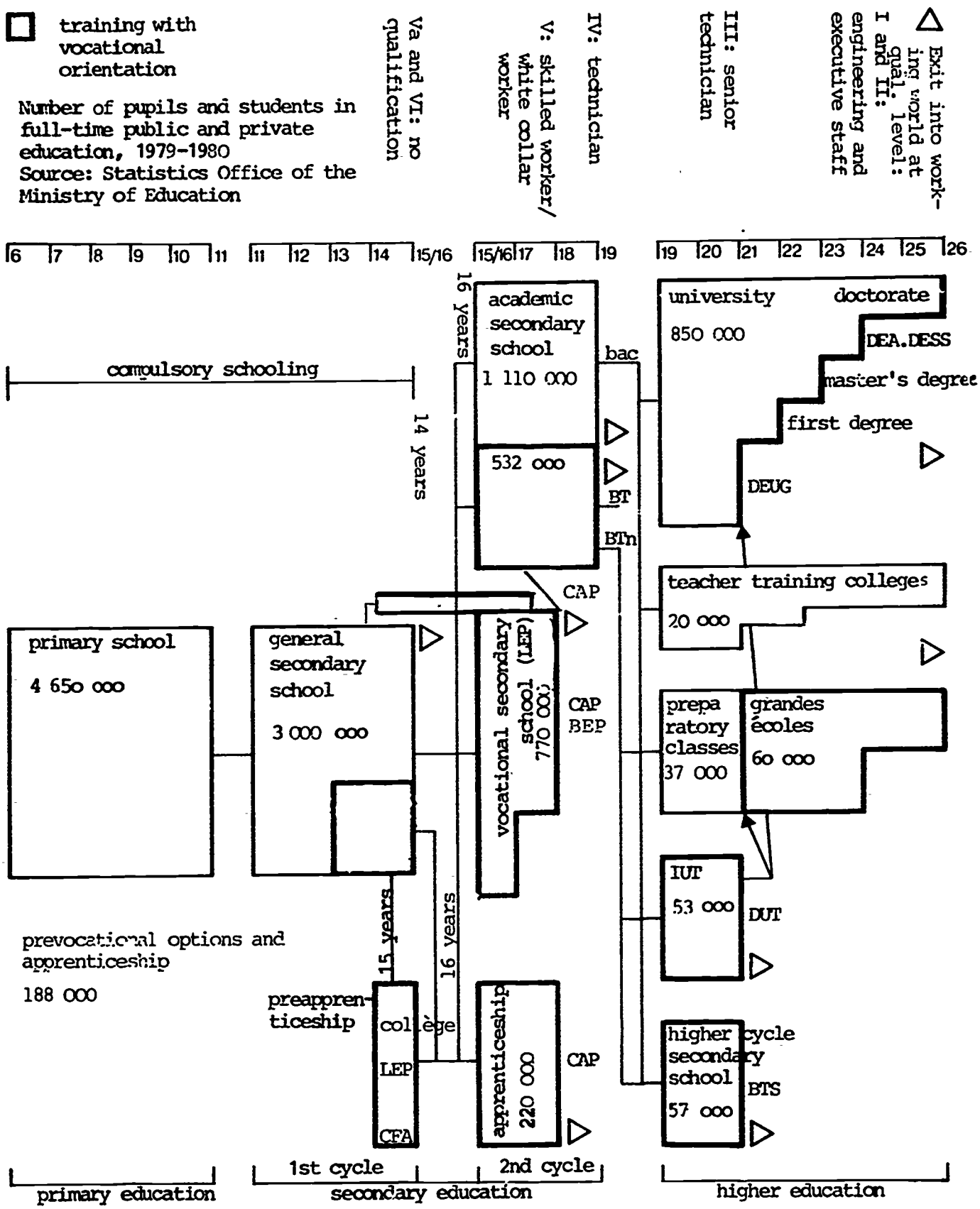
- a short second cycle of secondary education at a vocational secondary school (LEP) preparing them in two years for the vocational studies certificate (brevet d'études professionnelles - BEP),

- or a long second cycle of secondary education at an academic secondary school (lycée), where they may choose between a general education leading to the baccalauréat(academic secondary school-leaving certificate), and a technical education leading to the baccalauréat in technology (baccalauréat de technicien - BTn) or the technician's certificate (brevet de technicien - BT).

Students holding the general baccalauréat or the baccalauréat in technology may choose to pursue their studies in long-term courses at a university or one of the "grandes écoles" or in short-term courses leading to the higher technical certificate (brevet de technicien supérieur - BTS) either at a university institute of technology (institut universitaire de technologie - IUT) or in the special technical college section of a secondary school.

Pupils of 16 years of age leaving the first cycle of secondary education who do not intend to continue full-time education may prepare for the vocational training certificate (CAP) by undergoing a series of alternating periods of apprenticeship in industry and formal training in a training establishment; some pupils choosing this track have by this time already completed one or two years of pre-apprenticeship training in a formal education establishment.

Schooling is compulsory between the ages of 6 and 16.


training with vocational orientation
Number of pupils and students in full-time public and private education, 1979-1980
Source: Statistics Office of the Ministry of Education
Va and VI: no qualification
V: skilled worker/ white collar worker
IV: technician
III: senior technician
I and II: engineering and executive staff
Exit into working world at qual. level:
6 7 8 9 10 11 11 12 13 14 15/16 15/16 17 18 19 19 20 21 22 23 24 25 26
compulsory schooling
14 years
16 years
primary school
4 650 000
general secondary school
3 000 000
academic secondary school
1 110 000
532 000
vocational secondary school (LEP)
770 000
apprenticeship
220 000
prevocational options and apprenticeship
188 000
preapprenticeship
15 years
16 years
collège
LEP
CFA
bac
BT
BTn
CAP
CAP
BEP
CAP
university
850 000
doctorate
DEA.DESS
master's degree
first degree
DEUG
teacher training colleges
20 000
prepa ratory classes
37 000
grandes écoles
60 000
IUT
53 000
DUT
higher secondary school
57 000
cycle
BTS
primary education
1st cycle
2nd cycle
secondary education
higher education

PART ONE: TRAINERS—PLACE OF EMPLOYMENT, STATUS, AND CHARACTERISTICS

A. Teaching Personnel Employed by the Ministry of Education

It should be noted from the outset that all permanent staff employed by ministries are public servants whose conditions of service are governed by a single code, the public service code.

The main characteristics of their status are: guaranteed permanent employment and guaranteed workplace, membership of a specific public service class with predetermined career structure (with the exception of certified teachers), recruitment by means of competitive open examinations which are usually held at national level (at département level for primary school teachers) and are open to all French nationals who comply with a certain number of predefined academic conditions.

This status has the advantage of guaranteeing impartiality and high quality of recruitment, but the stability it offers to those once recruited operates as a brake in situations of rapid change.

1. Teaching Personnel in Vocational Secondary Schools (LEPs)

Of the 90,000 teaching personnel employed in initial vocational training establishments run by the Ministry of Education, almost 50,000 teach in vocational secondary schools preparing pupils for the vocational training certificate (CAP) and the vocational studies certificate (BEP), both of which are level V qualifications (see Annex 1).

A breakdown of LEP teaching staff reveals that 36,000 are licensed teachers who are recruited by means of a competitive examination, some 11,700 are auxiliary teachers recruited on the strength of formal qualifications, and 1,200 are employed by virtue of a variety of other arrangements.

Teaching and Training Personnel Employed
by the Ministry of Education and the Ministry
of Agriculture
For reference purposes in connection with the
following description

Type of establ.	Type of training	Ministry of Education (public or contracted priv. establishments	Ministry of Agriculture (public establishments	Ministry of Agriculture (priv. establishments)
LEP	. General education	. Bac+2	. Bac+2 . ME secondment	. Bac minimum
	. Vocational training (theoretical)	. Bac+2	. Bac+2 . ME secondment	. BTA or BTSA
	. Vocational training (practical)	. Bac+2 (+1 or 2 years' pract. experience) Bac or BT (+3 years' pract. experience)	. Bac+2 or BTA (+3 years' pract. experience)	. BTA or BTSA
Second. school	.General education or theor.techn.training .Pract. tech.training	. Bac+3 (CAPES-CAPET) or+4 (agrégation) Bac+4 (CAPT-CAPET)	. Bac+3 (CAPLA) . ME secondment . Bac or Bac+2	. Bac+3 or 4 . Bac+4 or 5
IUT	.General education or theor. tech.training . Pract. tech. training	.Bac+6 (higher education) .Bac+4 (teachers f.sec. schools) .Bac+4(teachers f. sec. schools)		

NB: The notation BAC + 2 signifies two years of post-baccalauréat full-time study leading to a formal qualification.

Vocational secondary school teachers are responsible for providing either theoretical or practical instruction in subjects which are directly related to an occupation. As a rule, they make the necessary arrangements for the practical exercises, selecting the materials and preparing the drawings or plans required by the pupils. They explain the various procedural stages of the assignment, and subsequently supervise and correct its execution, thereby providing basic instruction in the handling of equipment and also cautioning the pupils on the dangers inherent in its use. In addition, LEP teachers are responsible for stock-keeping and the ordering of materials.

Licensed teachers and auxiliary teachers are invested with similar competences.

Auxialiary teachers are recruited on the basis of formal qualifications (as opposed to competitive examination) and are appointed to posts not fillable with licensed teachers. Since they can be relieved of their responsibilities if a licensed teacher is found to replace them, their position is by definition precarious and normally represents merely a temporary step in their professional career.

Intending LEP teachers are recruited by competitive examination at the following levels:

- for posts as teachers of general subjects and technical theory:
  - baccalauréat plus two years of further study
- for posts as instructors for practical work:
  - university diploma in technology (DUT) or higher technical certificate (BTS) (both qualifications presupposing the baccalauréat plus two years' study) plus one year of industrial experience;
- general university studies diploma (DEUG), itself presupposing the baccalauréat plus two further years of study, plus three years of industrial experience;
- baccalauréat or technician's certificate (BT) plus three years of industrial experience.

In some instances, candidates with no formal qualification but five years of industrial experience are admitted to the recruitment examination under the same conditions as other candidates.

Since 1975, all LEP teachers except teaching superintendents have belonged to one and the same teaching corps. The post of teaching superintendent is a more senior post which is accessible to holders of a diploma attesting successful completion of the first cycle of higher education who also have five years of industrial experience (see the section on the technical college sections of academic secondary schools).

Success in the competitive examination, which tests the level of general education, occupational expertise, and knowledge of technology and design, entitles the examinee to matriculate at one of the training colleges for apprenticeship instructors (écoles normales d'apprentissage - ENNA), where a normally two-year course of training is concluded by examinations in practical work and pedagogy conferring on the successful candidate a teaching certificate valid for service in vocational secondary schools (certificat d'aptitude à l'enseignement dans les LEP - CAELEP), which is also an entitlement to licensed status. (For a description of the training involved, see Part II).

Another competitive examination, known as the internal examination (state employees only), is also held for auxiliary teachers with five years of teaching experience. The standard required is more or less the same as that required in the external examination. Successful candidates in the internal examination are not required to undergo the two-year ENNA course but simply a series of training periods before becoming eligible for licensed teacher status. Auxiliary teachers in fact represent a large proportion of the teaching personnel

employed in LEPs: 23.5% in 1979/80 as opposed to an average of 12% throughout the range of secondary education establishments (see Annex 3). They are particularly strongly represented in the practical instruction field.

Preparation for the competitive examination is facilitated for auxiliary teachers by way of in-service training, the concessions made including a reduced number of contact hours and class re-groupings. Moreover, the curricula taught at vocational secondary schools themselves serve as a useful preparation for the examination--in contrast, holders of the university diploma in technology (DUT) or the higher technical certificate (BTS) and those offering several years of industrial experience find that these qualifications only partially correspond with the examination requirements.

Indeed, for certain specialisms there exist no formal qualifications at qualification level III at all (construction, catering, local authority services, etc.) and although the aggregate number of candidates admitted to the examination is not lower than the number of posts to be filled, the situation is still such that inadequate preparation causes some posts in the practical instruction category to remain unfilled. The number of occupational specialisms, which lies at more than 90 (see Annex 5), in fact makes this discrepancy between candidates and posts to be filled inevitable, and also partly explains the high number of auxiliary teachers employed.

Age and sex: The upper limit for admission to the recruitment examination is 40 years (see Annex 3). A breakdown of the teaching staff in vocational training schools according to age group reveals that the recruitment age here is higher than the average obtaining throughout the entire secondary education sector: despite the high number of auxiliary teachers aged between 25 and 34 years in vocational secondary schools, the 30-44 age group is the most strongly represented here, with only

12% of the staff being under 30 as opposed to 30% among certified teachers. In contrast, the 25-44 age group is the most strongly represented throughout the secondary education sector (see Annex 2).

Forty percent of the teaching personnel in vocational secondary schools are women, this figure being in contrast to 55% throughout the entire secondary education sector and almost 60% in the academic secondary schools.

The proportion of young teaching staff and of female teaching staff in vocational secondary schools is lower than in general education establishments.

Contact hours: There is virtually no difference between the maximum number of contact hours prescribed in the conditions of service (21 hours for general education and technical theory and 26 hours for practical instruction) and the average actual number of contact hours.

2. Teaching Personnel in the Technical College Sections of Academic Secondary Schools (qualification levels IV and III)[1/]

Status and conditions of employment [2/]

The 1972 revision of the status and the conditions governing the recruitment of teachers in the technical education sector introduced a system incorporating three different competitive examinations, admission to all of which presupposes a higher education qualification, the master's degree for the "agrégagation " examination and the bachelor's degree for the teacher's certificates:

1/ For a definition of the qualification levels, see Annex 1

2/ For a definition of the functions of licensed teachers and auxiliary teachers, see the preceding section dealing with teaching staff at vocational secondary schools.

a) the "agrégation " (six economic and industrial specialisms), an examination for which a traditional university-type education does not necessarily provide the best grounding;

b) the teacher's certificate valid for service in technical education establishments (certificat d'aptitude au professorat de l'enseignement technique - CAPET), which is offered for Section B (mechanical engineering), section C (applied art and design) and section D (pure and applied economics);

c) the teacher's certificate valid for technical training (certificat d'aptitude au professorat technique - CAPT), which differs from the two preceding qualifications in that it is obtainable by means of an external or an internal examination. Admission to the external CAPT examination presupposes a first degree in the arts or the sciences, but experience shows that only few candidatures are submitted and that the candidates are usually ill prepared. The internal CAPT examination (from which 75% of the posts are filled) is open to instructors working in secondary school workshops (of whom only few are successful) and to students having undergone a special two-year preparatory course. Entry to this special preparatory course is also by competitive examination, external for holders of a level III technical diploma who are over 30 years of age or internal for teachers and auxiliary teachers in vocational secondary schools who are over 40 years of age and have at least three years of full-time teaching experience.

CAPT-holders and CAPET-holders are represented in equal number in certain practical disciplines which are common to both examinations, and consideration has been given to the idea of substituting the CAPET for the CAPT in these fields. An initial harmonization effort has been made in respect of weekly contact hours, but the number of subject areas which are covered in both technical theory and practice in both examina-

tions are in fact relatively few. Of the 9,500 teaching staff servicing the 70 different specialisms in the practical side of technical training, 4,500 are technical teachers, 2,400 are auxiliary teachers, 2,200 are certified teachers and 150 agrégés. These proportions are reversed in the theoretical side of technical training of the 6,800 teaching personnel employed here in 1979/80, 4,600 were certified teachers, 1,500 were auxiliary teachers, 600 were agrégés, and 50 were technical teachers (see Annex 4).

Teaching superintendents are recruited from all teaching staff categories on the basis of an open competitive examination. The 370 teaching superintendent posts available are occupied by 300 former technical teachers (by far the largest category), 36 former certified teachers, 13 former agrégés and 27 former auxiliary teachers. The relatively small number of teaching superintendent posts available—one per establishment—can be explained by the nature of the duties involved: no class instruction but solely coordination work. The functions of the teaching superintendent are to support the team of technical teachers providing theoretical and practical instruction, to monitor the instruction provided in the workshops and the work assignments and exercises expected of the pupils, to keep the teaching staff informed on new teaching methods and techniques, to arrange for the procurement of raw materials, and to organize and upgrade the workshop facilities.

Number of teaching staff

A total of 6,800 teachers provide theoretical instruction in the three technical specialisms: pure and applied economics, mechanical engineering, and construction, with 4,700 teachers being employed to teach the first.

A total of 9,500 teachers provide practical instruction in over 70 technical specialisms, with 2,800 being employed to teach production engineering (see Annex 4).

The teaching corps in the special technical college sections of academic secondary schools—as was also observed in the vocational secondary schools—is evidently very diverse in its composition. However, the efforts made since 1975 in the interest of status consolidation have not diminished the range of specialisms offered.

Importance of auxiliary staff

A further characteristic common to the technical staff in both the technical college sections of academic secondary schools and the vocational secondary schools is that auxiliary teachers are particularly strongly represented among teachers of pure and applied economics. In the case of the former type of institution, the number of auxiliary teachers increases in inverse proportion to the size of the establishment, and auxiliary status is also encountered the more frequently, the further north the establishment is located.

Age and sex

The age structure of technical teachers employed to service the long cycle of secondary education differs distinctly from that typical of other categories of teaching staff. Here, no age group predominates, with teachers aged between 55 and 59 being almost as numerous as those aged between 35 and 39 (this data refers to technical teachers with licensed status, i.e. excluding auxiliary teachers, agrégés and certified teachers). Only 8.5% of technical teachers working in the technical college sections of academic secondary schools are under 30 years of age, as opposed to 30% of certified teachers. The proportion of male teachers in these establishments is high (see Annex 2).

3. University Institutes of Technology (Instituts Universitaires de Technologie - IUT)

University institutes of technology are higher education establishments in which students are prepared for examinations at qualification level III (see Annex 1) in a range of literary, legal and scientific disciplines.

The number of teaching staff employed in university institutes of technology in 1980/81 was 4,473. The number of students totalled 53,826.

Status and function

The teaching personnel can be classified with regard to status as follows:

395 lecturers in higher education or equivalent
1,266 assistant lecturers or equivalent
976 teaching assistants
1,817 graduates of secondary education establishments or postsecondary technical colleges (écoles nationales supérieures d'arts et métiers - ENSAM).

This breakdown by grade reveals the importance of graduates of secondary education in the teaching corps at university institutes of technology (almost one third as opposed to hardly one eighth throughout higher education in general.

Age and sex

The most strongly represented group is that between 30 and 44 years. On average, one teacher in five is female, although this ratio decreases to one in seven in the science subjects.

Established teachers, unestablished teachers and practitioners from industry

When the university institutes of technology were introduced, it was intended that one third of contact hours would be provided by practitioners from industry, their involvement constituting the novelty of this form of institution.

The actual degree to which practitioners participate in providing instruction in fact varies according to region and administrative district.

At national level, a breakdown of hours of instruction reveals the following current situation:

1,100,000 hours are given by established teachers;
700,000 hours are complementary hours given by established or unestablished teachers from all fields
280,000 hours are complementary hours which are theoretically reserved for practitioners.

The share of instruction provided by practitioners thus averages 15%.

B. Teaching Personnel in Private Technical Education Establishments Operating Under Contract with the State

The Catholic private technical education sector accounts for by far the largest part of all private technical training establishments attached to the Ministry of Education. With 191,000 pupils serviced by 15,600 teaching personnel, it accommodates ca. 66% of pupils at all levels in the private technical sector, and is particularly strongly represented in higher education.

Distribution by grade and place of employment

Teachers employed at private education establishments operating under state contract have the opportunity to enter for the same competitive examinations as teachers in the public sector. The admission requirements are the same for both categories in terms of formal qualifications and practical experience, but private establishment staff are regarded as private individuals, that is to say that although they have the same career and salary structure as their public-service counterparts, they do not enjoy public servant status.

Alternatively, they are initially recruited as auxiliary teachers and, having worked for a certain number of years and satisfied the inspectorate,[1] may receive a permanent contract. Auxiliary teachers are remunerated by the state at the contractual rates for auxiliary or assistant teaching staff. The recruitment level is normally the same as that required for the external competitive examinations held for the public service (baccalauréat plus two years of further study for the short cycle of technical education, a first or second degree for the long cycle). It appears that in the recruitment of auxiliary teachers less emphasis is placed on occupational experience than on formal qualifications.

Of the 10,300 teaching personnel working in the short technical education cycle, 9,130 are auxiliary teachers[2] working under contract or commission with the district education authority, and 1,230 (12%) are licensed teachers, of whom one half obtained their licence by means of the internal examination.

Of the 5,200 teaching personnel working in the long technical education cycle, 74% are auxiliary teachers and 26% are other categories of teacher (of whom more than one half are teaching assistants).

In the private education sector there is thus a very high proportion of auxiliary teachers recruited on the strength of their formal qualifications. Some of these retain unestablished status for many years, either because the standard required at the examination leading to the teaching licence is too high (the same problem arises in connection with candidates sitting the external examination for public sector

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[1] The inspection controls the pedagogic abilities of the teacher; it is carried out within the classroom by an official of the Ministry of Education.

[2] Teachers remunerated either as auxiliaries seconded by the district education authorities or as licensed teachers (assistant teachers working under contract).

establishments) or because the number of posts offered in connection with the examination is insufficient (500 posts created annually in the internal examination for vocational secondary school teachers which are intended to help absorb the auxiliary staff).

Note on the private secular technical education sector

Detailed information on this non-subsidized sector is not available to the author. It is assumed that these establishments accommodate the some 45,000 pupils undergoing the short cycle of technical education leading to qualification level V who are not enrolled at public or denominational establishments. These private technical education establishments also offer some vocational training courses preparing for the examinations at qualification levels IV and III (including 22% of the subject groups leading to the higher technical certificate (BTS)).

Private secular technical education establishments are self-financing and their consequent preoccupation with profitability considerations distinguishes them from the other types of establishment. Most offer training courses preparing for occupations in the tertiary sector, which tend to be less costly in terms of teaching materials. An initial authorization from the Ministry of Education, registering both the establishment and its personnel, is required before instruction may commence, but this authorization makes no stipulations with regard to pedagogical conditions and no follow-up inspection is carried out.

C. Teaching Personnel in Educational Establishments Accountable to Other Ministries

1. Ministry of Agriculture

a) Public establishments

These account for almost 50,000 trainees accommodated in 262

establishments, plus 8,000 apprentices accommodated in 93 agricultural apprenticeship training centres (centres de formation d'apprentis agricoles - CFAA).

The secondary schools specializing in vocational training in agriculture (lycées d'enseignement professionnel agricole - LEPA) and the youth agricultural training centres (centres de formation professionnelle agricole de jeunes - CFPAJ) have a total staff of 5,590 teachers and instructors, and there are also approximately 500 teachers and instructors in the agricultural apprenticeship training centres mentioned above.

The training staff in the specialized secondary schools and similar institutions can be classified as follows:

3,890 licensed teachers,
910 auxiliary teachers and teachers working under contract,
550 seconded teachers,
240 others.

In the apprenticeship and preapprenticeship institutions, instruction has been provided since 1975 primarily by primary school teachers and general lower secondary education teachers[1/] seconded specifically for this purpose. The latter are usually required to provide instruction in the preapprenticeship classes and subsequently in the agricultural apprenticeship training centres (CFAA) to which these preparatory classes lead; some are also required to work in adult education.

The agricultural apprenticeship training centres (CFAA) also employ unestablished staff, teachers working under contract, and teachers serving on an ad hoc basis, all of whom are paid from the centres' own budgets.

1/ Professeur d'enseignement général des collèges - PEGC.

The Ministry of Agriculture is endeavouring to align its training courses with regard to duration, rhythm and denomination as far as possible with those offered by the Ministry of Education. Similarly, with regard to its teaching staff, it is systematically aligning their terms of employment with those governing teaching staff employed by the Ministry of Education (parallel or even joint professional codes, similar recruitment conditions and titles, etc.; see table on page 5).

Recruitment for secondary schools specializing in vocational training in agriculture takes place by means of a competitive examination taken on completion of the first cycle of higher education , for admission to which a diploma but no occupational experience is required. Teachers of practical subjects may also be recruited among holders of a certificate at qualification level IV (baccalauréat D in agricultural sciences, agricultural technician's certificate (brevet de technicien agricole - BTA)), provided they have had three years of occupational experience, or, alternatively, among teaching personnel in continuing education who have prior occupational experience of not less than five years.

At present, most teaching staff in these schools are recruited from the corps of auxiliary teachers having between three and five years of teaching service. Appointments are made on the basis of an internal competitive examination, this source accounting for between 40% and 80% of all practical teaching posts filled in this type of establishment. Regular staff members employed in establishments run by the Ministry of Education and also engineers 1/ from the agricultural services departments of the Ministry of Agriculture may be seconded by their respective departments to these specialized schools to provide instruction in certain subjects.

1/ Their qualifications are a four-year post-baccalauréat course.

The conditions of recruitment for technical teachers serving as teaching superintendents are the same as those for technical teachers, with the exception that these have to prove five years of relevant agricultural or teaching experience.

Recruitment for secondary schools specializing in agricultural studies, in which pupils are prepared for the examinations at qualification level IV (baccalauréat D and agricultural technician's certificate (BTA)), takes place for certified teachers by means of a competitive examination, for assistant teachers on the basis of formal qualifications (these are licensed after one year), and for assistant technical teachers again by means of a competitive examination.

Engineers from the agronomic services departments[1/] of the Ministry of Agriculture and agrégés and certified teachers employed by the Ministry of Education may also be seconded by their respective ministries to these specialized establishments to provide instruction in certain subjects.

The competitive examinations leading to qualification for service in this sector are very similar to those organized for intending Ministry of Education staff.

1/ These are public servants employed by the Ministry of Agriculture after graduation from one of the agricultural colleges (écoles nationales supérieures agronomiques) and completion of a period of teaching practice.

b) State approved and recognized private agricultural establishments

Three institutional complexes are of interest here, the National Union of Private Agricultural Training Establishments (Union nationale de l'enseignement agricole privé - UNEAP), which employs a total of 3,700 full-time and part-time teaching personnel; the National Union of Agricultural Training and Promotion Institutions (Union nationale rurale d'éducation et promotion - UNREP), which employs some 1,000 teaching staff; and the National Union of Rural Education and Orientation Centres (Union nationale des maisons familiales rurales d'éducation et orientation - UNMFREO), an institution providing training on an alternance basis which employs some 2,200 teaching staff in 520 training centres.

The aggregate number of trainees enrolled in these institutions (ca. 73,000), is in fact higher than the aggregate number undergoing training in the public agricultural training sector.

In those institutions in which full-time instruction is provided, the teaching personnel have to hold the following minimum qualifications:

- short cycle: baccalauréat for general education subjects, and the agricultural technician's certificate (BTA) or the higher technical certificate in agriculture (brevet de technicien supérieur agricole - BTSA) for practical or theoretical technical specialisms;
- long cycle: a first degree in engineering or veterinary science 1/ for specialisms or a first degree in another discipline for general subjects.

Teaching staff in the rural education and orientation centres, where instruction is provided up to qualification level V on the basis of alternance training, have to hold the agricultural technician's certificate (BTA) (minimum qualification) or the higher technical certificate in agriculture (BTSA). The recruitment requirements for these establishments

1/The doctorate in veterinary science presupposes at least five years of post-baccalauréat study.

are thus slightly more exacting than those obtaining in the apprenticeship training centres. The staff here also undergo a long-term course of pedagogic training (see Part II).

2. Teaching Personnel in Private Education Establishments Run by the Ministry of Social Affairs

The Ministry of Social Affairs provides training for 23,000 trainees in a total of 155 training establishments. It employs between 1,500 and 2,000 teaching staff (or full-time equivalent) who give instruction in subjects preparing trainees for one of nine occupations in the social sector.

Of the 155 establishments, five have public status or equivalent (social service colleges and colleges for teachers of the handicapped). With the exception of these and the social careers departments of the university institutes of technology (IUT), all the remaining establishments are private-law, non-profit associations (a status granted by legislation dating back to 1901) financed exclusively by the state (FF 327 million in 1982 for initial training only.

Recruitment conditions and personnel characteristics

The recruitment conditions are laid down by the respective employer in accordance with collective agreements concluded with, for example, the authorities responsible for the welfare of the handicapped, the Red Cross, the Training Centre for Active Pedagogy (Centre d'entraînement aux méthodes d'éducation active-CEMEA), etc. In default of any organized preservice training provision (except for assistants in the social services), a formal qualification in a relevant subject plus practical experience is preferred but is not always a requirement: a university first degree suffices for the holder to be able to teach in a college for teachers of the handicapped.

The employment contracts, especially those in respect of colleges for teachers of the handicapped and assistants in the social services, are usually permanent contracts for full-time employment, although some temporary contracts for part-time teaching are still encountered. The teaching is remunerated on a fee basis, for although proposals for the introduction of a monthly salary are being examined, their approval is at present being delayed by the unfavourable budgetary situation.

The teaching personnel in this sector comprises a fairly high proportion of both female staff and younger staff.

3. Technical Education Institutions Accountable to the Ministry of Employment

National Association for Adult Vocational Training (Association pour la formation professionnelle des adultes - AFPA)

AFPA is a non-profit association (1901 legislation) which is accountable to and financed by the Ministry of Employment.

AFPA works in cooperation with the National Employment Agency (Agence nationale pour l'emploi - ANPE) to provide training in the first instance for adult jobseekers, although many of its activities are now focused on providing young people with an initial vocational training attested by a formal qualification which paves the way for their first job. Within the content of this Report, however, no distinction can be made between the trainees and trainers concerned with labour market entry and those employed on the many so-called classical training courses offered to retrain or promote adults.

Of the total number of 66,000 AFPA trainees 8,700 are young jobseekers undergoing a course of pre-training serviced by teachers who also teach on other types of course. These pre-training courses are of 3 1/2 months' duration and are

designed for 16-18 years olds who abandon formal schooling after completion of the standard period of secondary education. The trainees are familiarized with the working world and receive guidance in the choice of their future career orientation.

Of the trainees undergoing initial vocational training courses leading to certificates at qualification level V, 50% had previously commenced a course of vocational training but had abandoned it before qualifying, 40% had not received any prior vocational training but had not come direct from school, and 10% had come direct from school with or without a secondary school leaving certificate.

These percentages are approximately the same with respect to courses leading to level IV and III qualifications, with some upward adjustment of the third figure (15% among those registered for electrical engineering subjects).

AFPA training provision is thus not exclusively initial vocational training in the narrow sense of the term, and the principal aptitudes required of the trainers are an ability to cope with very heterogenous groups and to satisfy a wide range of training needs. It is in this respect that AFPA is of particular importance to this Report.

Trainers

AFPA trainers, 4,100 in all, are normally recruited with qualifications of a standard more advanced than that at which they will be required to teach, and with five years' industrial experience in their specialism.

The most strongly represented groups of teachers at the various qualification levels are instructors in building specialisms at qualification level V; instructors in tertiary-sector skills (clerical work, commerce, informatics) and in maintenance and repair work at level IV, and instructors in the electrical trades

and in informatics at qualification level III.

Almost all AFPA trainers are employed on a permanent contract for full-time teaching service.

Participation in continuing training activities is not stipulated in the employment contract, and any training given at this level is normally done on a voluntary basis, although an indemnity is paid for the time spent on preparing the measure or if the qualification standard is higher than that normally required of the trainer.

The proportion of male teachers in AFPA courses is as high as 88%. Emphasis in subject selection is placed on the needs of the industrial sector.

D. Other Bodies

1. Apprenticeship Training Centres (CFAs) 1/

Apprenticeship training centres accommodate a total of 214,000 trainees and 12,300 trainers, of whom

- 4,100 have contracts for permanent full-time service;
- 1,500 have contracts for permanent part-time service;
- 840 have contracts for temporary full-time service;
- 920 have contracts for temporary part-time service;
- 4,940 serve on an ad hoc basis.

Whereas in recent years the demand for apprenticeships has been declining in the agricultural sector, it has remained more or less stable in the commercial and industrial field, and has even increased in the crafts sector.

Qualification level

The regulations require that teachers of general education subjects hold the baccalauréat as a minimum qualification and that teachers of vocational subjects hold the journeyman's

1/Agricultural CFAs are examined in C. 1 above.

or master's certificate.

Apprenticeship training centres have traditionally been classifiable into six categories, each having a different teaching structure:

- State convention CFAs (e.g. those for the French national railways (SNCF), which are similar to corporate training institutes): these CFAs, with a total of 365 trainers and 1,700 apprentices, usually employ instructors on an ad hoc basis; most instructors are drawn from the public service.
- Municipal CFAs: these CFAs, which account for 1,425 trainers and 12,900 apprentices, likewise employ their training staff on an ad hoc basis (of whom 50% are drawn from the public service). They employ more than twice as many part-time instructors than full-time instructors.
- Public education CFAs: these CFAs account for 1,114 instructors and 19,800 apprentices and enter into ten times more temporary contracts than permanent contracts. More than two thirds of their instructors are drawn from the public service.
- CFAs of the chambers of commerce and industry: these also employ a large number of staff on an ad hoc basis, the percentage being as high as 50% in those CFAs which belong to the chambers of commerce and industry in the narrow sense of the term (13,500 trainees and 970 trainers). The number of apprentices in all CFAs under the auspices of APCCI, however, totals 36,300.
- CFAs of the chambers of crafts: these have a total of 72,500 apprentices and 3,100 trainers, of whom approximately 50% are unestablished, ad hoc trainers and 50% holders of contracts for full-time permanent service. It should be noted that 31 of the 92 CFAs established by the chambers of crafts are administrated by other bodies (association law 1901, municipalities, trade unions, etc.).

- CFAs run by private organizations: with 94,000 apprentices and 5,300 trainers, these CFAs are by far the most important in terms of numbers. They prefer to employ training staff on permanent contracts or on an ad hoc basis.

This brief survey reveals the large variety of institutions engaged in the provision of vocational training in the form of apprenticeship. Yet their diversity is less evident with regard to their organization and operation, for all CFAs are subject to control by the state (Ministry of Education) in technical, financial, and pedagogic matters.

In order to gain a better insight into the situation, we shall now proceed to examine three types of CFA which are notable in terms of the number of apprentices received into similar structures and the options taken with regard to the category of trainer employed. The three examples relate to apprenticeship training centres run by the construction industry, the transport industry, and the chambers of commerce and industry.

a) CFAs run by the Central Coordination Committee for Apprenticeship in the Construction Industry (Comité central de coordination de l'apprentissage dans le bâtiment - CCCA)

The Central Coordination Committee is responsible for administrating a total of 71 CFAs which together accommodated 41,000 apprentices in 1981. CCCA is financed to 66% from its own resources (parafiscal tax and apprenticeship tax) and to 33% from state subsidies. The training provided corresponds to qualification level V and is linked with that available in secondary education establishments (except courses for quantity surveyors and draughtsmen).

The trainers are recruited as follows:

-for general education subjects: formal qualifications—baccalauréat in general subjects is the minimum requirement;

-theoretical and practical technical training: formal qualifications (journeyman's or master's certificate, i.e level IV).

The posts of director and teaching superintendent are normally accessible to teachers of general education subjects and teachers of technical education subjects (theory and practice), respectively, by way of internal promotion.

The majority of the training personnel are employed on permanent contracts for full-time service, and temporary contracts are only seldom. Teachers and group leaders have the same conditions of work and the same salary scales irrespective of the type of instruction provided: 39 hours per week for class instruction, course preparation and pedagogic coordination. Versatility is expected.

CCCA does not provide any continuing training. This falls within the competence of the Continuing Training Group for the Construction and Public Works Sector (Groupement pour la formation continue dans le bâtiment et les travaux publics - GFC/BTP).

Age and sex

25% female teachers in general education subjects, 3% female teachers in technical theory, 100% male teachers in practical training. The average age of the teaching personnel lies below 40 at present.

b) CFAs run by the Association for the Development of Vocational Training in the Transport Sector (Association pour le développement de la formation professionnelle dans les transports - AFT)

AFT offers course at two levels:

- level V in apprenticeship training centres (CFAs): 12 CFAs preparing trainees for the vocational training certificate (CAP),
- level IV in the three private technical schools: diploma of the school, diploma in tertiary sector skills.

The large majority of the teaching staff are permanent, full-time staff. These are supplemented by a few teachers working on an ad hoc, part-time basis and, occasionally, by practitioners from industry.

Possibilities exist for teachers to transfer from initial training to continuing training on a voluntary basis. Although there exist at present two distinct systems for recruitment, training, and remuneration, efforts are being made to harmonize those in order to facilitate transfers from one type of training to the other and from institution to institution. A career in initial training in a CFA is more stable than a career in continuing training in one of the technical schools, where teaching loads are heavier and greater geographical mobility is required.

Recruitment into a CFA: in accordance with the prevailing CFA recruitment regulations;
Recruitment into a private technical school: industrial experience and pedagogic training. Technical specialization is taken into consideration.

Age and sex

The teaching personnel is aged between 25 and 45 years. There are at present no female personnel on the payroll.

Unlike the training centres run by CCCA, AFT training centres are not oriented exclusively towards apprenticeship. However, it is interesting to note that the recruitment policy pursued by this employers' association is closer to that of the CFAs (permanent staff and ad hoc staff) than to that of the company training centres described below (transfer between the production and training departments).

c) CFAs run by the chambers of commerce and industry (CCI)

The schools and training centres run by the chambers of commerce and industry are very numerous and varied in nature. They have public establishment status.

Qualification level V

- 54 CFAs administrated jointly with other bodies (chambers of crafts) accommodate 36,300 apprentices, of whom 13,500 are specifically CCI apprentices
- 19 technical schools accommodating 5,000 trainees.

Qualification levels IV and III: 5,000 trainees in 44 establishments

- The permanent staff (1/3 of all training staff) working full-time or part-time on a permanent contract are not considered as CCI staff. They may be employed by other establishments and may work part-time at more than one institution.
- The unestablished corps (2/3 of all training staff) is made up of teachers seconded from public education establishments or from the public service, trainers from other training institutions, independent agents, and private-sector employees. With the exception of a few university staff members, the training personnel are experienced specialists in corporate management.

This type of personnel structure, which provides for a large proportion of part-time staff not officially attached to the chambers of commerce and industry, affords the training section of each chamber a large measure of flexibility in adapting its training programme to local and regional requirements and to the demands imposed by rapid technological progress. The chambers of commerce are thus able to satisfy the training needs reported by local employers to be not covered elsewhere.

2. Company training Centres

Accommodating only 4,300 trainees, company training centres play an only modest role in comparison with that assumed by the other types of training establishment. It should be understood that these are training centres which are directly dependent on and belong to a particular firm or enterprise. They have been included here and in Part II because they are the only type of training establishment in which there is evidence of genuine, often systematic mobility among trainers, a situation which is linked to the trainers' special status and which in turn has implications for their qualifications.

We shall examine firstly the situation at Renault, the automobile manufacturer, and secondly that at the Paris Transport Company (Régie autonome des transports parisiens - RATP)

a) Renault

Renault has 225 trainees on four-year courses leading to qualifications at level IV (technical baccalauréats (BTn) related to secondary and tertiary sector occupations). Apprentices training for level V qualifications (vocational training certificate (CAP) in automobile mechanics) are trained in a separate vocational school.

The full-time trainers at Renault are company employees who are required to hold a formal qualification and have industrial experience, preferably acquired within the company. They are responsible for giving practical instruction in the classroom, the workshop and the laboratory. Those who hold a qualification at level III (higher technical certificate (BTS) also give instruction in theory (design, technology). Of the 40 hours of weekly service (including course preparation, staff consultations ,etc.), 15 hours are spent on classroom or workshop instruction.

The part-time trainers are qualified technicians or engineers from within the company or from public or private training establishments. They usually provide instruction in general subjects or in technical theory for five or six hours per week and are employed on the basis of one-year contracts.

The professional assistants, the third and final category of training personnel, are high-level professionals seconded from the company for an average of two years. For statistical purposes they are not considered to be training centre personnel.

The full-time trainers referred to above are seconded to the training centre for a period of between three and four years only, thus ensuring that they do not lose touch with the practical side of company operations. Their service in both initial and continuing training is voluntary (in the latter case they are paid overtime rates). All trainers working in continuing training have the status of unestablished trainer, this for economic rather than professional reasons.

Transfer from one type of training to the other is welcomed, although it is believed that trainers in continuing training have greater difficulty in coping with adolescents than, conversely, trainers in initial training have with adults.

b) Paris Transport Company (RATP)

RATP employs two teaching superintendents, eight teachers providing instruction in technical theory and 24 group leaders providing practical instruction for ca. 240 trainees undergoing three-year full-time courses leading to the vocational training certificate (CAP) in secondary-sector specialisms.

Group leaders are required to be qualified to level IV (recruitment by competitive examination) or to level III (higher technical certificate (BTS) or university diploma in technol-

ogy (DUT) (recruitment on the strength of formal certificates). Teachers are required to be professional staff (recruitment by competitive examination or on the strength of certificates: engineering diploma or first degree). Possession of a formal qualification releases the candidate from having to prove his professional abilities but it does not release him from having to prove an aptitude for teaching: check on his administrative dossier (all are RATP staff members), personal interview with the director of the training centre and a four-month probationary period on the job.

Working hours are 39 per week in all cases, of which between 15 and 17 are reserved for classroom or workshop instruction.

The voluntary training staff also service social advancement courses. They are remunerated for this work according to a scale applicable to all, irrespective of whether or not they are also employed at the training centre.

Age and sex

One female trainer only, aged 32; 14 teachers aged between 30 and 35, and 11 aged between 35 and 45. This fairly low average age could be explained by the relatively high turnover of training personnel.

Contracts

Training personnel are recruited from voluntary candidates. Those appointed remain RATP employees and may return to their former departments at any time. They do not enjoy the status benefits which regular teaching staff enjoy. The directorate of the training centre prefers training appointments to last not longer than five to seven years.

The trainers are required to display a certain degree of polyvalence with regard to their specialism (possibility of in-service training courses), and also to service both theoretical and practical courses if necessary.

E. Concluding Observations

1. With regard to the recruitment conditions and professional code governing the various types of teaching personnel, a two-fold distinction can be made:

a) Most teachers and trainers servicing full-time vocational training courses (the various types of secondary schools), irrespective of whether they teach general subjects or provide theoretical or practical instruction, are required to hold a qualification from the short or long higher education cycle. Of these, those servicing the practical vocational sections are also required to have acquired practical experience in the relevant occupation.

b) For teachers and trainers servicing the alternating forms of vocational training courses (apprenticeship training centres), the recruitment standards are statutorily defined at a lower level than that required for teachers in vocational secondary schools. The type of qualification required for appointment to the theoretical and practical technical education sections—the journeyman's certificate and the master's certificate—both themselves presuppose prior occupational experience.

2. It can be seen that it is only at qualification level V (preparation for the vocational training certificate (CAP) and vocational studies certificate (BEP)) that practical experience in the relevant occupation is regarded as indispensable for giving instruction in practical subjects in the workshop. These subjects in fact take up a large part of the pupil's timetable (two thirds in the industrial courses).

At qualification levels IV and III, the education tracks leading to recognized technical education diplomas are run parallel to and are comparable with those offered in the general education sector, and they also offer the pupils equivalent possibilities for advancement. Accordingly, there

is much greater emphasis on the theoretical side of vocational training than on the practical side, and the teachers servicing these courses are required to have a technical qualification but not necessarily any practical experience in the occupation in question.

By contrast, at qualification level V and in particular in the preparation for the vocational training certificate (CAP), since the principal objective is to prepare the pupils for starting work immediately, primary importance is attributed to practical training. This explains why instructors servicing these courses are required to have acquired several years of practical experience in the relevant occupation.

PART TWO: PRE-SERVICE AND IN-SERVICE TRAINING OF TEACHING PERSONNEL

This part of the Report is devoted to an examination of the various types of pre-service and in-service training available to training personnel. It reveals a great situational diversity, not only from one type of establishment or one category of teacher to another but also within one and the same establishment (at least as far as the larger ones are concerned). This analysis subsequently serves as the basis for a number of reflections which are intended to shed light on some of the characteristic traits of the training of trainers situation in France.

Pre-service training, both technical and pedagogic,

- may be linked with appointment, with the teaching licence being awarded after completion of an initial period of pedagogic training (fairly flexible application conditions, see ministries of education and agriculture below);
- may follow recruitment and even extend beyond the probationary period (firms and employers' associations);
- may be pursued by only a minimal proportion of the teaching personnel (ministries of social affairs and public health);
- may not exist for the type of establishment in question (IUTs).

Although in-service training courses usually place greater emphasis on the technical specialism than on pedagogy, pre-service training courses, in contrast, are usually essentially courses of pedagogic training.

The two types of training—pre-service and in-service—will be examined simultaneously.

A. Teaching Personnel Employed by the Ministry of Education

The competitive examinations used to recruit teaching personnel for the technical college sections of academic secondary schools and vocational secondary schools were examined above. It will be recalled that they comprise a series of general and specialized examinations which presuppose a thorough grounding in the specialism in question. They are followed, after a one-year (or sometimes two-year) course of pedagogic training, by a second series of tests in practical pedagogy which permit the successful candidate to acquire the teaching certificate and, ultimately, the teaching licence. Recruitment takes place primarily on the strength of the first series of examinations; the second series on pedagogic methodology is in fact not very selective and it is only seldom that a candidate is definitively rejected (those below standard are usually required to repeat the course). Pedagogic training is provided at teacher training colleges (ENSET, ENNA, CPR [1/]). For some specialisms, ENSET organizes a kind of pre-recruitment course for trainee teachers preparing them for admission to the theory examinations of the teaching certificate (or the first part thereof). Admission to ENSET is itself by means of a competitive examination.

The most intensive form of pedagogic training is that provided at ENNAs. It is of two years' duration and the principles governing the course are the following:

- to gather into one establishment intending teachers in all disciplines (general, technical, theoretical, practical);
- to provide training which affords a clear insight into both the working world and the educational milieu: three to six-week courses in industry afford an insight into industrial

1/ ENSET: Technical teacher training college (teachers in academic secondary schools)
ENNA: National training colleges for apprenticeship trainers (teachers in vocational secondary schools (LEPs))
CPR: Regional pedagogic training centres

and commercial organization, the qualification levels required, and the posts available;

- to consolidate the student's knowledge of his specialism;
- to enable the student to master the techniques of teaching;
- to provide training in pedagogy: each ENNA has its own "laboratory" school and also cooperates with establishments where intending teachers spend between four and six weeks in the classroom working under the supervision of fully qualified teachers.

The courses at an ENNA, CPR etc. preparing for the practical and pedagogic examinations, (i.e. the period after the first selection process), can be undergone full-time or part-time as an external student. This latter possibility is used in particular by teachers in vocational secondary schools who are appointed prior to taking the practical part of the teaching certificate. The auxiliary teachers who enter for the internal competitive examination are likewise released to undergo a full course of pedagogic training at an ENNA.

Reference was made elsewhere in this Report to the high number of auxiliary teachers among the teaching personnel at vocational secondary schools and among the technical teaching personnel at academic secondary schools. It was also observed that auxiliary teachers outnumber external candidates in the examinations, even in the external examinations.

The tradition of having a corps of auxiliary teachers undoubtedly allows pupils to be better catered for in those disciplines in which insufficient recruitment via the ENNAs and ENSET has led to a real shortage of licensed teachers, but the tradition also has marked implications for the pre-service training of teachers. For in the last analysis, their training in pedagogy in fact takes place in the field, in the form of practical work in the classroom and attendance at short-term courses which should

really be classified as in-service training courses. This situation increases the importance of the teacher training role of the teaching superintendents in the workshops. If one furthermore takes into account the various measures taken over the past twenty years to absorb auxiliary teachers into the established corps without passing an external examination testing their knowledge of a specialism, it emerges that the universities and the secondary schools are in fact the training tracks covered by many technical teachers, and that this situation has even been consolidated since the standard of the examinations was raised in line with a ministerial request. Whereas assistant technical teachers in technical secondary schools and practical instructors in the former CETs used to be recruited at qualification level IV, the standard now required is that corresponding with the end of the first cycle of higher education, namely qualification level III.

The discrepancies arising from the various tracks for the training and recruitment of teachers can also be explained by the degree to which the available formal certificates correspond or fail to correspond with the requirements of the recruitment examinations. For some specialisms, there exists no university course which exactly corresponds to the examination requirements, and in such cases the best form of preparation is evidently that which the auxiliary teacher can acquire by teaching his specialism in the field.

In default of university qualifications at level III corresponding to some of the practical specialisms taught in the vocational secondary schools, there are strong pressures for recruitment via the internal examination and for the retention of the auxiliary corps. The higher technical certificate

(BTS) and the university diploma in technology (DUT) are qualifications which correspond well with the requirements of the theory examinations for some technical specialisms, but experience in teaching these specialisms as an auxiliary teacher constitutes an excellent means of preparation and an additional guarantee of success.

ENSET, for its part, offers more specific courses by preparing its students for the degrees required for admission to the agrégation or the teaching certificate valid for work in technical training establishments (certificat d'aptitude au professorat de l'enseignement technique - CAPET).

Some qualifications, especially university awards (e.g. first degree in law or economic sciences), are by no means the best way of preparing for the CAPET or agrégation examination in the corresponding specialism. A master's degree in management sciences serves as a better preparation in this respect, but the course is only seldom offered.

The situation is similar in the industry-oriented disciplines: construction technology is not offered by all university science faculties, and qualified engineers who would in fact be better prepared for the CAPET are only seldom interested in taking the examination.

The raising of the minimum qualification level required for admission to the examinations has thus had not only positive results, and the situation will remain thus as long as the universities fail to offer courses specially designed for entrance to the teaching profession. Yet the very limited number of places offered for each specialism in the examinations raises the question whether the universities are in fact in a position to comply with this demand.

Another very real problem in the technical education sector is the need for updating the teachers' knowledge to keep pace

with technological and economic change, in other words for organizing courses at educational district level to familiarize teaching personnel with the basics of informatics, the new budgeting system, etc.

The Technical Education Research and Training Centre (Centre de recherche et de perfectionnement de l'enseignement technique - CERPET) organizes a number of in-service training courses during the school vacations. The courses have proved to be very popular, with 10 candidates applying for each place. CERPET also organizes encounter meetings during the school year for teaching staff and representatives of the various occupations with the objective of informing the teachers on new developments in industry and commerce so that they can adapt their pedagogic approaches accordingly and thereby upgrade the learning content.

Although the equipment available as far as very modern technology is concerned is undoubtedly insufficient, it is hardly reasonable to expect the Ministry of Education to equip each secondary school as though it were a highly sophisticated production unit. However, some vocational secondary schools foster a very positive form of cooperation with local public and private undertakings, many of which offer the partner school access to modern items of equipment.

B. Teaching Personnel Employed in Private Establishments Operating Under Contract With the Ministry of Education

It should be recalled that these establishments are contractually obliged to operate in the same manner as those run by the Ministry of Education, offering courses preparing for the same qualifications and employing the same curricula and methods. The teachers acquire licensed status by virtue of an inspection or an examination which is governed by the same conditions as those obtaining for public sector establishments.

The proportion of auxiliary teaching staff is at least as high here as in the public sector, and the teaching licence is likewise highly prized.

Although these establishments do not have their own teacher training colleges or pedagogic training centres, provision is made for an eight-day pre-service course in pedagogy and the trainee teacher spends his first three weeks as an observer at classes held by a teacher of the same specialism.

Much is done in the way of in-service technical and pedagogic training by the centres at Nantes (economics) and Lyons (industrial technology and economics). Although the funds allocated to this type of measure in the private technical education sector are low compared with those made available for the same purpose in the public sector, no fewer than 5,000 of the 15,000 technical teaching personnel undergo a course of such training each year.

Mention should also be made here of the career advancement courses organized to prepare teachers for the teaching licence and promotion. Full or part-time leave is granted for participation in the courses, and any teacher absent for more than five days in connection with a medium or long-term training course is replaced by another for the duration of his absence. Courses taking place during the school terms are interspersed with periods of teaching practice in a "laboratory" school and also in the establishment where the teacher is regularly employed. Preparation for competitive promotion examinations accounts for approximately one half of the in-service training effort.

C. Training Establishments Accountable to Other Ministries

1. Agriculture

a) Teachers certified for providing agricultural instruction (PCEAs)

Trainee teachers seeking certification for providing agricultural instruction are recruited by means of competitive examination and undergo one year of study at the National Institute for the Training of Teachers of Agricultural Specialisms in Dijon (Institut national de formation des professeurs certifiés de l'enseignement agricole - INFPCEA).

Upon completion of this year of training, they are assigned to an agricultural secondary school where they take the practical examinations qualifying them for the teaching certificate valid for service in secondary schools specializing in agriculture (certificat d'aptitude au professorat des lycées agricoles - CAPLA).

b) Assistant technical teachers in secondary schools specializing in agriculture

Training for assistant technical teachers in secondary schools specializing in agriculture is offered at two training centres. The trainees are recruited by means of competitive examination. Training lasts two years and is followed by examinations on theoretical, practical, and pedagogic knowledge qualifying successful examinees for service as assistant technical teachers in secondary schools specializing in agriculture.

The recruitment and training regulations governing qualification as assistant technical teachers in these schools are at present under review.

c) Teachers in technical colleges specializing in agriculture

The National College of Agronomy (Ecole nationale de formation agronomique - ENFA) provides a two-year training course for trainee teachers wishing to teach in a technical college specializing in agriculture. The trainees are recruited by competitive examination and courses are offered in technical theory, practical technology, and general specialisms.

During the second year of training, the trainees take the examinations qualifying them for service in technical colleges specializing in agriculture (certificat d'aptitude à l'enseignement dans les collèges agricoles - CAECA).

For trainees intending to teach general education subjects in these colleges, a similarly structured course of training is offered at the National Institute for Advanced Agricultural Studies at Dijon (Institut national de promotion supérieure agricole - INPSA).

Great importance is attached to in-service training for these teachers, with 2,000 of the 5,500 teachers servicing all levels of initial vocational training courses undertaken between three and five days of in-service training each year.

2. Recognized private training establishments

Under the terms of the recognition agreement, teachers and trainers in private agricultural training establishments are required to have a suitable general education qualification and to have undergone pedagogic training. The pedagogic training may be acquired in one of the special training centres affiliated to UNEAP[1/] or UNMFREO[2/] or in one of the state-run teacher training centres.

1/ UNEAP: Union nationale de l'enseignement agricole privé (National Union of Private Agricultural Training Establishments)

2/ UNMFREO: Union national des maisons familiales rurales d'éducation et d'orientation (National Union of Rural Education and Orientation Centres).

There is also a two-year course of pedagogic and technical training which leads to the examination qualifying for servicing the short training cycle at recognized private agricultural training establishments. Admission to the course is dependent on examinations on technical theory or practice. During the second year of training, the trainees take the examination qualifying them for service in technical colleges specializing in agriculture (CAECA).

3. Ministry for Social Affairs

No pre-service training is available for those intending to pursue a teaching career in the social services, except for that leading to the advanced diploma in social work (diplôme supérieur de travail social), a recently introduced qualification for social workers.

In-service training is managed jointly by employers and employees, with no intervention on the part of the Ministry for Social Affairs.

The ministry wants service as a trainer to be an only temporary function but is finding difficulty in realizing this objective: return to the profession means at best the retention of seniority rights, and some employers are not prepared to re-employ ex-trainers at all (e.g. in the various fields of special education). Accordingly, training staff undoubtedly transfer from one training institution to

This sector is thus a somewhat special case insofar as pedagogic training is virtually nonexistent and is not a precondition for recruitment. Being less well endowed with funds for training purposes than the technico-industrial sectors, the social welfare and health sectors are now endeavouring to reduce their expenditure on this item, (although the Ministry of Health is working on plans to introduce in-service training programmes for trainers).

4. Ministry of Employment

National Association for Adult Vocational Training (AFPA)

The pre-service training in pedagogy provided for intending teachers has gradually increased in duration from six weeks in 1946 to 14 weeks in 1974 and finally 16 weeks in 1981. The training is undergone at one of seven AFPA regional directorates. Special arrangements apply for group leaders working in pre-training courses.

The present alternance system provides for two courses of pedagogic training, each of between four and six weeks' duration, which are separated by a work period of one year.

The allocation budget for pre-service training (excluding salaries) amounts to FF 5 million. A further FF 5 million is allocated to in-service training.

Apart from the obligatory training courses organized in order to assist the trainers in keeping pace with technological developments, each trainer can take advantage of at least one in-service training measure every two years in the form of a two-week period spent in industry.

In-service training is intended to maintain the qualification level of the teaching personnel in view of rapid technological change in the outside world. It also serves to make appropriate provision for newly introduced training opportunities.

The aggregate training staff turnover (including those employed on temporary contracts) is very low. The rate is slightly higher among the group leaders than among the trainers. The average duration of service in 1980 was 11 years for group leaders and 9 years for trainers.

D. Apprenticeship Training Centres (CFAs)

The CFAs employ a large number of supernumerary teaching personnel on an ad hoc basis, some two thirds of whom have public servant status. They also employ a large number (one third of their entire teaching personnel) of teachers working full-time under permanent contracts.

It was observed in Part I that the individual CFAs and their respective teaching staffs differ widely, and it is therefore

self-evident that the training provision made for trainers in these institutions likewise covers an extremely broad range of courses which cannot even be adequately summarized within the limited context of this Report. The problem is rendered even more difficult by the fact that CFAs offering a very wide range of courses tend to organize training of trainer courses on an intermittent basis according to whether or not any apprentices are registered at the time for the specialism in question.

Nonetheless, two apex organizations serving a number of CFAs with uniform training provision are examined in the following in order to provide a general impression of some of the training measures of which trainers are able to avail themselves.

1. Central Coordination Committee for Apprenticeship in the Construction Industry (CCCA)

Almost all the training staff employed in the CFAs falling within the competence of CCCA are permanent, full-time staff working under contract, and mobility from one CFA to another is minimal. Their pedagogic training is organized centrally by CCCA as follows:

- Pre-service training in pedagogy: three non-consecutive one-week courses—the first on learning content, the second on problems of methodology and the third on practical didactic application. Follow-up measures are organized at local level during the intervals between the three courses. After completion of a trial teaching period of one term and a probationary period of two further terms, an inspection takes place to confirm (or not) the trainer in his post.
- In-service training measures which extend beyond the framework of technical expertise and are also intended for teachers of general education subjects are organized at the close of the school year. In addition, national seminars are organized for virtually all teachers of a particular

specialism; these are preceded by surveys in industry which ensure that the learning content is kept up to date.

Anther provision which can be equated with in-service training are the two hours per week allocated in the timetable for pedagogic consultations with the director and the technical teaching superintendent. This concerted approach is further facilitated by the possibility of teamwork in the staff room or workshop during the hours allocated for course preparation.

2. Association for the Development of Vocational Training in the Transport Sector (AFT)

The pre-service training provided for intending trainers in this sector is unusually long—six months in all, including ten weeks at the National Institute for Pedagogic Training in the Transport Sector (Institut pédagogique national du transport), followed by a back-up period spent in practice centres under the supervision of experts in pedagogy.

With respect to in-service training, all training staff have opportunities to undergo one to three-week courses of in-service technical and pedagogic training throughout their professional career (financing: 12% of continuing training tax).

The training corps remains stable in composition, and both teachers of general education subjects and technical instructors can pursue a full career at AFT (recruitment on the basis of examinations and under the same conditions as those prevailing for CFAs).

Transfers are possible but seldom between the various AFT training establishments: CFAs, technical schools, continuing training establishments. Efforts are being made to harmonize the recruitment and salary conditions, but service in continuing training remains more demanding than that in initial training (greater mobility, etc.).

E. Company Training Centres

As was seen in Part I, company training centres are only few in number and account for a very small part of initial vocational training provision. Nevertheless, it may be of interest here (as in Part I), to examine the situation in two very large enterprises to see how they deal with the problem of training company staff to serve as "occasional", temporary trainers of young trainees undergoing an initial course of vocational training.

1. Renault

With the exception of the part-time, external instructors enployed on an ad hoc basis, trainers at the Renault training centre are experienced company employees (skilled workers, some technicians for the theory courses) who are given leave to serve full-time as trainers, usually for a period of three to four years.

Intending trainers undergo an initial course of pre-service pedagogic training and are then familiarized with their new duties by spending a period of three months teaching under the supervision of another trainer.

Each trainer subsequently undergoes 60 hours per year of in-service technical and pedagogic training, this being the more necessary the lower the qualification level at the outset. In-service technical training also serves to prepare the trainer for his return to the production sector.

The in-service training courses are furthermore justified by the changes in qualification requirements which automatization has brought about. These changes are also reflected in the training provision.

The company training centre prepares trainees for the technical baccalauréat (BTn) over a period of four years, i.e. one year

more than is customary at a secondary school. The standard course content is supplemented with knowledge of the firm, recently introduced technologies, and training to upgrade interpersonal communicationn, intellectual agility and occupational versatility.

Even if intending teachers are not aware of the fact when they submit their candidature for a post as trainer, the pedagogic and technical training they subsequently undergo in fact plays an important role in determining the course of their future career after their return to the production sector and serves as a particularly good grounding for entry into sectors such as personnel management—which is in any case usually more attractive for ex-trainers than the research and development or operations research departments.

2. Paris Transport Company (RATP)

Trainers are RATP employees and retain their status benefits and promotion rights for the duration of their training service. Their secondment to the training centre takes place on a voluntary basis and they are at liberty to return to their former areas of work at any time. The successful candidate is released from his department for four months and starts work as a trainer on a trial basis; at the end of this period, the candidate is either posted to the school or sent back to his former department. He cannot be obliged to return to his former department at any time other than during this four-month trial period, and although the training centre directorate prefers training service not to exceed a period of seven years, many employees in fact make a career in this field.

No training is provided in pedagogy, but each inexperienced group leader is teamed with a trainer who guides him in his work under the responsibility of the teaching superintendent.

Numerous in-service training courses in technical specialisms are offered each year to promote versatility among the training staff (consolidation of specialist knowledge, additional information).

The RATP training staff are also called upon to service social advancement courses for adults, in particular those organized for unemployed youths referred to RATP by the National Employment Agency (ANPE).

It is reported that the group leaders and trainers who return to the production area after giving instruction in the company training centre usually cope well with the change and are able to progress in the company hierarchy.

F. Some General Observations

1. Training Tracks for Trainers

a) Full-time training

In brief, it appears that there are two pre-recruitment training tracks for trainers:

- the first is that of occupational experience, although this does not render a formal certificate superfluous. The training functions opened up by this training track are those of group leader in charge of practical training (usually in the same specialism as that in which the occupational experience was acquired, although a certain degree of versatility is not excluded).
- the second is that requiring the baccalauréat or a diploma in technical studies or a certificate from the short or the long cycle of higher education as a minimum qualification. This track leads to training posts in the theoretical side of general and technical education.

Thus, as far as their technical training is concerned, train-

ers usually depend on the secondary schools and the universities. Their pedagogic training is normally provided by the training establishment or the firm concerned at regional or local level (many national training centres have recently been decentralized and transformed into regional centres, with pedagogic assistance also being provided in the field).

With regard to auxiliary trainers—who make up a large proportion of the teaching corps in both the public and private technical education sectors—it is within the actual teaching situation that these are required to prove their pedagogic and specialist competence.

After recruitment, primary emphasis in training is thus on the pedagogic aspect.

b) Alternance-type training

No proper training in the normal sense of the term has yet been organized for those in-firm trainers and instructors responsible for incoming trainees during their in-firm periods of alternance training: tutor-instructors and apprenticeship masters (employers).

The 1971 legislation simply required any employer wishing to take on an apprentice to fulfil a number of obligatory conditions with respect to professional competence (proof of own high standard of occupational expertise), training facilities (use of the correct materials and techniques), and personal availability for instruction purposes (limitation of the number of apprentices and pre-apprentices employed at any given time). Proof of compliance with the latter two conditions is attested in a certificate issued by the Committee for Vocational Training, Social Advancement and Employment at département" level. Proof of own professional competence, on

the other hand, has to be submitted in the form of a minimum formal qualification: the journeyman's certificate or the master's certificate, which latter now also attests a grounding in psycho-pedagogy. However, no specific type of training is provided for intending apprenticeship masters, and their only points of orientation in this respect are the contacts established with the apprenticeship training centres (CFAs), visits by trainers from these centres to their firms, and reference to the training guidelines supplied to the apprentices by the CFA trainers.

Cooperation is now in its initial stages between apprenticeship masters and apprenticeship inspectors but was not introduced with respect to the tutor-instructors until 1982. However, the start of the training of trainers scheme devised within the framework of the emergency measures for school-leavers with no formal qualifications should help to improve the situation insofar as it will provide for

- between 500 and 800 hours of training for new trainers recruited at qualification level III or from among presently unemployed skilled craftsmen, i.e. persons with a sound basis of occupational experience;
- 140 hours of training for existing trainers;
- 70 hours of training for tutor-instructors.

2. Versatility Among Trainers

It is important at this point to clarify what is meant by the term "versatility" in this context:

a) Versatility is determined firstly by the degree of technological complexity of the specialism taught and the degree to which it is related to others. Versatility is linked with yet at the same time in opposition to teaching a single specialism. It is generally acknowledged as being

more characteristic of general education than of technical education (coupling of mathematics/sciences, arts/languages, arts/history/geography etc. as opposed to the 90 practical technical specialisms offered in the vocational secondary schools, each of which has its own individual recruitment channel).

b) Viewed in another dimension, versatility can be defined as simultaneous access to various establishments providing instruction at various levels for various target groups (provided that school administration considerations permit) or as simultaneous service in initial training and continuing training. Here, the scope of the instruction always remains within one specialism or occupational group.

c) Versatility can also be regarded in terms of movement from one type of education to another (theoretical general education and practical vocational training). This is possible and expedient in some specialisms at secondary education level, but this is not the case at higher education level.

The problem of versatility in moving from one type of education to another is of particular relevance with regard to the industrial sections, for a clear distinction is made in most of these between theoretical and practical technical instruction. In apprenticeship training centres offering courses in specialisms linked with sophisticated technologies (some mechanical engineering courses, computer technology courses and electrical engineering courses), the teaching and training personnel are also responsible for servicing both the theoretical and practical classes. The level at which most are recruited is thus that of higher technical certificate (BTS) (level III). In contrast, it is less usual to provide both theoretical and practical instruction

in the other specialisms, and the recruitment level is usually that of technician's certificate (BT) (level IV). Thus teacher versatility tends to align qualifications at the higher level and to upgrade standards in the practical instruction section.

On the other hand, it is difficult to speak of teacher versatility in the economics-based commercial specialisms. All technical instruction here is regarded as theoretical instruction and recruitment is at the level required of other teachers of theory.

The situation is different again in those cases where general education subjects have no direct linkage with specific occupational applications. Here there exists a very clear distinction between trainers in general and vocational education. The distinction relates less to workload, working conditions or salary, which are virtually the same for both categories of instructor, than to the degree to which the respective categories are integrated into the training establishment. It is thus that firms and employers associations tend to have recourse to teaching staff seconded on a full-time or part-time basis from public education establishments to service their general education programme sections.

3. Promotion Prospects, Mobility, Status

The level of qualification at the time of recruitment appears to bear no relation to opportunity for promotion in terms of both rank and occupational advancement. The teaching corps in the vocational sector has no marked hierarchical structure, and not all establishments make provision for the rank of technical teaching superintendent. Furthermore, in private training establishments it is even possible for teachers at all levels to work under the same conditions. With regard to teaching staff having public servant status, promotion from one rank to the next, right up to the highest levels, is normally governed by fixed regulations (internal promotion examinations or special conditions governing admission to external promotion examinations).

The question of mobility is linked with that of career prospects. It is self-evident that no provision is made for promotion within the training department or for any status benefits in the case of staff seconded to a teaching post for a period of only three to five years. In contrast, in instances where the teaching personnel remain at their teaching posts over a longer period of time, it is possible that the trainer may enjoy some status benefits, even if promotion prospects as such are limited by the very nature of the training provided in the establishment.

In establishments in which training is the main activity, the present trend is one in favour of greater personnel stability. In public and private enterprises in the production sector, stability and career development are also assured, but more with respect to the trainer's status as a company employee than as a trainer.

The relative lack of promotion prospects offered outside the context of "active" i.e. non-training service (e.g. in the naval training schools bonuses and more rapid promotion for those with experience at sea), have not prevented the training personnel in such establishments from requesting and being granted the possibility of making a career of training: they are released from any obligation to serve at sea but have to renounce the material advantages connected therewith.

The situation is different with regard to trainers employed on an ad hoc basis, who by definition have a high degree of mobility. Such supernumerary training personnel in fact cover a wide range of categories:

- employee of a firm to which a training establishment is attached who occasionally serves as a trainer;
- specialist not employed by the firm (retired person, independent specialist);
- public-service employee (teacher employed by the Ministry of

Education who is called upon to give part-time instruction elsewhere)

- private sector employee (trainer in another training establishment, specialist, etc.)
- independent expert.

More than being a merely technical obligation insofar as courses in general and theoretical education cannot be covered by the firm's own full-time trainers, the employment of such supernumerary staff on an ad hoc basis is regarded by the chambers of commerce and industry (whose CFA staffs are composed to two thirds of this category) as a suitable response to the need for maximum administrative flexibility in view of the range and scope of the training they offer.

Special mention should also be made here of those instances in which recourse to supernumerary trainers is made necessary by a shortage of funds and the grants and subsidies obtained are not sufficient to permit such training staff to be taken onto the monthly payroll (cf. vocational training in the social sector, where consideration is being given to adding part-time as opposed to full-time supernumerary staff to the regular payroll).

But quite apart from the present diversity of status among teaching and training personnel and the reasons underlying it, stability is being sought by both the teachers themselves and the majority of teaching and training institutions. Reference should be made in this connection to the opportunities of acquiring an established post offered to unestablished staff and also to the fact that even supernumerary status is not always synonymous with job instability.

Linked with this quest for greater stability in the teaching and training corps, there is clear evidence of an expansion

of teaching and training functions in general: greater emphasis on pedagogy in vocational secondary schools, greater teacher autonomy, de facto delegation of the employer's responsibilities towards the young person to trained in-firm tutor-instructors. This opening-up of the teaching function is furthermore reflected in the recent decision to improve advanced training provision for teachers and trainers by way of in-service training (see following pages).

Versatility and mobility within the teaching corps—qualities sometimes considered as essential to the well-balanced management of education and training establishments—are thus evident only to a limited extent and are in any case largely governed by statutory and administrative provisions: regulations governing service in other establishments operating at a different level, the teaching of young people or adults, and accepting other employment (part-time teachers).

However, as soon as the concept of versatility is extended beyond this framework to include the subjects taught, the teaching personnel's pre-service training assumes a role which is as important as, if not more important than their status. Under the terms of the current legislation relating to secondary education, only teachers of general subjects in vocational or lower secondary schools may serve in a dual capacity—even if one-subject teachers are sometimes called on to exercise their adaptation capacities by giving them classes in an additional subject.

The technical disciplines which are linked to a specific occupation seem more likely to bind the teacher to his special subject, with the result that he is obliged to retrain if instruction in this special subject is discontinued or radically redesigned. It also appears that the closer the instruction matter is related to a white-collar occupation (computer science, electrical and electronic engineering), as opposed to a blue-collar occupation, the closer theoretical and practical instruction are interlinked, and both aspects may well be covered by one and the same (polyvalent) teacher.

The handicap of excessive specialization in a branch which is likely to be made redundant by technological progress and is attracting fewer students can therefore presumably be partly compensated by a larger measure of theoretical instruction. This situation is in fact now typical of the majority of teachers at vocational secondary schools.

Moreover, if adopted, the proposals presented in the Peretti Report (q.v.) will facilitate transfers between the private, public and semipublic sectors before or after a teaching appointment, rather like the career model obtaining for instructors in in-firm training centres.

However, by requiring that the operating framework become larger than one specific occupational area and one type of production, the concept proposed in order to achieve greater mobility among teaching and training personnel would at the same time presuppose a change in status for public-sector teachers, a high level of competence and versatility, and access to all sectors of industry—in other words acknowledgement of their own specific needs.

PART III: POSSIBLE IMPLICATIONS OF CONTEMPORARY TRENDS FOR QUALIFICATION LEVELS AMONG TRAINING PERSONNEL

After having undertaken a global survey of policies governing the recruitment and training of trainers engaged in initial vocational training in the various public and private training establishments, we shall now seek to shed light on a number of contemporary problems, examining how a number of experiments being conducted in various directions and some recently adopted measures could point to a positive development in the future.

We shall take a look at the situation in establishments within the public education system and in those outside the direct competence of the Ministry of Education, and then move on to the bodies which provide (or participate in providing) training based on the alternance system.The Report concludes with an examination of a number of important problems of a general nature.

A. Teaching Personnel in Establishments Run by the Ministry of Education

1. Pre-recruitment and In-service Training Provision

The recruitment of teaching personnel is undertaken on a very open and diversified basis, with numerous categories of candidate being entitled to admission to the examinations and, with respect to auxiliary teaching posts, a variety of formal certificates sufficing for apppointment. Furthermore, efforts are being made to facilitate the integration of suitably qualified persons from industry by making the years of service spent in the private sector prior to acquisition of the teaching license count for superannuation purposes. Once they hold the teaching licence, such personnel have an absolutely secure job protected by the provisions of the public service. On the other hand, no provision is made for those returning to industry to turn the years spent in training to good use for promotion purposes.

The measures taken tc improve the pre-service training for training personnel, by virtue of the fact that they concern only the emerging generations of teachers, are necessarily limited in their scope to a restricted target group whose numbers will constantly decline in relation to the number of teachers already practising their profession. The reduction in the number of schoolchildren will in fact provoke a marked deceleration in the teacher recruitment rate over the next ten years, a downward trend which is in stark contrast to the period of intensive recruitment between 1960 and 1975. These still young teachers are just as much in need as their older colleagues of assistance in applying new pedagogic methodologies, that is to say, they too are in need of in-service training.

A number of proposals have recently been made for reorganizing the training system for teaching and training personnel in

favour of an alternance approach to theory and practice and recourse to both the universities and the teacher training colleges. The long sought-after uniformity among the various categories of teaching and training personnel will be facilitated by a standard training duration of four to five years post-baccalauréat training. Furthermore, the bivalent approach to teaching, which is at present limited to teachers in lower secondary schools will be extended to teachers at all secondary schools.

A number of concepts have been devised to permit training staff to keep in touch with technological developments. An in-service training programme was elaborated in 1975 (in connection with the revision of the status of teaching personnel in vocational secondary schools), which is applicable to all teaching and training staff.

Arrangements were also made for volunteer trainers to undergo in-firm courses of one year duration; however, this very costly measure concerned only a few hundred trainers and has since had to be abandoned. On the other hand, a large number of short-term courses have been introduced to familiarize training personnel with technological developments.

It should be pointed out that preparation for the promotion examinations has always had high priority within the framework of in-service training in the public service, and that the funds allocated for such preparatory training represent a large part of the total in-service training budget.

It appears regrettable that in the public education sector so many candidates for training at the Advanced Training and Research Centre for Technical Teachers (Centre de recherche et perfectionnement de l'enseignement technique - CERPET) have to be turned away in default of adequate reception capacities.

Thus, although a broad-based recruitment policy and the flexible qualification levels required for appointment in the public education sector would indicate a stronger need for in-service training facilities, greater emphasis has been given in fund allocation to personnel promotion and the absorption of the unestablished corps than to advanced training in technical specialisms.

The example of the vocational training certificate (CAP) in mechanical engineering, however, illustrates that redefining qualifications and expanding their content is no simple matter. A CAP in general mechanical engineering was introduced 20 years ago in order to group together the training courses for intending precision adjusters, miller and turner. This move appeared to be justified in view of the rapid advances being made in automation and in the introduction of mechanically controlled machinery. Subsequently, however, the former training concept based on a standard training "core" course followed by course options had to be reintroduced because the advances being made in the technological field did not have as much impact on work organization in the larger firms as had been originally anticipated.

A broad-based training may indeed often be sought after in small and medium firms, but here again this is expected to be composed of a number of specialized skills and thus presupposes specific training options. Nonetheless, the lessons of this example cannot be applied indiscriminately. The problem is to examine the situation by occupational branch, by type of enterprise and by region in order to ensure that vocational training neither precedes nor lags too far behind the advances being made in the technological field.

Such a permanent readaptation of training provision cannot be reconciled with the concept of a uniform and once-and-for-all training course undertaken at the commencement of the

teaching or training career. On the contrary, it calls for the development of the in-service training provision for all teaching and training personnel.

On the other hand, the vast range of specialisms offered (90 in the vocational secondary schools, 70 in the academic secondary schools) hardly facilitates the organization of in-service advanced training courses as long as it is not possible to cluster specialisms which are related (such a clustering would also alleviate some of the difficulties arising in connection with personnel recruitment). Efforts towards such clustering and also towards a general "de-specialization" are evident both in the certificates offered and in the corresponding courses at school level: pre-terminal school year structured as an orientation year leading to various types of technical baccalauréat and some technician's certificates (BTn),introduction of a common educational "core" course applicable to numerous first-year and second-year courses at the vocational secondary schools (e.g. courses in mechanical engineering and those preparing for occupations in the tertiary sector). It is difficult at the present time to foresee the impact which these measures will ultimately exert and to judge whether the concepts designed to make the vocational training certificate (CAP) "not an end in itself but an integral part of more homogeneous courses" will be successful.

Considerable efforts are to be made in this respect in the near future. There are proposals for awarding each teacher in-service training credits amounting to a total of two years throughout his career, i.e. two weeks per year. Until now, in view of the fact that preparation for recruitment examinations cannot be equated with vocational training in the proper sense of the term, it appears that no genuine and systematically organized in-service training has been available for teaching personnel. That which has been avail-

able has remained sporadic and largely the result of individual initiative, personal goodwill, and personal ability to adapt to changing situations.

From the beginning of the 1982/83 school year, in-service training for both teaching and non-teaching staff employed by the Ministry of Education is to be introduced gradually on a voluntary basis and with the cooperation of the universities.

Special attention will be paid to the training offered in technological and vocational specialisms, and, with regard to vocational secondary school staff, to the organization and content of the training material. In-firm training sessions of six weeks' duration will be reserved for teachers and trainers servicing the technological options.

Other steps proposed are measures to help teaching and training staff cope with the diversity of their target groups and assist schoolchildren in finding their way into the adult, working world. But in the first instance emphasis will be placed on providing training and advanced training for staff who have not already had an adequate initial training and for auxiliary staff seeking licensed status.

Contact hour relief and replacement systems will be arranged in connection with the training, and staff volunteering to undergo training outside working hours will have their expenses reimbursed.

2. Participation of Public-sector Teaching Staff in Continuing Training Provision

Special mention should be made here of the services rendered by teachers employed by the Ministry of Education in the continuing training measures organized by the local educational subdistrict authorities (GRETA). It is estimated that in 1980 10% of such teachers were working additional hours in adult education.

Moreover, a special arrangement whereby training posts can be financed from the revenue earned by training establishments from their continuing training activities permits the integration of teaching time spent in adult education (provided this time exceeds a certain minimum)into the normal hours of service.

In 1980, 3,000 secondary education establishments organized continuing training measures which were financed by enterprises or the state: advanced training for skilled workers, social advancement courses (CAP by means of a units/credits system, with a similar system being introduced for the journeyman's certificate in the near future), special measures to promote young people, women, jobseekers, and migrant workers.

The diversity manifest in both the target groups and the courses offered constitutes an important training factor for the teachers themselves, their work in continuing training activities serving as an occasion for them to update their knowledge, adapt themselves to new requirements, and participate in the pedagogic training measures organized specifically for trainers in adult education by the Training Centre for Adult Education (Centre académique de la formation continue - CAFOC).

Although this latter type of pedagogic preparation cannot aspire to satisfy all expectations, and in fact reflects only some of the teachers preoccupations, the contact with reality which they thereby obtain constitutes in itself a form of autogenic training.

Endeavours at present being made to systematize the conditions governing the training of trainers engaged in the continuing training sector.

3. Revision of the Pedagogic Approach Employed in Vocational Secondary Schools: Implications for the Training of Trainers

Since the dropout rate among pupils at vocational secondary schools has remained high in recent years (of the order of 20% at each level of study), countermeasures are to be taken in the near future which seek to remedy the situation by improving various aspects of the courses. Some of the modifications will have implications for the training of trainers, and therefore deserve mention within this context.

a) Assistance to pupils in difficulty: Assistance will in future be the responsibility of the entire range of staff members (course leaders, teachers, instructors, educational counsellors). The idea is to create genuine teams of educational staff, thus removing the teachers from their former isolation.

b) Course stages in industry: The new form of in-firm training stages introduced in 1980 for trainees preparing for the vocational training certificate (CAP) and the vocational studies certificate (BEP) are to be adopted in other and ultimately all courses. The training stages, which are of three weeks' duration, are intended to be more enriching for the trainee than the former type of in -firm training in that the trainee is allocated a workplace where he works with the assistance and under the supervision of a company

employee acting as his tutor. The training stage is organized by the tutor in close collaboration with the trainee's teachers, and these parties subsequently undertake a joint evaluation of the trainee's work, aptitudes, knowledge acquired and behaviour. Such joint action is also envisaged during the preparation and follow-up phases. The resulting contact between teaching personnel and practitioners in industry also permits an exchange of views which is extremely beneficial to both parties. For the teaching staff, it represents a valuable opportunity to update their concepts of work processes, the equipment used, and the working world.

This rapprochement between the vocational secondary schools and the working world thus itself serves as a means of upgrading teachers' qualifications, and has the additional advantage of motivating them to keep in touch with recent developments by means of in-service training measures.

c) Reduction of contact hours: A reduction of the present figure of 36 contact hours per week is now being examined with a view to affording the teaching staff (especially the general education staff), sufficient flexibility to better organize the class hours and adapt their pedagogic methods to the needs of the pupils: repeat classes, special extra-support groups, differentiated timetables, multidisciplinary activities, etc. The curricula are to be regarded as frames of reference rather than straitjackets imposing a uniform path and tempo.

d) Development of continuous assessment and control: This, in conjunction with a clearer definition of the learning objectives, will enable the pupil to appreciate what he is able to achieve and to manage his progress himself instead of himself being managed by his training course. This concept represents an important pedagogic innovation which will encourage team work among the teaching staff on the basis of

a clearly defined educational project and should ultimately lead to the introduction of a new system of granting awards (units/credits).

Steps are also planned to pave the way for:

- greater and more systematic participation on the part of firms in the elaboration of training curricula and the implementation and design of training courses;
- new posts to be created within the framework of efforts to combat unemployment which will be offered to suitably qualified jobseekers with industrial experience; the posts will be primarily for training work, although some posts as assistant to the director or the teaching superintendent and others in the documentation services are also envisaged.

All these measures, which essentially seek to promote team work and introduce greater autonomy in terms of timetabling and curricula, will contribute towards upgrading the degree of autogenic training among teaching staff and also their knowledge of the social and occupational conditions prevailing outside the school. The measures are thus important from both the qualitative (revision of pedagogic methods) and the quantitative viewpoints (number of personnel concerned).

B. Training Personnel in Training Establishments Outside the Competence of the Ministry of Education

1. Recruitment and In-service Training

a) The conditions prevailing in private training establishments are by no means always uniform. In some recruitment is a very flexible matter and the personnel, especially those engaged to train on an ad hoc basis, is very diversified in its composition. In others, notably in company training centres, recruitment is more restrictive, operating for the main part within the framework of existing company employees.

In both cases, in-service training measures for trainers appear to be organized on a regular basis, at least for the permanent staff (the data available on certain categories of non-permanent staff is not conclusive in this respect). Often, the funds allocated for in-service training purposes exceed by far the standard figure of 1% of the payroll. In some instances, intensive in-service training is considered to be a suitable measure for compensating a flexible approach to pre-service training requirements.

A change in recruitment policies is now discernible in the sectors linked with key technologies: the post held at the time of candidature is now becoming more important than the length of occupational experience, the qualification requirements are being raised, and a certain degree of polyvalence within the respective specialism is essential.

b) With respect to AFPA training personnel, the standard of technical knowledge is rarely a problem, but difficulties are encountered in ensuring that pedagogical methodologies remain in touch with technological developments and are able to satisfy a broad range of individual needs. This problem has been given much consideration at AFPA, which, incidentally, also assumes an important role in training trainers for other institutions. Six years of experimentation in this field finally laid the foundations for a number of technical and pedagogic innovations which were introduced in 1980 and are intended to increase the number of modular courses and render training as individualized as possible in a quest to satisfy the widest possible range of training needs. Indeed, AFPA more than any other training institution is faced with the problem of serving heterogenous target groups and providing learning contents at a pace which matches the requirements of the individual.

2. Training of Persons in Industry Providing Instruction Within the Framework of Alternance Training

It should be recalled in connection with training in the private sector that the number of trainers is relatively small if one excludes apprenticeship masters and tutors operating in the field and that the various training establishments together offer a wide but uncoordinated range of training measures. With respect to apprenticeship in a craft enterprise leading to qualification as a skilled craftsman, a training track pursued by a large number of young people, although the parallel theoretical and practical training dispensed at the apprenticeship training centres is standardized and controlled, the same cannot be maintained of the training provided within the enterprise itself. The statutory obligations which have to be complied with by master-craftsmen wishing to recruit apprentices were examined under F.1.b. above (own professional expertise, training facilities, personal availability and the de facto training they receive from their obligatory contacts with the staff of apprenticeship training centres and apprenticeship inspectors).

With respect to apprenticeship in industry and the services sector, collaboration between firms and schools is much more diversified. However, the qualifications required of those appointed to take charge of the practical training stages do not normally include any formal training in pedagogy, even if such training provision exists.

The situation with regard to hospital training is one such instance. We have already observed (although from another viewpoint) that in courses where the major part of initial training takes place in an educational establishment, the period of in-the-field training may take place under the joint responsibility of the teachers and a tutor whose qualifications are related to the occupation only (cf. the in-firm training stages organized by vocational secondary schools). In the training

courses leading to the medical or paramedical professions, the pedagogical conditions governing the practical training stages, although these occupy a very important place within the entire course, again are not such as to permit this type of training to be qualified as alternance training in the narrow sense of the term. Here, a mixed diploma has been introduced which entitles the holder to choose between supervisory functions in a teaching hospital and training work in an educational establishment. In other words, the recruitment system obtaining here can be equated with that applicable to trainers in company training establishments.

For the somewhat more unusual type of in-firm training (e.g. employment-training contract, induction courses, and training courses which do not lead to any recognized certificate), neither the employers nor those in charge of training are required to satisfy any specific conditions.

In firms which have their own continuing training and initial training services, a training officer is usually appointed to organize the courses and coordinate the training sector with the other departments of the enterprise. The training officer, although not necessarily providing instruction himself, is in charge of elaborating, following up and evaluating the training programme in the light of the training objectives. The training programme itself may be implemented by personnel from the various departments working as trainers either permanently or on an ad hoc basis.

Measures have recently been taken (see under F.1.b above) with regard to training provision for trainers receiving 16 to 18-year-olds in the in-situ part of alternance-type training. These should permit the efforts already made by firms with respect to this difficult age group to be more effective.

C. Some General Problems

How can one satisfy the needs of young people who are allergic to certain forms of schooling and work when

a) the labour market operates more favourably for jobseekers with the best qualifications, and

b) young people entering the labour market place emphasis on a certain quality of life, show an increasing lack of interest in production as such, and think in terms correspondingly far removed from those of employers confronted with the ever more urgent need for maximum profitability and productivity?

Under these circumstances, what should the trainer seek to teach his trainees? To live and work within a society in which values will be largely different from those of today and the constraints experienced by preceding generations are outdated. But how can one reconcile the necessity of being able to adapt to successive changes and needs within the course of a career with the exigencies of being prepared to take on a first job? That part of work preparation which is to be transferable from one job to the next will depend as much on job content and the respective states of the art as on aptitudes, but it will always reside essentially in a constant concern to actively adapt to the socio-occupational environment.

Existing research findings on vocational training for young people point out that such training should contribute towards:

a) assisting the trainees in discovering their capacities and the focal points of their interests and also in choosing a suitable occupational path;

b) improving the overall qualification level among young people;

c) facilitating their integration into working life.

1. Technological Progress

Alternance training, both initial and continuing, has been considered as a means of reorganizing work and introducing more democracy into the firm. What then are the complex relations which link work organization, the mode of production, and the mode of training? And this in particular in the era of microelectronics and informatics? "The new automation and information technologies (in both industry and the tertiary sector) are concerned less with technical processes in the narrow sense of the term than with the link to be established between the work to be accomplished (operator function) and the management of the systems deployed to produce, i.e. the relative integration or dissociation of the following functions: management - programming, supervision - execution, preparation - manufacture - maintenance, administration - commerce ...

Over and above facilitating the task of the operator, the new phase in automatization is bringing about a concentration of work functions with a view to increasing the control exercized over production by the supervisor... Whereas from 1945 to 1968 the system of work organization based on a series of manpower teams and an invasion of Tayloristic principles left little room for traditional occupations and activities, and whereas the transformation of the work process remained a distant objective of a social nature, the post-1970 period has seen the objective of better employment being added to that of full employment." (The Evolution of Work Systems, CEREQ 1981). Thus between 1954 and 1975 the blue-collar occupations underwent contrasting developments: a reduction in traditional activities and an increase in mechanized production. This explains the repercussions which changes in the mode of production have had on the mode of training: Except for in the case of artisan-type production (which essentially requires school or in-firm training) and also the production

of one-off workpieces (i.e. the production of non-mechanically manufactured items which presupposes a basic technological training in a specialized field), except in these two cases training is no longer specific. It is acquired on the job after the manpower selection process undertaken by the firm on the basis of adaptability and sometimes channelled via the various procedures envisaged for the transition from school to working life such as the employment-training contract. Thus the modification of the production process is not being accompanied by a demand for ever higher qualifications among the workforce at the time of recruitment. And, what trend has been discernible in the training system? In quantitative terms apprenticeship has declined in the industry and services sectors and has become a slightly more familiar element in the crafts sector. Thus the trend in training systems is following that discernible in work systems.

In the vocational secondary schools (LEPs), efforts have been made to introduce industrial options to coincide as far as possible with the need for skilled personnel. With regard to training for the tertiary sector, several education authorities at "département" level have decided to limit the choice of courses which have the most stringent admission requirements in terms of general educational qualifications (vocational studies certificate (BEP) in preference to the vocational training certificate (CAP)).

In so doing and while also maintaining their training at a certain level, the vocational secondary schools have thus largely anticipated the spread of work organization modes based on "greater participation of the worker in the deployment of technical equipment within the framework of more flexible structures, and the formation of multidisciplinary teams which are responsible for the entire administrative process ..." (ibid.).

Under these circumstances, the trainer at a vocational secondary school should be better equipped to transmit to the trainee a knowledge of the occupational environment and the various production processes prevailing in the firms and sectors in which the trainee may ultimately find work; he should also be better equipped to prepare the trainee to cope with the discrepancies which will inevitably emerge between the level of training and the qualifications required for recruitment. In the present situation, it appears that alternance-type training could serve as one solution for reducing the distance between school and the workplace.

2. The Work Framework: School and Firm

It often occurs that a distinction is made with respect to the French training system between the school and the firm, the first (LEP, CFA) being the place for the "theoretical" side of training and the second the place for the practical side. This is somewhat unjust, for, as was pointed out above, some large firms can provide theoretical training in their training workshops, and vocational training schools, apprenticeship training centres and the AFPA full-time training centres open to adults and to an increasing extent to young people are now generally integrating both theory and practice with a view to offering a more practice-oriented training.

But it is nevertheless true that once placed within a framework other than that of the production unit, a trainer in practical vocational options is likely to sever his links with the shop floor very quickly. And this severing of the technico-socioeconomic aspect which is all-important to the company staff member from the pedagogic aspect into which this professional-cum-teacher is introduced is likely to take place all the more rapidly if his duty is to transfer knowledge to a trainee rather than to motivate him to carry

out an activity for which no one can predict how it will be carried out in the future. For the trainer, these two aspects should be complementary and parallel, and it is this which the renewed emphasis on didactic approach now being introduced in the vocational secondary schools (see under A.3. above) is seeking to achieve. This reversal of priorities should facilitate a rapprochement between schools and firms by introducing the "spirit" of alternance training into the schools in an attempt to open them up to the realities prevailing in the working world.

3. The Institutional Environment

a) First of all, what measures have been taken with regard to teacher/trainer status for those employed in schools and in firms, and to what extent can these contribute towards assisting teachers and trainers to better integrate young people into working life?

- Trainers in in-firm workshops are not particularly well equipped to provide guidance to the young people entrusted to their care. All apprenticeship masters are holders of a master craftsman certificate, but it was not until this year that a training course in pedagogy has been offered to in-firm tutor-instructors and those implementing the special 16 to 18-year-old action programmes. Nonetheless, to introduce a didactic concept into the corporate environment is no easy task...

The strictly university-type training undergone by a large number of teachers and trainers in vocational secondary schools who thus in fact left the school system merely to re-enter it is a point worthy of consideration, just as are the controversial status differences between teachers of theory and teachers of practical work. Although trainers servicing the practical side of vocational training have officially belonged to the same teaching corps as the

"LEP teachers" for several years now, the alignment process has been in an upward direction. And since the number of years of occupational experience required has been in inverse proportion to the qualifications held, this status improvement has solved some problems but not that of the distance separating the teacher/trainer from the realities of in-firm working life. The very recently published report by Mr. de Peretti on the training of personnel employed by the Ministry of Education in France proposes that occupational and humanitarian experience be taken into account in teacher recruitment and career advancement in both technical and general education establishments. One important effect of this formula would be to afford teaching personnel with several years of service greater occupational mobility—with the guarantee of transferable status advantages—in particular with respect to the public service in general but also with respect to the nationalized industries, the local authorities, and private enterprise... Careful attention should therefore be given to the status modifications which should be undertaken in order to increase the occupational mobility of the teaching and training corps.

b) Educational and vocational guidance

Without going into detail on the various orientation procedures and their functioning, it suffices to emphasize that their very existence is owed in general terms to the acknowledged importance of each young person being able to make an informed choice which also serves as a motivation to continue his/her studies.

In the vocational secondary schools (LEPs), the option chosen on admission is essentially one of the type of education to be pursued and should be made in a positive, constructive fashion and not be regarded merely as a rejection of general education or a longer cycle of tech-

nical education. The teaching and training personnel can help to promote this positive choice aspect and can later guide the young person in crystallizing the orientation chosen, in particular by encouraging constructive use of the educational periods spent within a firm. Admittedly, the ultimate qualification offered in these schools is arrived at by means of a standard curriculum devised for each specialism and applicable throughout the country, but the larger measure of autonomy to be granted to LEP teachers and trainers in the future will undoubtedly give them greater scope for action in terms of trainee guidance.

With regard to the special measure to be introduced for certain groups of disadvantaged young people (see under c below), prior information and assistance in charting out a project for the future are extremely important, for unlike schoolchildren and apprentices these young people have not yet come to any firm decision on their occupational future. It is for this reason that their confrontation with the realities of working life by means of in-firm training courses operates as a determinant factor in deciding which orientation to pursue. The various information and orientation services which are now being established and bring together the various partners, including counselling officers from the Ministry of Education, will provide a follow-up service to accompany the young people through this period of adaptation.

Here, one cannot fail to acknowledge the importance of a recommendation which, referring to the fact that young trainees' life prospects are dependent on the decisions made at this time, calls for a "corresponding quantitative and qualitative improvement in the information material available on training opportunities, on the realities of the labour market,... and on the need for concerted action embracing the public authorities in this field." (CEDEFOP)

c) Another important issue in this connection is the need for flexibility and coordination within the entire training system and, by extension, the need for promoting a climate of harmonious coexistence among the various training institutions.

The problem at hand is to be able to cover the entire scope of the training demand at regional level with the facilities offered at existing public and private training establishments and at the same time maintain the supraregional value of the certificates awarded upon successful completion of training so that geographical mobility, occupational advancement and promotion are guaranteed for the holders. This problem is sometimes difficult to solve and in any case presupposes that the training system be outward-looking and flexible. The institutions run by the Ministry of Education are sometimes accused of lacking these qualities, although it should be pointed out that much has been accomplished in this direction (as was seen above) and that the public sector's primary and acknowledged objective, namely, to provide training in particular for those who are able to further develop their acquired knowledge, obliges it to reject any form of training which is a direct preparation for a specific job. This is a field of education in which a highly diversified structure and approach to training is of benefit, as can be seen from the example of the various measures taken to assist young persons seeking their first employment, or, even more clearly, from that of the measures to be introduced in autumn 1982 to promote 16 and 18-year olds in compliance with the findings of the Schwartz Report.

This programme has been specifically designed for young persons who have left the school system without having acquired any formal education or training certificate, thus for those who have abandoned their vocational training before completion or, worse still, who have not even started

any course of vocational training. The purpose of the programme is to provide these young people with the elementary theoretical knowledge and practical skills which can serve as a basis for later acquiring a vocational training qualification. The duration of the training will vary depending on the attainment level on entry and the course will include obligatory periods spent within a firm under the guidance of a tutor-instructor. For those who have had no prior training and have no plans as to their occupational future, the course will be preceded by an intensive orientation course of six weeks' duration which will allow the trainee to experience work at a variety of workplaces. For the most disadvantaged, those who are in danger of becoming socially marginalized, there are plans to begin the programme with a social measure in the form of a very flexible course on integration into society and the working world.

The Ministry of Education will be assisted in the implementation of these measures by the other ministries concerned by the programme, by a wide range of semipublic and other bodies (many of them set up by the various employers associations, traditionally a driving force in the organization of training), and of course by the enterprises themselves. The involvement of industry is an important element of this policy, the individual firm being called upon to assume responsibility either directly by participation in training measures or indirectly by means of the apprenticeship tax or the continuing training tax. This financial element and the accompanying administrative arrangements are likewise not unimportant.

d) Educational approaches which are more flexible and better suited to prevailing conditions—these are thought to represent the first step towards a type of educational "decentralization" which, if it is to be effective, will have to draw its strength from both human and material resources.

It is becoming increasingly clear that there is a need to liberate the concept of qualification from its over-restrictive connotations of certification, to liberate the teaching personnel from having to attend to preoccupations other than that of educating and training young people along lines which they themselves have helped to define, and to liberate young people from their preoccupation with the short-term purpose and benefit of training, for it seems impossible to forecast the degree to which technological change will have progressed within a decade and under these circumstances it is much more important that young people be taught how to learn and to organize their futures from within than to allow them to become intellectually restricted by specializing in a field of knowledge which is doomed to be outdated in the near future or to allow them to rest on their laurels on the strength of a diploma, even one at the highest levels. How, as the director of a large company training centre aptly asked, can one hold a determinist attitude towards a career in a world which itself is probabilist?

4. Technological Culture and Vocational Training

If it is possible in this day and age to speak of a technological culture or at least of a technological dimension within culture, then this must be viewed as being the aggregate impact of the objectives which society as a whole has successively introduced into its culture and which, each in its own way, subject human labour to the objectives pursued by that society.

It is in this sense that general education and training should form an integral part of vocational training. The difficulty of effecting this integration becomes evident at a time in which each educator, irrespective of his status, finds himself ever less able to determine his educational objectives yet in-

creasingly conscious of the urgent need to take decision on the role to be ascribed to self-development. The teacher of technological subjects in particular should train his pupils in the art of linking theory to practice and not to fail to associate the "why" with the "how" in an operational process. Vocational training, having developed into technological training, will not lose its formative character by dissociating itself from a strictly utilitarian concept of its function. And, assuming such a change of objectives, it is acknowledged that the enterprises would ultimately not stand to lose. Nor would the teaching personnel, for the gap which separates this form of training from the need for specialized knowledge linked with a specific workplace calls for and is already bringing about close cooperation between the training establishment and the firm, this in the interest of ensuring continuity between training and work and a smooth transition from training to work based on the simultaneous development of both abilities and potentialities.

Far from foregoing part of their autonomy and specificity as a result of a venture towards objectives which are other than purely academic, it appears that the teaching personnel are indeed likely to find these qualities reinforced by such an orientation. It is in any case necessary in a period of constant evolution to undertake a continuous redefinition of objectives and the ways and means of achieving them, and the discretion necessarily left thereby to the teacher as regards his own pedagogic approach will be of benefit to both

his own and his pupils' educational development. It is moreover in the light of precisely this aspect that efforts are now being made to develop teamwork and afford teachers greater autonomy, for example by allowing them to elaborate improved pedagogic approaches designed to reduce the number of academic failures and dropouts. It is to be hoped that this twofold development towards greater emphasis on the essentially "cultural" and towards closer cooperation with the world of work as the expression of a mutual desire for greater familiarity will afford teachers in the technological sector of education a higher standing and, more generally, that it will cause trainers in vocational training to be recognized as the equals of their colleagues in the general education sector and their counterparts engaged in industry.

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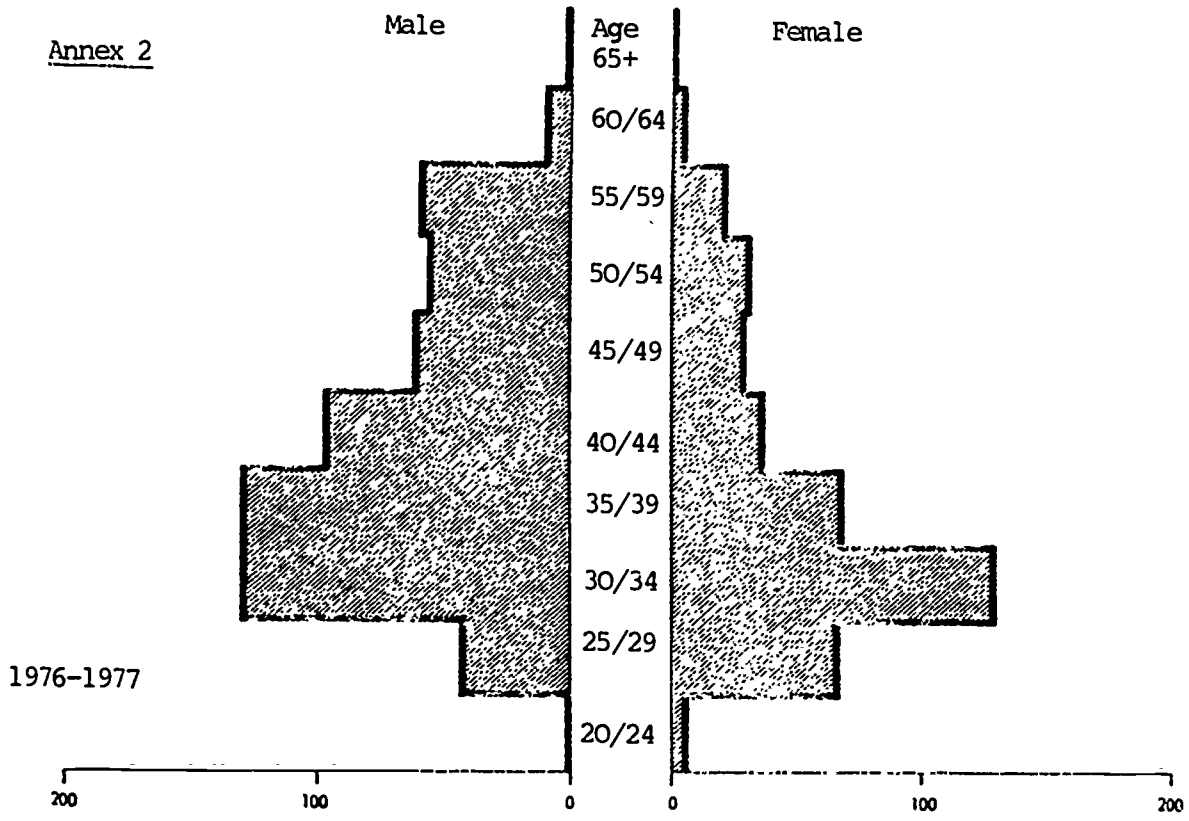
Annex 1

Definition of Qualification Levels

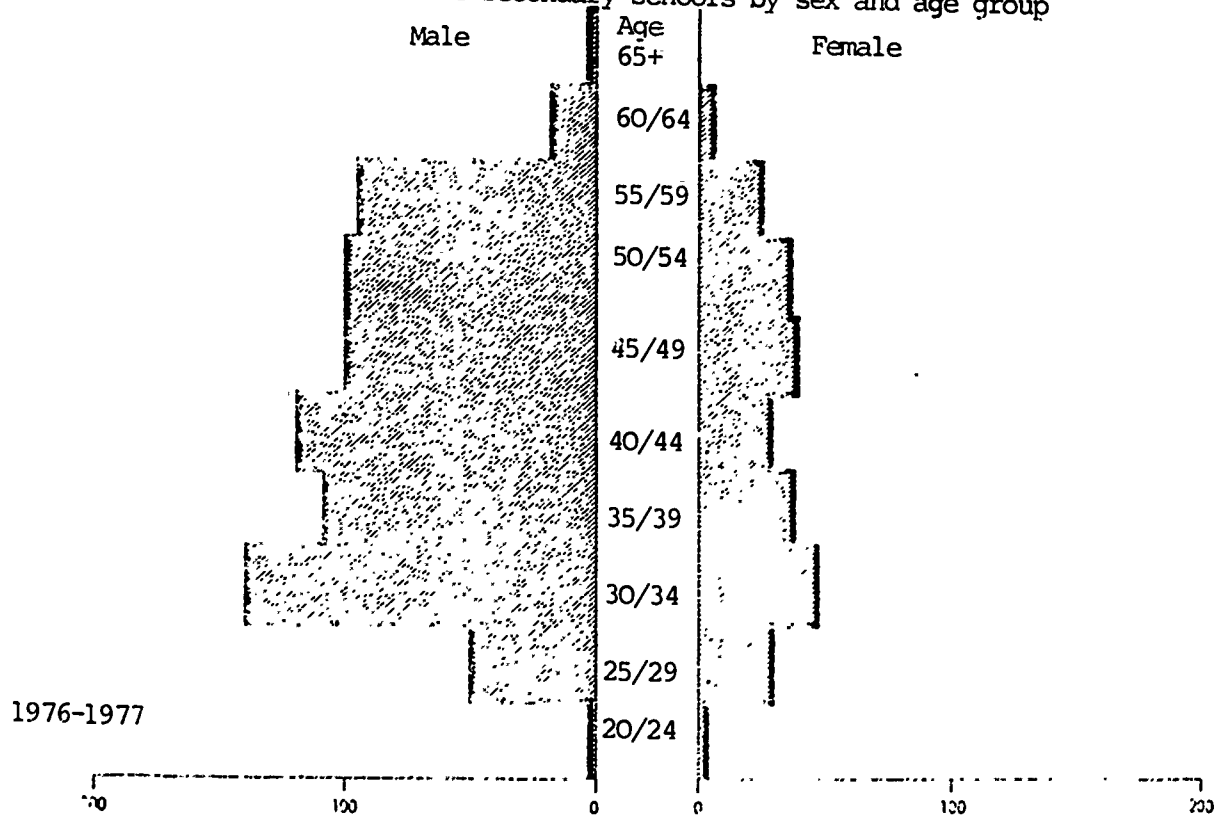
Qualification levels I and II	Training equivalent to a university first degree or diploma in engineering
Qualification level III	Training equivalent to the higher technical certificate (BTS) or the university diploma in technology (DUT)
Qualification level IV	Training equivalent to the technical baccalauréat (BTn) or the technician's certificate (BT)
Qualification level V	Training equivalent to the vocational studies certificate (BEP) or the vocational training certificate (CAP)
Qualification level VI	No vocational training

Annex 2

Breakdown of 1,000 teachers in vocational secondary schools by sex and age group



Breakdown of 1,000 teachers in the technical college sections of academic secondary schools by sex and age group



National training colleges for apprenticeship trainers (ENNA): Breakdown of trainees by year of birth

School year 1979-1980

Year of birth	Age	General education	Technical theory	Practical instruction	Total
1956 or later	23 years or less	47	216	35	298
1955	24 years	35	108	78	221
1954	25 years	65	90	112	267
1953	26 years	94	72	128	294
1952	27 years	96	53	132	281
1951	28 years	50	61	102	213
1950	29 years	63	46	99	208
1949	30 years	46	34	84	164
1948	31 years	26	22	93	141
1947	32 years	29	25	81	135
1946	33 years	15	18	60	93
1945 or before	34 years or more	22	24	317	363
Total		588	769	1,321	2,678

National training colleges for apprenticeship trainers (ENNA): Breakdown of trainees by qualification

School year 1979-1980

Qualification	General education	Technical theory	Practical instruction	Total
Master's degree	277	24	2	303
First degree	242	66	1	309
Entrance exam. for grandes écoles	10	17	1	28
DEUG, DEUL, DEUS, DEUJ, DUEE	45	23	3	17
DUT, BTS	8	587	359	954
8AC, 8Tn, 8T, BSEC	3	40	192	235
8P, continuing training	-	-	404	404
8EI, 8EP	-	1	125	126
CAP	1	1	199	201
Others	2	10	35	47
Total	588	769	1,321	2,678

Annex 3 (cont.)

Trainee teachers at the national training colleges for apprenticeship trainers (ENNA)

A correlation is discernible between trainee age group and the type of education in which the trainee is specializing. The most strongly represented age groups for the various types are as follows:

- general education	25-29 years
- technical education (theory)	under 24 years
- technical education (practice)	25-29 years, although mention should be made of a phenomenon peculiar to this type of education, namely that the number of trainees over 30 years is equal to that under 30.

Trainee teachers for general education subjects, many of whom already hold a master's degree or first degree (baccalauréat plus three or four years of further study) tend to be older than trainee teachers for the theoretical side of technical education, many of whom hold a university diploma in technology (DUT) or the higher technical certificate (BTS) (baccalauréat plus two years of further study).

The fact that many trainee teachers training for the practical side of technical education are considerably older than both the above categories of trainee can undoubtedly be explained by their previously having spent a considerable period in industry.

Annex 4

Teaching personnel in academic secondary schools servicing the long cycle of technical education

Full-time, half-time, part-time

Metropolitan France

School year 1979-1980

	Agrégés	Certif.	Licensed	Auxil.	Others	Total
Teaching superintendents and others holding corresponding posts						
G1 Technical education H	13	26	260	7	-	
G2 Humanities	-	-	4	2	-	
G3 Technical education F	-	1	16	2	1	
G4 Physics	-	2	6	6	1	
Economics	-	7	12	6	-	
Total	13	36	298	23	2	372
Technical education (theory)						
Pure + applied economics	320	3,066	32	1,276	13	
Mechanical engineering	272	1,379	20	249	3	
Construction	25	160	1	36	8	
Total	617	4,605	53	1,561	24	6,860
Technical education (practical)						
Production engineering	75	1,365	1,385	594	2	
Operations office	2	14	27	4	-	
Agricultural engineering	-	-	5	11	-	
Automotive electrics	-	1	58	44	-	
Metal punching	-	-	8	4	-	
Metal construction	-	3	44	25	2	
Sheet metalworking	2	-	160	29	-	
Foundry/modelling	1	1	46	11	-	
Foundry/moulding	-	-	1	1	-	
Mechanical modelling	-	2	20	6	-	
Micromechanics	-	5	49	20	-	
Chronometry	-	-	8	-	1	
Heat treatment	-	5	27	9	-	
Electroplastics	-	-	7	-	-	

Continued on next page

Annex 4 (cont.)

Control technology	1	1	18	2	-	
Electrotechnology	28	343	486	194	2	
Electronics	18	135	85	40	-	
Construction - civil eng.	2	45	93	93	2	
Heating installation	-	-	16	10	2	
Sanitary installation	-	-	12	5	-	
Surveyor/cost accountant	-	-	14	14	10	
Industrial ceramics	-	1	7	1	-	
Mirror manufacture	-	-	2	1	-	
Building - others	-	3	14	18	1	
Cabinet-making	-	-	10	12	-	
Automobile fittings	-	2	41	21	2	
Timber construction	-	-	27	23	-	
Timber merchant	-	-	8	-	-	
Sawmilling	-	-	2	-	-	
Horticulture	-	1	4	4	-	
Paper processing	-	-	2	-	-	
Synthetic materials	-	-	13	6	1	
Geometrician	-	-	27	2	4	
Engineering assistant	-	1	1	21	1	
Cinephotography	-	-	10	10	1	
Sound and video technology	-	-	2	5	1	
Optics	-	-	2	1	-	
Optical instruments	-	-	7	-	1	
Precision optics	-	-	1	-	-	
Printing	-	-	47	8	-	
Refrigeration	-	-	5	5	2	
Textile weaving	-	1	25	7	2	
Cobbling	-	-	10	5	-	
Leatherworking	-	-	2	2	-	
Corn trade	-	1	7	1	-	
Specialized handicrafts	12	27	61	53	19	
Garment industry	-	-	147	77	-	
Bleaching and dying	-	-	4	-	-	
Medical laboratory tech.	-	-	8	3	3	
Pediatrics	-	-	4	1	-	
Hospital technician	1	-	14	7	5	
Biochemistry-biology	2	17	44	12	1	
Dietetics	-	1	3	2	1	
Electroradiology	-	1	4	6	11	
Social education	-	8	254	171	32	
Domestic education	1	5	92	18	2	
Industrial chemistry	-	3	27	8	-	
Industrial physics	-	1	2	-	-	
Scientific glass manufacture	-	-	11	6	6	
Commerce	3	153	768	573	2	
Computer operation	-	-	3	1	-	
Data processing	2	6	54	19	1	
Hotel waiter	-	-	11	8	-	
Restaurant						
Cookery	-	-	39	32	-	
Pastrymaking	-	1	14	8	-	
Tourism	-	-	10	6	12	
Other specialisms	2	65	85	99	46	
Total	152	2,218	4,536	2,395	177	9,478
Grand total	782	6,859	4,887	3,979	203	16,710

Annex 5

Teaching personnel in vocational secondary schools (LEP) by discipline
Full-time, half-time and part-time

Metropolitan France
School year 1979-1980

	LEP teacher	Auxil.	Others
General education			
Arts - history	4,484	877	56
Arts - German	194	103	3
Arts - English	1,218	543	19
Arts - Spanish	33	51	4
Arts - Italian	12	10	2
Maths - sciences	4,360	924	56
Electronic sciences	52	12	-
Total	10,353	2,520	140
Theoretical education			
Accounting	2,299	989	29
Secretarial	2,879	1,019	26
Sales	294	117	6
Art and design	1,066	424	16
Industrial design, mechanical	1,356	353	21
Industrial design, construction	404	216	3
Surveying, drawing/calculation	45	8	1
Household economics	1,794	764	31
Social education	363	109	7
Total	10,500	3,999	140
Practical education			
General mechanics	6,330	921	29
Micromechanics	112	42	-
Automotive electrics	553	387	6
Agricultural mechanics	157	42	-
Metal construction	712	385	5
Metalwork	1,116	274	8
Automobile bodywork	178	167	-
Foundry - moulds	3	1	-
Moulding - coring	59	7	-
Mechanical modelling	24	5	2
Mechanical engineering, others	135	96	2
Electrotechnology	1,827	645	7
Electronics	153	61	6
Refrigeration/air conditioning	17	7	4
Masonry	813	287	-
Stonemasonry	26	9	1
Tiling	49	28	-

Continued on next page

Annex 5 (cont.)

Ceramics	13	12	-
Painting	355	302	2
Sanitary installation	547	408	3
Mirror manufacture	13	3	1
Carpentry	699	624	5
Shopfitting	51	38	3
Cabinet-making	94	59	3
Timber processing	5	6	3
Construction, timber, other spec.	229	191	8
Glass manufacture	8	4	-
Plastics processing	23	19	1
Machinery operation	52	20	-
Horticulture	41	25	5
HGV driver	108	80	-
Plant driver	19	6	-
Typographic composition	52	9	1
Typographic printing	40	11	-
Offset composition	14	11	1
Offset printing	17	7	2
Printing, other specialisms	20	10	6
Shoemaking	34	2	-
Textiles	30	23	1
Textiles for men	28	19	1
Dental prosthesis	24	8	1
Jewelry	10	12	1
Hairdressing	95	48	2
Bleaching	82	32	-
Hotel waiter	184	151	-
Cooking, restaurant	261	230	6
Cooking, institutional	64	171	3
Baking	12	8	-
Meat delicatessen	-	5	-
Public service employee	515	1,150	13
Couture	37	22	10
Ladies' tailor	1	-	-
Gentlemens' tailor	8	4	-
Knitwear manufacture	3	4	-
Machinist	3	8	-
Male garment industry	5	1	-
Embroidery	6	2	2
Textiles for women	21	6	-
Clothing, others	2,024	685	20
Other specialisms, male	116	130	21
Other specialisms, female	46	60	10
Total	18,273	7,990	203
Technical teaching superintendents			
Construction	117	8	1
Mechanical engineering	451	8	-
Clothing	178	14	2
Public service	36	8	-
Hotel	1	-	-
Total	783	38	3

Annex 6

List of Acronyms

AFPA	Association pour la formation professionnelle des adulte National Association for Adult Vocational Training
AFT	Association pour le développement de la formation professionnelle dans les transports Association for the Development of Vocational Training in the Transport Sector
ANPE	Agence nationale pour l'emploi National Employment Agency
APCM	Assemblée permanente des chambres des métiers Standing Assembly of the Chambers of Crafts
BEP (A)	Brevet d'études professionnelles (agricoles) Vocational studies certificate (in agriculture)
BT (A)	Brevet de technicien (agricole) Agricultural technician's certificate
BTn	Baccalauréat de technicien Baccalauréat in technology
BTS (A)	Brevet de technicien supérieur (agricole) Higher technical certificate in agriculture
CAECA	Certificat d'aptitude à l'enseignement dans les collèges agricoles Teaching certificate for agricultural training colleges
CAELEP	Certificat d'aptitude à l'enseignement dans les LEP Teaching certificate for service in vocational secondary schools
CAFOC	Centre académique de la formation continue Training Centre for Adult Education
CAP (A)	Certificat d'aptitude professionnelle (agricole) Vocational training certificate (in agriculture)
CAPES	Certificat d'aptitude au professorat de l'enseignement secondaire Teaching certificate for secondary education
CAPET	Certificat d'aptitude au professorat de l'enseignement technique Teaching certificate for service in technical education establishments

CAPLA	Certificat d'aptitude au professorat dans les lycées agricoles Teaching certificate for service in secondary agricultural schools
CAPT	Certificat d'aptitude au professorat technique Teaching certificate for technical training
CCCA	Comité central de coordination de l'apprentissage dans le bâtiment Central Coordination Committee for Apprenticeship in the Construction Industry
CCI	Chambre de commerce et industrie Chamber of Commerce and Industry
CEMEA	Centre d'entraînement aux méthodes d'éducation active Training Centre for Active Pedagogy
CEREQ	Centre d'Etudes et de Recherches sur les Qualifications Qualification Research Centre
CERPET	Centre de recherche et de perfectionnement de l'enseignement technique Technical Education Research and Training Centre
CFA (A)	Centre de Formation d'Apprentis (en Agriculture) (Agricultural) Apprenticeship Training Centre
CFPAJ	Centre de formation professionnelle agricole pour jeunes Youth Agricultural Training Centre
CPA	Classe préparatoire à l'apprentissage Pre-apprenticeship class
CPR	Centre pédagogique régional Regional Pedagogic Training Centre
DEA	Diplôme d'études approfondies Advanced studies diploma
DESS	Diplôme d'études supérieures spécialisées Diploma in higher specialized studies
DEUG	Diplôme d'études universitaires générales general university studies diploma
DUT	Diplôme universitaire de technologie University diploma in technology

ENFA	Ecole nationale de formation agronomique National College of Agronomy
ENNA	Ecole normale nationale d'apprentissage Training college for apprenticeship instructors
ENSAM	Ecole nationale supérieure des arts et métiers Post-secondary technical college
ENSET	Ecole normale supérieure de l'enseignement technique Technical teacher training college
GRETA	Groupement d'établissements (formation continue) Local educational subdistrict authority (continuing training)
INFPCEA	Institut national de formation des professeurs certifiés de l'enseignement agricole National Institute for the Training of Certified Teachers of Agricultural Specialisms
IUT	Institut universitaire de technologie University Institute of Technology
LEP (ex CET)	Lycée d'enseignement professionnel (ex Collège d'enseignement technique) Vocational secondary school (formerly technical secondary school)
ONISEP	Office national d'information sur les enseignements et les professions National Information Office on Training Courses and the Professions
PCEA	Professeur certifié de l'enseignement agricole Certified teacher for agricultural training
PCTA	Professeur de collège de l'enseignement technique agricole Teacher qualified for service in an agricultural college
PEGC	Professeur d'enseignement général de collège General lower secondary education teacher
PTA	Professeur technique adjoint Assistant technical teacher
RATP	Régie autonome des transports parisiens Paris Transport Company

UER	Unité d'enseignement et de recherche Teaching and research unit
UNEAP	Union nationale de l'enseignement agricole privé National Union of Private Agricultural Training Establishments
UNMFREO	Union nationale des maisons familiales rurales d'éducation et orientation National Union of Rural Education and Orientation Centres
UNREP	Union nationale rurale d'éducation et promotion National Union of Agricultural Training and Promotion National Union of Agricultural Training and Promotion Institutions

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