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ABSTRACT

This document on France is one of a series of five published by the European Centre for the Development of Vocational Training (CEDEFOP). The document includes a general introduction, two major parts, and seven appendices. Part 1 includes two chapters. The first chapter describes the small business sector and employment in France and the inadequacy of training investment in the small business sector. The second chapter describes the law and the institutions of further training in France and the training needs of heads of small businesses and craft enterprises. Part 2 includes four chapters. The first chapter describes the aims and methodology of the CEDEFOP study and the specific factors of concern in France. The second chapter describes the National Centre for Distance Learning (CNED), the Association for Adult Education (AFPA), and the independent distance learning institutions of France. The third chapter describes the prospects for integrating new technologies into distance learning. Conclusions are provided in the fourth chapter. Appendix 1 provides the descriptive form sheets for five distance learning projects. Appendix 2 lists the persons and institutions contributing to the study. Appendix 3 provides interview extracts. Guidelines for interviews are identified in Appendix 4. Appendix 5 provides the questionnaire for independent distance learning institutions. Appendix 6 provides a cost comparison for file transfers between personal computers. Appendix 7 provides a 24-item bibliography (in English and French). (CML)

CEDEFOP Document

Distance learning for heads of firms and managerial staff in the small-business sector in France

European Centre for the Development of Vocational Training

CEDEFOP Document

Distance learning for heads of firms and managerial staff in the small-business sector in France

The study was concluded in cooperation with Cerep Communication
The report was drawn up by
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The project was coordinated by Duccio Guerra (CEDEFOP)

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Introduction

The important role of small and medium-sized undertakings in the economy has created a growing interest in this sector.

At a time of recession, their flexibility has served as an economic buffer and, with economic revival, that flexibility is a decisive factor in their development.

The European economic area, indeed, is to a great extent made up of a close-knit fabric of small industrial firms, whose vital contribution to the creation of employment and wealth is clearly apparent from the statistics. It is hardly surprising that in formulating Community policies specific attention has been devoted to launching ventures in support of small industry, as typified by the programme of action for small and medium-sized enterprises (SMEs) adopted by the Council in 1986 and by the European Regional Development Fund, the European Social Fund and the setting up of a task force within the Commission of the European Communities to promote and administer a series of development and service measures to support SMEs.

There are many difficulties in setting up measures in favour of SMEs, the first being how to define the field. The parameters that have been used in the past to define small and medium-sized enterprises are no longer adequate, mainly because the dividing line between large and small concerns is based on the size of the work-force or the amount of invested capital.

Measures pertaining to vocational training are particularly complex to implement, for various reasons:

(i) firstly, it has not yet been fully realized that small firms are not a replica of large concerns in miniature, and that measures aimed at the latter will not be equally effective in meeting the training needs of the former;

(ii) in second place, investment in training implies programming and action in pursuance of medium-term corporate strategies, and such planning is sometimes beyond the capacity of small firms;

(iii) finally, small and medium-sized undertakings are rarely equipped to conduct their own internal training schemes, but at the same time they are by tradition wary of outside training.

The report presented here is based on a twofold assumption:

(a) that the success of the medium-sized and in particular the small firm depends to a great extent on the managerial abilities of the principal and the management staff, and therefore on their training;

(b) that, because small entrepreneurs are reluctant to be involved in collective training measures and have little time to devote to training themselves, distance learning might be a highly suitable method of training for this type of user.

In these circumstances, we felt that an effort should be made to find out about any distance learning that is targeted at a specific group such as the principals and management of small and medium-sized business and craft industry firms.

The purpose in so doing has been to 'measure' not so much the volume of the training that is available (we harboured no illusions as to its extensiveness) but the quality of that training, and above all the potential demand for and supply of distance learning.

Finally, we have sought confirmation for our belief that the avenue of transnational cooperation within the Community should be explored with far greater determination, especially as regards the use of distance learning for training.

The report, therefore, is part of a programme covering five Community Member States: Spain, France, the Federal Republic of Germany, the United Kingdom and Italy.

We see this first programme as the first step towards a whole series of measures designed to promote and support cooperation in the Community in the field of distance learning.

Duccio Guerra

Duccio Guerra
Project manager.

Contents

GENERAL INTRODUCTION

This report constitutes the French section of a study covering five EEC countries (Germany, the UK, Italy, Spain and France).

Its layout follows a plan common to all five reports.

It is designed:

- to describe the national situtation as regards training for heads of firms and managerial staff in the small business sector. This will be the subject of Part One of the study;

- to evaluate the supply of and demand for distance learning in relation to the small business sector;

- to assess the situation under study with a view to identifying possibe lines of action, especially as regards cooperation at European level to promote the development of distance learning for the target groups.

The last two subjects will be treated in Part Two.

Numerous publications and reports on experimental projects are available in France, covering:

-vocational training,
-the economic activities of the small business sector,
-distance learning,
-the use of technologies in training.

CEDEFOP reviews them frequently and maintains contact with a number of specialized organizations in France, including the Centre INFFO, the Vocational Training Office, INSEE, CEREP COMMUNICATION, the Chambers of Commerce and Industry, and the trade associations.

We did not wish to make a new summary of existing material, but rather to throw light on certain specific questions we encountered. This was especially the case with regard to the subjects chosen for Chapters 2 and 3 in Part Two.

We accepted the risk of appearing partial while hoping that our selection of projects and experiments, rich in invaluable data for the future of distance learning applied to the small business sector, would prove to be representative.

In our conclusions (Part Two, Chapter 4) we have attempted to draw some lessons from this material.

PART ONE

TRAINING SITUATION
IN THE CRAFTS AND SMALL BUSINESS SECTOR
IN FRANCE

INTRODUCTION

These few pages cannot, of course, provide more than a rapid overview of the subject: an in-depth study would call for an extended investigation going well beyond the framework of this report.

The first chapter, mainly statistical, illustrates the relative weight of the sector concerned in the French economy as a whole and its situation in respect of training. Sources for the figures quoted are: INSEE (Institut National de la Statistique et des Etudes Economiques - National Institute for Statistical and Economic Studies); CEREQ (Centre d'Etudes et de Recherches sur les Qualifications - Centre for Research on Qualifications);the Ministry of Labour, Employment and Vocational Training and, finally, UNEDIC (Union Nationale pour l'Emploi dans l'Industrie et le Commerce - National Union for Employment in Trade and Industry). Readers should be advised of two problems regarding the presentation of these statisics.

The first concerns the definition of 'small and medium-sized enterprises': in France, the ceiling adopted is 500 employees, but obviously in certain sectors of activity a business employing several hundred workers cannot really be described as 'small' or 'medium-sized'.

The second problem relates to French law on vocational training.

Only businesses employing 10 workers or more are obliged to undertake a minimum of expenditure on training (1.1% of the gross annual wage bill) and make a declaration to the authorities indicating how it has been allocated. It follows that while we have very precise statistics on training for the workers concerned, there is no reliable data on training for the heads of these businesses, nor for workers in smaller firms, nor - of course - for the crafts sector.

The second chapter begins with a brief description of the legal framework and the further training institutions in France and continues with an attempt to evaluate training practices, demand and needs in relation to the heads and management staff of small businesses. This chapter is more subjective and is based on our own experience of the world of training, a bibliography and a series of interviews with representatives of official and specialized bodies and training policy makers concerned with the crafts and small business sector. A list of books and publications consulted and persons interviewed is annexed to the report.

CHAPTER 1

STATISTICAL DATA ON THE CRAFTS AND SMALL BUSINESS SECTOR:

SHARE IN OVERALL EMPLOYMENT

AND PARTICIPATION IN TRAINING ACTIVITIES

SECTION 1 : THE SMALL BUSINESS SECTOR AND EMPLOYMENT IN FRANCE: THE BASIC DATA

From Table 1 we see that in 1984, 83.87% of all workers (not including the public service) worked in establishments with less than 500 employees (i.e 10.7 million out of 12.7 million) while almost 50% worked in establishments employing 50 persons or less. These averages mask sharp disparities: taking as an indicator of the predominance of a certain type of enterprise in a given economic sector the fact that the number of workers in this sector employed in these enterprises exceeds the average, the following breakdown may be deduced from the table:

- Sectors in which small businesses predominate

Economic sectors in which the percentage of workers employed in firms with less than 10 employees exceeds the overall average (22.84%):

-agriculture and fishery
-other food industries
-building and civil engineering
-wholesale food trade
-wholesale non-food trade

TABLE 1 - EMPLOYMENT: BREAKDOWN BY SECTOR AND SIZE OF ESTABLISHMENT, 31.12.1984 - (Source: UNEDIC)

(Number of workers)

	1 - 4	5 - 9	Total -10	10 - 19	20 - 49	Total -50	50 - 99	Total -100	100 - 199	200 - 499	Total -500	500 & over
Agriculture & fisheries	11,78	14,73	26,51	17,65	15,84	60	10,15	70,15	X	10,72	X	X
Milk & meat production..	1,55	3,31	4,86	5,97	17,05	27,88	15,28	43,16	17,48	24,65	85,29	14,71
Other food industries...	16,95	15,64	32,59	8,89	11,86	53,34	8,88	62,14	11,97	13,82	87,93	11,99
Solid fuels	-	X	X	14,77	36,61	X	-	X	X	-	X	-
Petroleum & natural gas production	0,63	0,89	1,52	2,64	5,61	9,77	5,10	14,87	3,30	15,13	33,30	66,70
Electricity, gas & water	2,80	3,85	6,65	6,41	19,75	32,81	18,63	51,44	16,66	13,98	82,08	17,92
Iron & steel.....	0,18	0,43	0,61	0,79	2,32	3,72	3,12	6,84	4,75	12,84	24,43	75,57
Non-ferrous metals... ..	0,39	1,16	1,55	1,53	4,55	7,63	6,06	13,69	10,78	27,64	52,11	47,89
Building materials.....	4,72	9,02	13,74	12,22	22,21	48,17	14,26	62,43	16,83	16,92	96,18	3,82
Glassmaking.....	1,26	2,95	4,21	4,42	6,71	15,34	6,96	22,3	6,14	13,17	41,61	58,39
Basic chemicals.....	0,72	1,44	2,16	2,78	6,82	11,76	7,52	19,23	11,43	22,91	53,62	46,38
Processed chemicals, pharmac	0,94	2,01	2,95	3,31	8,72	14,98	10,03	25,01	15,42	37,71	72,54	27,86
Smelting & metalworking	3,02	7,07	10,09	9,71	21,10	40,90	13,73	54,63	14,64	17,48	86,75	13,25
Mechanical engineering.	3,49	5,72	9,21	7,37	17,65	34,23	13,23	47,46	15,03	18,96	81,45	18,55
Road transport equipment	0,39	0,67	1,06	1,03	2,97	5,06	2,99	8,05	4,45	12,07	24,57	75,43
Shipbuilding & aircraft manufacture.....	0,51	0,85	1,36	1,12	2,75	5,23	3,63	8,86	2,81	10,30	21,97	78,03
Textiles & clothing....	2,90	5,21	8,11	6,18	18,18	32,47	15,93	48,40	19,60	21,80	89,80	10,20
Leather & shoemaking...	2,40	3,59	5,99	5,37	17,10	28,46	16,73	45,19	18,31	22,65	86,15	13,85
Timber & related industries.....	7,24	9,14	16,38	10,73	22,62	49,73	15,90	65,63	16,15	12,80	94,58	5,42
Paper & cardboard.....	0,95	2,52	3,47	3,54	11,89	18,9	13,72	32,62	27,28	30,24	85,14	15,46
Printing, newspapers & publishing.....	6,42	11,03	17,45	11,30	21,29	50,04	12,31	62,35	12,54	15,46	90,35	9,65
Rubber & plastics.....	1,21	3,01	4,22	4,60	12,70	21,52	11,36	32,88	13,93	16,37	63,18	36,82
Building & civil engineering	15,55	16,16	31,71	13,64	21,20	66,55	11,88	78,43	9,64	7,34	95,41	4,59
Wholesale trade, food..	9,25	14,61	23,86	16,24	26,41	66,51	13	79,51	11,11	6,25	96,87	3,13
Wholesale trade, non-food	8,45	15,13	23,58	17,63	27,78	68,99	13,82	82,81	8,83	6,28	97,92	2,08
Retail trade, food.....	18,45	11,19	29,64	9,65	17,44	56,73	10,67	67,4	10,20	17,58	95,18	4,82
Retail trade, non-food.	31,44	26,35	57,79	12,46	10,85	81,11	4,36	85,46	4,37	5,33	95,16	4,84
Motor vehicle trade, servicing & repair.....	20,01	20,19	40,20	14,58	22,02	76,80	12,31	89,11	7,13	2,54	98,78	1,22
Hotels & catering.....	27,09	23,10	50,19	16,37	17,70	84,26	6,07	90,96	3,94	3,14	98,04	2,59
Transport.....	6,53	10,50	17,03	11,82	23,42	52,27	14,64	66,91	11,75	9,87	88,53	11,47
Business services.....	17,30	16,90	34,2	12,94	19,34	66,48	11,88	78,36	8,77	7,35	94,48	5,52
Personal services.....	19,96	9,68	29,64	8,11	15,90	53,65	13,22	66,87	13,16	11,34	91,79	8,63
Real estate leasing....	13,26	12,33	25,59	10,58	18,51	54,68	15,88	70,56	15,68	13,76	100	- -
Insurance.....	7,65	3,65	6,30	5,96	10,99	23,25	8,19	31,44	8,93	14,45	54,82	45,18
Financial institutions.	3,99	8,97	12,96	10,02	12,90	35,88	11,14	47,02	11,81	15,41	74,24	25,76
Non-market services....	11,32	8,40	19,72	10,34	20,62	50,68	13,38	64,06	9,84	12,40	86,30	13,70
Electrical engineering, other uses.....	1,31	2,71	4,02	3,68	8,46	16,16	6,79	22,95	9,83	20,71	53,49	46,51
	11,56	11,28	22,84	10	17,01	49,85	11,09	60,94	10,60	12,33	83,87	16,13

X : the law on statistical secrecy prevents the publication of these figures

-retail food trade
-retail trade, non-food
-motor vehicle trade, servicing and repair
-hotels, cafés and restaurants
-business services
-personal services
-real estate leasing.

Economic sectors (other than the foregoing) in which the percentage of workers employed in firms with less than 50 employees exceeds the overall average (49.85%):

-printing, newspapers and publishing
-transport
-non-market services.

- Sectors in which medium-sized businesses predominate

Economic sectors (other then the foregoing) in which the percentage of workers employed in firms with less than 100 employees exceeds the overall average (60.94%):

-building materials
-timber and related industries (e.g furniture etc.).

Economic sectors (other than the foregoing) in which the percentage of workers employed in firms with less than 500 employees exceeds the overall average (83.87):

-textiles and clothing
-leather and shoemaking
-paper and cardboard.

We shall go on to relate this breakdown to the information to be drawn from Table 2, in which the categories 'engineer', 'manager' and 'technician' have been totalized since it seems to us that together they can be considered as managerial staff in the context of the small business sector. Overall, they account for 19.53% of all employees in the sector: however, if those economic sectors showing a higher percentage than this are picked out, we obtain a list which only partly corresponds to our list of sectors defined as those in which small businesses predominate.

Economic sectors in which the percentage of managerial staff exceeds the average (19.53%)

-petroleum and natural gas production
-electricity and gas and water distribution
-basic chemicals

TABLE 2 - EMPLOYMENT, 1983: % BREAKDOWN BY SECTOR AND EMPLOYEE CATEGORY

(Source: Ministry of Labour, Employment and Vocational Training)

		Engineers, production	Managerial grades, services	Technicians production	Technicians services	TOTAL MANAGERIAL	Supervisory staff, production
Agriculture & fisheries	01	1,62	3,15	7,52	6,07	18,36	4,30
Milk & meat production	02	1,01	3,90	2,54	3,17	10,62	2,77
Other food industries	03	1,42	5,53	2,55	4,82	14,32	3,42
Solid fuels	04	1,07	0,94	5,50	0,61	8,12	6,65
Petr. & nat. gas production	05	8,50	10,61	21,89	3,89	44,89	3,53
Electricity, gas & water	06	6,69	5,27	19,79	3,84	35,55	9,59
Iron & steel	07	1,67	2,36	10,11	1,52	15,66	7,18
Non-ferrous metals	08	3,08	3,44	10,95	1,91	19,38	6,08
Building materials	09	1,74	4,46	4,37	2,13	12,65	5,47
Glassmaking	10	1,44	2,99	4,91	1,61	10,95	4,52
Basic chemicals, fibres	11	4,39	4,90	12,46	2,52	24,27	6,35
Processed chemicals, pharmaceutical	12	2,65	9,98	6,60	13,83	33,06	3,15
Smelting & metalworking	13	1,88	3,85	5,59	2,04	13,36	5,75
Mechanical engineering	14	3,39	4,97	10,00	3,16	21,52	5,26
Electrical engineering	15	5,83	8,11	14,78	3,24	31,96	3,93
Road transport equipment	16	1,71	2,76	9,20	1,50	14,67	4,30
Shipbuilding & aircraft manuf.	17	7,90	3,77	21,61	2,24	35,52	4,70
Textile & clothing	18	0,87	2,94	1,60	2,90	8,31	3,80
Leather & shoemaking	19	0,75	2,54	1,47	3,06	7,82	3,22
Timber & related industries	20	0,80	4,17	2,50	3,14	10,61	4,17
Paper & cardboard	21	1,61	4,03	3,42	3,15	12,21	4,39
Printing, newspapers & publishing	22	1,25	14,74	2,33	6,60	24,92	2,74
Rubber & plastics	23	1,49	3,38	6,59	2,81	14,27	5,21
Building & civil engineering	24	2,91	3,05	4,69	0,72	11,37	9,47
Wholesale trade, food	25	0,64	8,48	1,14	8,75	19,01	1,21
Wholesale trade, non-food	26	1,34	12,79	2,49	15,65	32,27	1,45
Retail trade, food	27	0,06	5,02	0,19	2,40	7,67	0,36
Retail trade, non-food	28	0,23	8,46	0,54	14,45	23,68	0,38
Motor vehicle trade, servicing, repair	29	0,59	6,61	0,67	2,74	10,61	5,31
Hotels and catering	30	0,05	8,40	0,13	4,35	12,93	0,31
Transport	31	1,74	5,04	1,86	3,13	11,77	5,06
Business services	33	4,76	14,71	7,66	7,22	34,35	0,82
Personal services	34	0,27	11,10	1,55	12,54	25,46	1,41
Real estate leasing	35	1,38	7,57	2,06	2,17	13,18	2,24
Insurance	36	0,11	15,25	0,19	14,49	30,04	0,05
Financial institutions	37	0,09	14,81	0,11	2,91	17,58	0,10
Non-market services	38	1,45	15,45	1,99	3,22	22,11	0,26
TOTAL		2,12	7,33	5,15	4,93	19,53	3,75

		Skilled workers	Unskilled workers	Supervisory staff, services	White collar workers, skilled	White collar workers unskilled	Various occupations	TOTAL
Agriculture & fisheries	01	33,33	26,43	1,54	12,25	2,82	0,91	100,00
Milk & meat production	02	31,33	32,47	1,57	18,76	2,30	0,12	100,00
Other food industries	03	27,71	32,45	2,12	16,05	3,58	0,29	100,00
Solid fuels	04	52,35	23,32	0,79	6,07	2,30	0,34	100,00
Petr. & nat. gas production	05	20,69	4,23	4,65	19,45	1,88	0,62	100,00
Electricity, gas & water	06	24,72	1,71	9,07	18,03	0,74	0,50	100,00
Iron & steel	07	40,14	23,56	1,97	9,16	2,14	0,13	100,00
Non-ferrous metals	08	39,25	20,73	1,46	10,44	2,53	0,06	100,00
Building materials	09	35,20	30,63	1,02	13,19	1,72	0,08	100,00
Glassmaking	10	43,96	29,53	0,94	7,90	1,99	0,17	100,00
Basic chemicals, fibres	11	42,17	8,91	2,48	12,89	2,78	0,07	100,00
Processed chemicals, pharmaceutical	12	26,30	14,91	2,66	16,24	3,37	0,25	100,00
Smelting & metalworking	13	38,69	31,70	0,92	7,56	1,79	0,18	100,00
Mechanical engineering	14	41,56	18,50	1,14	9,58	2,28	0,12	100,00
Electrical engineering	15	24,06	26,33	1,32	10,20	2705	0,10	100,00
Road transport equipment	16	33,38	38,93	1,00	5,91	1,60	0,15	100,00
Shipbuilding & aircraft manuf.	17	42,05	5,61	1,27	8,69	1,78	0,33	100,00
Textile & clothing	18	52,89	25,06	0,70	7,11	1,94	0,15	100,00
Leather & shoemaking	19	51,64	29,58	0,51	5,51	1,34	0,32	100,00
Timber & related industries	20	30,81	42,04	0,85	9,14	2,04	0,29	100,00
Paper & cardboard	21	34,34	36,32	1,38	9,16	2,08	0,05	100,00
Printing, newspapers & publishing	22	37,60	12,54	1,30	15,55	4,42	0,86	100,00
Rubber & plastics	23	28,95	41,17	1,02	7,31	1,95	0,17	100,00
Building & civil engineering	24	55,25	12747	0,38	9,70	1,20	0,10	100,00
Wholesale trade, food	25	15,56	21,17	4,25	33780	4,82	0,14	100,00
Wholesale trade, non-food	26	16,54	9,95	3,76	30,50	5,33	0,16	100,00
Retail trade, food	27	13,47	7,56	7,00	42,92	20,63	0,33	100,00
Retail trade, non-food	28	10,46	7,44	4,69	42,34	10,78	0,17	100,00
Motor vehicle trade, servicing, repair	29	42,57	10,50	2,74	22,53	5,39	0,30	100,00
Hotels and catering	30	14,13	1,80	1,48	24,83	03,29	1,18	100,00
Transport	31	15,86	8,98	6,70	47,06	3,83	0,69	100,00
Business services	33	8,54	9,49	2,39	30,71	10,74	2,91	100,00
Personal services	34	7,94	13,06	0,64	14,08	35,45	1,90	100,00
Real estate leasing	35	8,99	12765	2,34	24,82	35,07	0,66	100,00
Insurance	36	1,02	0,44	9,69	49,18	9,20	0,33	100,00
Financial institutions	37	0,54	0,18	24,01	49,75	7,32	0,14	100,00
Non-market services	38	3,27	1,84	4,46	41,25	17,33	9,45	100,00
TOTAL		26,80	17,09	3,25	21,16	7,41	0,97	100,00

-processed chemicals, pharmaceuticals
-mechanical engineering
-electrical and electronic engineering
-shipbuilding, aircraft manufacture
-printing, newspapers and publishing)
-wholesale trade, non-food)
-retail trade, non-food) Sectors in which small businesses predominate
-business services)
-personal services)
-insurance)
-non-market services.)

Taken together, these comments enable us to put forward a preliminary hypothesis concerning training needs:

The small business sector is extremely heterogeneous both as regards the scale of its establishments and the variety of its economic activities; in addition, the percentage of managerial staff employed is relatively low. It is probable, therefore, that the potential market for training for this staff is highly segmented into fairly small groups with specific requirements.

Table 3 tends to support this hypothesis, showing that in 1984, of slightly more than a million enterprises with no employees, three- quarters were active in the market sector - heterogeneous though it may be.

Table 3: Number of enterprises with no employees, by major economic sector, 1984 (000's)

(Source: INSEE employment survey, March 1984)

Agriculture & food industry	21.7	Financial services	18.1
Manufacturing industry	87.2	Market sector (excluding financial services)	751.5
Building & public works	169.2		
		TOTAL	1047.7

SECTION 2: THE INADEQUACY OF TRAINING INVESTMENT IN THE SMALL BUSINESS SECTOR

As we saw earlier, French law on vocational training requires all businesses

employing 10 or more workers to devote an amount corresponding to at least 1.1% of their gross annual wage bill to this purpose. Table 4 gives a breakdown of the resulting expenditure, which amounted to over FF18000 million in 1983. While the average exceeds this minimum rate by over one point, the higher rates are to be found essentially among the larger firms, those with less than 50 workers merely meeting their legal obligation and those with up to 500 exceeding it by a small margin.

It is significant that the relative inadequacy of the resources devoted to training by small businesses concerns all areas of economic activity. The scale of the businesses therefore seems to be in itself a limiting factor; however it may also be noted that the economic sectors in which small businesses predominate are not in general very dynamic in this area - even where large firms are concerned (with the notable exception of the transport sector).

It may be thought, then, that independently of the question of scale, the nature of the economic activities in which small businesses are most frequently involved also plays a part.

This point is clearly illustrated by the following table showing a breakdown

TABLE 4 - RESOURCES DEVOTED BY FIRMS TO TRAINING THEIR WORK FORCE AS % OF GROSS WAGE BILL, 1983: BREAKDOWN BY SECTOR AND SIZE OF FIRM (Source: CEREQ)

SECTOR		Number of employees 1 10 - 19	2 20 - 49	3 50 - 499	4 500 - 1999	5 2 000 & over	Average
Agriculture, forestry & fisheries	T 01	1,14	1,06	1,27	1,72	*	1,60
Milk & meat production	T 02	0,99	1,13	1,17	1,43	1,84	1,36
Other food industries	T 03	0,98	1,11	1,31	1,61	2,05	1,53
Solid fuel production, coking	T 04	0,94	*	-	-	5,25	5,25
Petroleum & natural gas production	T 05	0,93	1,37	1,87	*	3,56	3,41
Electricity production & distribution, gas & water distribution	T 06	1,99	1,43	2,18	1,80	6,84	6,39
Production of metalliferous ores, first stage processing of steel	T 07	1,04	1,11	1,33	1,44	2,57	2,32
Production and preparation of non-ferrous metal ores	T 08	1,03	1,12	1,48	1,87	2,18	1,98
Production of building materials and other minerals	T 09	1,06	1,13	1,27	1,46	2,54	1,54
Glassmaking	T 10	0,99	1,02	1,39	1,39	1,71	1,54
Basic chemicals, man-made fibres & yarns	T 11	0,91	1,20	1,57	1,98	2,42	2,16
Processed chemicals & pharmaceuticals	T 12	0,97	1,13	1,68	2,09	2,87	2,01
Smelting & metalworking	T 13	1,01	1,11	1,75	1,53	1,69	1,30
Mechanical engineering	T 14	1,01	1,09	1,27	1,74	1,66	1,40
Electrical engineering & electronics	T 15	1,16	1,17	1,34	2,20	3,49	2,78
Motor vehicles & road transport equipment	T 16	0,86	1,09	1,28	1,47	2,10	1,94
Shipbuilding, aircraft manufacture & armaments	T 17	0,92	1,11	1,42	1,56	1,84	1,75
Textile & clothing	T 18	0,99	1,08	1,24	1,26	1,81	1,27
Leather & shoemaking	T 19	1,01	1,01	1,12	1,27	1,40	1,17
Timber, furniture & other industries	T 20	0,97	1,03	1,16	1,29	*	1,13
Paper & cardboard	T 21	0,90	1,13	1,23	1,73	1,56	1,40
Printing, newspapers & publishing	T 22	0,98	1,06	1,26	1,66	*	1,31
Rubber & plastics processing	T 23	1,49	1,09	1,26	1,50	3,13	2,07
Building, civil and agricultural engineering	T 24	1,11	1,13	1,16	1,37	1,17	1,18
Wholesale trade, food	T 25	1,03	1,14	1,26	1,55	1,83	1,25
Wholesale trade, non-food	T 26	1,08	1,12	1,42	1,96	2,12	1,42
Retail trade, food	T 27	0,94	1,19	1,21	1,35	1,67	1,45
Retail trade, non food	T 28	1,01	1,04	1,31	1,54	1,47	1,26
Motor vehicle trade, servicing & repair	T 29	1,11	1,37	1,39	1,58	2,30	1,46
Hotels and catering	T 30	1,07	1,15	1,33	1,89	1,64	1,36
Transport	T 31	1,10	1,10	1,65	1,57	5,80	4,09
Business services	T 33	1,26	1,35	1,70	2,07	2,68	1,75
Personal services	T 34	1,08	1,12	1,21	1,39	2,02	1,31
Real estate leasing	T 35	1,02	1,11	1,36	1,44	-	1,30
Insurance	T 36	1,08	1,55	1,91	2,62	3,34	2,86
Financial institutions	T 37	1,88	1,93	2,54	3,39	3,81	3,44
Non market services	T 39	1,35	1,45	2,25	2,91	3,57	2,54
TOTAL		1,10	1,17	1,47	1,94	3,36	2,14

* Data not supplied since there are less than 3 firms of this size in the sector (law on statistical secrecy).

by scale of enterprise of the proportion of workers having followed a training course:

10 - 19 workers	5.5%
20 - 49 workers	6.8%
50 - 499 workers	13.4%
500 - 1 999 workers	22.3%
over 2000 workers	34.9%

These figures correct the impression of relative equality of treatment as between managerial staff in small businesses and major enterprises given by Table 5: if, proportionately, small business sector trainees are more often engineers or managerial grades than those from the major enterprises, it is nevertheless true that a manager from a business employing less than 10 workers is statistically seven times less likely to have followed a training course than his opposite number from a firm employing over 2000 (see Table 6).

As pointed out above, these statistics do not cover workers in very small firms or the entrepreneurs themselves. However, nothing in the French vocational training system suggests that the tendency for the resources devoted to training to decline proportionately with the scale of the enterprise concerned will be reversed below the threshold of 10 employees. On the

TABLE 5 - EMPLOYEES IN TRAINING: % BREAKDOWN BY CATEGORY AND SIZE OF FIRM, 1983 (Source: CLRQ)

CATEGORY	Number of workers in firm					
	1 10 - 19	2 20 - 49	3 50 - 499	4 500 - 1999	5 over 2000	TOTAL
Unskilled or semi-skilled	6	7	10	9	8	9
Skilled	14	17	20	17	30	25
White collar	40	34	28	29	20	24
Supervisory staff, technicians	14	16	21	25	29	25
Engineers, managerial grades	26	26	21	20	13	17
TOTAL	100	100	100	100	100	100

Number of employees	Number engineers and managerial staff	Number trainee engineers and managerial staff	Trainees as % of number employed
10 - 19	90 198	352	0,39
20 - 49	177 595	1 058	0,59
50 - 499	326 746	3 730	1,14
500 - 1999	185 034	3 382	1,83
over 2000	257 447	6 913	2,68
TOTAL	1 027 020	15 435	1,50

contrary, the absence of any obligation is likely to strengthen this tendency - a comment which also holds true for the heads of enterprises.

We may therefore conclude this chapter by adding a rider to the hypothesis set out above:

On the basis of statistical analysis, it appears that the training needs of managerial staff and heads of firms in the small business sector are extremely diverse; in addition, those needs are far less well appreciated - and thus catered for - by the vocational training system than are the needs of employees of large scale firms.

CHAPTER 2

THE ORGANIZATION OF TRAINING

IN THE CRAFTS AND SMALL BUSINESS SECTOR

SECTION 1 - FURTHER TRAINING IN FRANCE: THE LAW AND THE INSTITUTIONS

French law on further training, consolidated in the Labour Code, and the institutions proceeding from it, form a particularly complex whole. In essence, however, the situation may be summarized as follows: the law lays down binding provisions for the financing of training but leaves considerable latitude to the two sides of industry as regards its management and organization. Training may be organized jointly or on the initiative of the employers alone, at firm level or through bodies associating several firms on the basis of sector of activity or location, for example.

In describing this system, the best way to begin is with the principal sources of financing. They are the following:

1) The central and regional authorities, which essentially finance all or part of the training provision for **non wage-earners**, i.e:

-job-seekers, with particular emphasis on young first job seekers leaving the education system without adequate vocational qualifications;

-'special' groups, e.g. migrants, the handicapped, prisoners etc;

-tradesmen, craftsmen, farmers.

For these groups, financing is devoted to maintaining a minimum level of remuneration for trainees during the course and subsidizing the training bodies. In the case of craftsmen, training must be organized either by the Chambers of Trade or the trade associations in the various crafts sectors; the public authorities intervene mainly to provide income support for trainees in so far as attendance at the course prevents the normal exercise of their profession. It follows, therefore, that apart from exceptional cases neither the central nor the regional authorities finance distance learning operations specific to craftsmen.

2) Firms with 10 or more workers, which are responsible for the training of employees.

Under the law, these firms are obliged to devote at least 1.1% of their gross annual wage bill to training (this provision was introduced by the law of 1971 establishing the legal framework for the French further training system. For 1987 the figure was initially 0.8%). Of the mandatory 1.1%, the following amounts must be allocated:

-0.1% in the form of contributions to the joint bodies financing training leave. This type of leave, taken by workers on their own initiative to follow a training course of their choice, is unpaid and the function of these joint bodies is to make good the resulting pay loss.

-0.2% goes to finance training/work experience schemes for job-seekers aged 16 - 25. This obligation may be met either directly - the firm itself taking on young workers on conditions governed by law - or indirectly through contributions to officially approved joint bodies organizing this form of training, or simply by payments to the Treasury.

This leaves 0.8% available for firms to finance the training of their own workers (it may be recalled that this figure is a minimum but as we saw in the preceding chapter, small businesses do not in general greatly exceed their legal obligation). In the main, there are two ways in which these training operations may be financed:

-either the firm organizes training operations itself, using its own resources or calling on outside instructors, or it can enroll its workers in inter-firm operations (which may be distance learning schemes);

-alternatively, the firm can devote all or part of the 0.8% to contributions:

-to a training/insurance fund (fonds d'assurance-formation - F.A.F). These funds are joint bodies pooling resources among enterprises: in exchange for its contribution the firm receives 'drawing rights' enabling it to obtain, from one year to another, a higher level of financing for the training of its workers than could be obtained from its own resources alone.

While membership of an F.A.F is normally optional for the individual firm, it may become obligatory under the terms of a collective agreement to which the firm subscribes. F.A.Fs may be organized at national or local level, by occupational sector or branch, or on an inter-trade basis.

-or to a training association (ASFO). The ASFOs are associations at trade or inter-trade level originally formed by employers (but which may include joint bodies - e.g the 'conseils de perfectionnement' - further training councils). Their function is similar to that of the training/insurance funds, but with this difference: the ASFOs provide training themselves and while their member firms receive 'drawing rights' corresponding to their contributions, the pooling of funds applies only in relation to unused balances and is then effected in a manner determined by law.

This brief description of the legal and institutional framework of the French further training system is a very simplified one; however, it enables certain conclusions to be drawn for the purposes of this study;

1) training for managerial staff and heads of small businesses is not explicitly provided for;

2) training for heads of businesses as such is not provided for within the general legal framework governing further training;

3) the mandatory financing of training does not cover workers in the smallest enterprises;

4) no special encouragement is given to distance learning.

It follows that the supply of training of this type depends solely on the often haphazard initiatives of representative institutions in this field - i.e. chambers of commerce and industry, training/insurance funds, ASFOs or trade associations - although no clear definition exists of their prerogatives in this area.

Given the foregoing it is hardly surprising that the supply of training for craftsmen and the heads and manangerial staff of small businesses is inadequate in relation to needs and that distance learning facilities are almost non-existent.

SECTION 2 - THE TRAINING NEEDS OF HEADS OF SMALL BUSINESSES AND CRAFT ENTERPRISES: A PRELIMINARY EVALUATION

As far as we are aware, no material dealing with this subject specifically and scientifically exists in France.

Our evaluation mainly derives, therefore:

-from our own experience as instructor and designer of training programmes and from meetings in this context with many instructors, heads of firms, trade unionists and personnel responsible for training in the small business sector;

-from our involvement in the planning of vocational training in France in the years 1984-86: this entailed the preparation of 'Regional outline plans for vocational training', during which particular attention was devoted to training for the heads of small businesses;

-from a series of interviews conducted for this study with training policy makers concerned with craftsmen and the heads of small businesses (see Annex 3).

While this data may have been acquired from a somewhat empirical and subjective viewpoint, it is nonetheless sufficiently exhaustive for the concordance of the various assessments to be viewed as significant.

The most unanimously recognized need concerns adaptability and capacity for change: craftsmen and the heads and managerial staff of small businesses are seen as having little capacity to absorb information from the technological and economic environment, reluctant to question their working and management methods and lacking motivation to seek further training to meet changing conditions on their own initiative.

This general observation implies very specific training needs, especially as regards technological change, the evolution of markets and competition (particularly with 1992 in prospect). Nevertheless, there is a need here for an overall reform of the mentality and attitudes of the target groups, of which further training can only be one aspect; at the same time, suitable vocational information facilities must be developed and efforts made concerning initial training (at school - or at least before establishing a business).

The availability of training is considered to be particularly inadequate in the most advanced areas of technology, such as productics or computer-assisted design, and as regards management techniques - especially for long-established craftsmen.

Apart from these two salient weaknesses, training provision is unanimously considered inadequate whatever the field under review.

It is nevertheless clear that it is the weakness of demand for training rather than any lack of supply which limits its development (this also applies to training within the legal framework described in the preceding section).

This weakness arises from two factors:

-Objectively, it is difficult for the head of a small business, or one of its managerial staff, to absent himself from work for even a short period to follow a training course: the business only runs properly when he is present. This constraint is even stronger for a craftsman who is responsible for all, or nearly all, the output of his business himself.

-Subjectively, it is one of the consequences of the psychological resistance to change referred to above: the fear of having set ways questioned - especially in public in a group of trainees - and of admitting inadequacies; the fear of 'going back to school'.

Distance learning is unanimously considered to be a promising response to these problems: it neither entails absence from the work place nor confrontation within a group.

No significant experience seemsto have been gained in this area, however, especially vis-à-vis heads of small businesses.

In this connection, our interviewees showed greater interest in the new communications technologies (e.g. cable, telematics etc.) and portable systems (computer-assisted learning, video disks etc.) than in traditional correspondence courses.

CONCLUSION

At the close of Part One of this study, devoted to a description of the training situation in the crafts and small business sector, we can draw a series of conclusions which are, on the whole, fairly pessimistic:

1) In France the small business sector accounts for a substantial share of employment and wealth production; by comparison, its participation in training activities is disproportionately low;

2) the French further training system is designed to give priority to the training of employees - especially those from firms with more than 10 workers. Provision for entrepreneurs (non wage-earners) and craftsmen is very limited.

3) Training needs in this sector are substantial, generalized and very diverse. However, it appears that the basic factor limiting the expression of demand for training - and thus the development of provision to meet it - is located upstream of training problems in the strict sense and involves the mind-set of heads of businesses, who lack motivation to seek training.

This last observation explains why distance learning schemes aimed at the groups we are concerned with here are almost non-existent in France.

Another cause of this phenomenon is to be found in the characteristics of computer-assisted learning programmes in this country: the latter are essentially correspondence courses following an academic model and therefore unsuited to the needs of the business world.

However, innovatory projects based on the use of new information technology are beginning to appear and may in the medium term improve the situation.

Part Two of this report will be devoted to a description of the situation as regards distance learning in France and a review of the experimental projects referred to.

PART TWO

THE SMALL BUSINESS SECTOR AND DISTANCE LEARNING

CHAPTER ONE

AIMS AND METHODOLOGY

SECTION 1 - AIMS

The aims of this study were primarily determined by the specifications drawn up on the authority of CEDEFOP. They entailed an approach designed to ensure comparability between surveys conducted simultaneously in five EEC countries (Germany, the UK, Italy, Spain and France).

In addition we have taken into account the specific economic characteristics of the small business sector in France, as described in Part One, in which we found:

- a disproportionately low level of participation in training activities;

- a lack of understanding of the specific needs of heads and managerial staff of small businesses - and therefore of the means to respond to them;

- a lack of any strongly expressed demand for the development of distance learning;

- a lack of distance learning schemes aimed specifically at the groups in question.

These factors led us to give priority in our investigation to identifying:

- distance learning schemes which could be tuned more accurately to the needs of the target groups in the near term;

- the necessary conditions for improving the match between the supply of and (potential) demand for distance learning.

These factors strongly influenced our methodological approach, which is described below.

SECTION 2 - METHODOLOGY

Both the specifications for this report and the constraints inherent in the subject under study (lack of reliable data) led us to adopt an empirical approach.

The time limit imposed did not permit an exhaustive investigation of projects under development in many areas.

We therefore had to abandon any claim that the study is statistically representative; we hope that those we were unable to meet will excuse us for the subjectivity of our selection.

Our investigation was thus based on:

Consultation of an abundant documentation

This documentation concerned the development of vocational training in general; training in the small business sector; the introduction of new technologies in training; the specific feaures of distance learning; and, more rarely, the subject which concerns us here.

We also borrowed a great deal from the remarkable work of the centre INFFO and its publications.

Individual interviews

In-depth interviews were conducted with project leaders responsible for the experiments described below under 'Case Studies'. Other interviews were carried out on the basis of pre-established guidelines.

A questionnaire survey

A survey of bodies active in the distance learning field was carried out by questionnaire (see Part 2, Chapter 2).

Exploitation of the work of CEREP COMMUNICATION

We drew extensively on our work over the last three years with the INA (Institut National de l'Audiovisuel - Natonal Audiovisual Institute) on the use of cable television networks for vocational training.

The work of the seminar

In January 1987 the CNED and the centre INFFO held a seminar on 'Distance Learning and Vocational Training'; we were able to participate actively in the workshop on 'The contribution and limitations of distance learning in the development of further training'.

SECTION 3 - STUDIES OF INNOVATORY PROJECTS

Five case studies were carried out:

1) Training in financial management techniques for small businesses (Lyon Chamber of Commerce and Industry).

2) Introduction to basic electronics (AFPA).

3) Vocational training and information in the building and public works sector (AREF - B.T.P).

4) Establishment of local self-tuition centres (SOREFI).

5) Developments in computer-assisted learning (the ARDEMI operation).

These projects were selected for their diversity from the following points of view:

- target public
- conditions of implementation
- technologies used.

We gave priority to projects as yet uncompleted (and therefore not yet evaluated) but in our view rich in invaluable data for future application.

The case studies are presented:

- in an annex to this report, on standardized data sheets,
- in a separate volume, in which the projects are described in detail.

There follows a brief description of each of them.

CASE No 1 - TRAINING IN FINANCIAL MANAGEMENT TECHNIQUES FOR SMALL BUSINESSES

Body responsible: Lyon Chamber of Commerce & industry(1)

The Lyon C.C.I. has prepared a business management training package (forward financial management) which mainly uses:

- a video tape lasting 1 hour
- a series of exercises and tests.

This package was designed for distance learning applications and is specifically conceived for heads of small businesses (50 employees).

It was designed by the project leader, a training specialist knowing the target public, together with experts in the field of study. Production was subcontracted.

(1) see Annex 1 for names and adresses of contacts and institutions concerned.

Distribution of the package was organized at regional level among the target group in the small business sector; the follow-up procedure evolved in two stages, however:

STAGE ONE

The trainee sent his exercises to the insructor, who then corrected them by telephone, the calls being made within agreed time bands. This procedure, which was satisfactory for the trainees, proved cumbersome to administer.

STAGE TWO

The cassettes were distributed and used in the same way, but the follow-up took place during two days of meetings chaired by the firm's accountant. These 'intra-firm' meetings involved 3 to 5 persons concerned by the product - usually the head, his accountant and a few of his closest associates.

COMMENTS

- A training operation adressed to a limited target public, which would have been difficult to finance purely from private sector resources;

- the need to demonstrate the product before its acquisition by the firm entails a significant increase in cost;

- the telephone follow-up procedure seemed to elicit questions which would not have been posed in writing or a face-to-face interview;

- heads of firms particularly appreciate the practical nature of the product and the absence of pre-conditions for following the programme.

CASE No 2 - INTRODUCTION TO ELECTRONICS

Body responsible: AFPA (2)

This operation consists in transposing an existing training programme of conventional type requiring the trainee's presence at a centre into a multi-media package designed for distribution by cable television. In the absence of a cable network - or pending its introduction - the product is also suitable for video cassette.

No description is given here since the project is reviewed in detail in Chapter 3 Section 2.

(2) see Annex 1 for names and adresses of contacts and institutions concerned.

CASE No 3 - VOCATIONAL TRAINING AND INFORMATION IN THE BUILDING AND PUBLIC WORKS SECTOR

Body responsible: AREF-B.T.P. Provence - Côte d'Azur(3)

This project concerns the production and testing of audiovisual training 'magazines' intended for heads and managerial staff of small firms in the building and public works sector. No description is given here since the project is reviewed in detail in Chapter 3 Section 2.

CASE No 4 - ESTABLISHMENT OF LOCAL SELF-TUITION CENTRES

Body responsible: SOREFI Rhone-Alpes(3)

The SOREFI (Sociétés régionales de Financements - Regional credit institutions) is a regional-level association of independent savings banks; the network is essentially made up of small and medium-sized firms.

(3) see Annex 1 for names and adresses of contacts and institutions concerned.

Adaptation to new occupations in the banking sector calls for intensified training measures, decentralized and of high quality, aimed at managerial staff responsible for small branches employing 2 - 15 persons.

To complement the traditional types of seminar, Centres Pedagogiques de Proximité (local self-tuition centres) have been set up, offering a 'self-service' style of training.

These Centres are structured around:

- a specialized library,
- video tapes
- computer-assisted learning software.

The Centres are so located as to provide every staff member with self-tuition facilities which can be reached in less than one hour from his home or work place.

A specially trained instructor is available at every Centre.

In the first year of operation, 300 trainees attended the Centres in the Rhône - Alpes region.

COMMENTS

- self-tuition through the Centres forms part of a 'qualifying' course;

- The preliminary results have been very positive from the point of view of both instructors and users;

- The results have, however, demonstrated the need for programmes which are of impeccable quality and thus costly to produce. A cost-pooling scheme will therefore be indispensable for the production of new material.

CASE No 5 - DEVELOPMENTS IN COMPUTER ASSISTED LEARNING: THE ARDEMI OPERATION

Body responsible: ARDEMI (4)(Association Régionale pour le Développement de l'Enseignement Multimédia Informatisé - Regional association for the development of mutimedia computer assisted learning)

The ARDEMI operation, which has been running for four years, involves about 60 firms which are pooling their resources for the production and utilization of computer assisted learning software on a large scale.

(4) see Annex 1 for names and adresses of contacts and institutions concerned.

The aims of the operation are the following:

- to create a 'critical mass' of C.A.L. software, produced jointly by the firms involved;

- to industrialize production methods;

- to expand the new high-capacity digital telecommunications networks for the transmission or remote loading of educational software.

During the first stage (1984-87) almost 130 hours of C.A.L. software were produced.

The second stage - the large-scale distribution and utilization of the software produced - is in preparation; it will be mainly the responsibility of the individual firms taking part.

COMMENTS

- Detailed comments are to be found in the review of the services provided by the ARDEMI association to its members, prepared by its Director (see below).

- ARDEMI is financed jointly by the State, the regional authorities and private enterprise.

CHAPTER 2

DISTANCE LEARNING PROVISION FOR THE SMALL BUSINESS SECTOR : THE EXISTING SOURCES

A description is given below of two bodies and a group of private institutions which are virtually the only organized sources of distance learning in France.

Provision is essentially in the form of correspondence courses, even if in some cases the written material is supplemented by a cassette or, more recently, by the option of connection to the videotex network (Minitel).

We found no mention of programmes specifically aimed at heads and managerial staff of small businesses in any of the publicity material examined.

On the other hand - and we shall return to this point - we found a number of programmes, both general and technical, which would be of interest to this group with some modification.

SECTION 1 - THE CNED (5)

With 170 000 adult trainees at every level of technical and higher education and 5000 teachers dispensing more than 500 courses, the CNED has been the leading national organization in the distance learning field for over 50 years.

85% of trainees are adults aged from 18 to 30 - including, of course, a certain number of personnel from the small business sector. However, for many years the great majority of CNED trainees have been school-leavers without qualifications or persons unable to attend conventional training courses.

During the past few years, the CNED has developed a further training branch and 4500 agreements have been signed with enterprises - very often the largest (e.g. the SNCF).

However, in addition to its clientele whose enrolment is prompted by their inability to attend conventional training courses, the CNED wishes to promote a broader demand for distance learning.

(5) Source: Activité de la formation permanente (Activities in the further training sector) No 87, April 1987. CNED: Centre National d'Enseignement à Distance (National centre for distance learning).

The arguments put forward by the CNED's Director at the seminar on 'Distance learning and vocational training' (6) concerned the importance of the individual's motivation in seeking to enrol for a CNED training course:

"Is not distance learning in many cases the answer to industry's future needs?

Whenever a firm feels the need to strengthen the overall training level of its work force it is undertaking a deferred investment, constituting and maintaining a capacity to adapt which may at any time prove decisive for the enterprise: in such cases distance learning may provide a solution.

General training and upgrading in fundamental areas are essentially fields for individual effort - especially so since everyone can set his own pace.

Distance learning meets these requirements precisely, since it involves a personal decision in the first instance.

The CNED is not backward in the use of new technologies but stresses the pitfalls of 'technological utopism'. While no technological advance is rejected, priority will be given to the development of telematics in view of the fully operational electronic mail facilities offered".

(6) Paris, January 1987. Organized jointly by the CNED and the Centre INFFO.

The CNED as it stands appears to us to be capable of providing services to heads and managerial staff of small businesses; it might not, however, be easily prompted to encompass:

- the provision of programmes specifically designed for the small business sector,
- the readier integration of new technology.

SECTION 2 - L'ASSOCIATION POUR LA FORMATION PROFESSIONNELLE DES ADULTES (AFPA)*

After the national education system, AFPA is the largest institution dispensing adult education. It appears in this study mainly on that account, and for its potentialities.

An association with a tripartite administrative board (State, employers and trade unions), AFPA comes under the Ministry of Labour and might in fact be considered as a quasi-government body forming part of the public Employment Service.

Set up after 1945 under the reconstruction policy, it is today a vast enterprise employing 10 000 people (half of whom are teachers) who, every year, dispense almost 60 million hours of tuition and deal with an influx of 100 000 trainees.

By comparison with these figures, AFPA's activities in the distance learning sector are fairly modest since they involve only about 2500 trainees annually.

To date these activities take the form solely of correspondence courses; however, AFPA is working on distance learning projects using telematics (Minitel) and the cable television networks.

*Association for adult education.

This latter project will be dealt with in the next chapter.

AFPA's correspondence courses are primarily designed to prepare candidates for entry to its own training centres; they mainly concern matters of general education and therefore constitute pre-training rather than vocational training in the strict sense.

Students can participate in these courses even though they do not intend to enter a training centre; such cases are rare, however, since the courses do not lead to any recognized diploma or qualification.

For example, the areas covered by the Colmar Centre's correspondence courses include: algebra, geometry, trigonometry, electricity, statics and dynamics, engineering, draughtsmanship and various occupations in the public service.

The Colmar Centre accounts for virtually all AFPA's correspondence course activities, since the Lyon (specializing in tertiary sector occupations) and Toulouse Centres each have a throughput of no more than 150 - 200 students a year.

Trainees enrolled for these courses are mainly job-seekers or employees (manual and white-collar workers, skilled workers and technicians), together with a few craftsmen; no entrepreneurs or managerial staff from the small business sector are enrolled, however.

SECTION 3 - THE INDEPENDENT DISTANCE LEARNING INSTITUTIONS

The CHANED (7) is a group of independent distance learning institutions. We sent them a three-page questionnaire (see Annex 5) to enable us to identify those offering specific programmes for the sector under study, with the aim of further examining the answers obtained during subsequent interviews with representatives of the bodies selected.

Only seven completed questionnaires were returned to us, from bodies specializing in the following fields:

- Languages (business English),
- Accountancy and management,
- Buying,
- Occupations in commerce,
- Civil engineering,
- Electronics, electrical trades,
- Data processing,
- Miscellaneous.

In general, correspondence courses were the main vehicle, though supplemented - especially in the case of language courses - by audio and video cassettes. Electronic mail systems were also being introduced.

(7)

It should be noted that three out of the seven institutions replying expressed their intention to study the possible integration of computer assisted learning and other multi-media technologies into their programmes.

Here again we were unable to identify any courses specfically aimed at the public we are concerned with; the substance of telephone contacts with the institutions surveyed could be summed up as follows: "Your target population does not possess enough specific features to warrant the preparation of a separate programme".

We shall return to this point in our conclusions (Chapter 4).

None of the institutions replying to our questionnaire was known among the heads and managerial staff of small businesses with whom we maintain regular contact.

CHAPTER 3

DISTANCE LEARNING PROVISION:

PROSPECTS FOR THE INTEGRATION OF NEW TECHNOLOGIES

Almost a quarter of a century ago, the Conservatoire Nationale des Arts et Métiers (National Academy for Arts and Crafts) was one of the first institutions to organize television courses.

However, this form of distance learning was abandoned about ten years ago, since it was not altogether succesful for a number of reasons: conditions under which the programmes were televised, production costs, follow-up for students, etc.

The Conservatoire therefore speaks from experience in advocating caution in the use of new technologies (8); in this it endorses the views of the CNED, which cautioned us against the danger of 'technological utopism'.

We fully agree with this advice, believing that new technology should not be introduced hastily and that thought must first be given to the overall teaching systems to be established.

On the other hand, however, it would be regrettable to create an artificial dichotomy between;

a) the users (in the vast majority) of conventional (essentially paper-based) methods,
b) the proponents of the latest technologies.

In the crafts sector the value of advanced technologies is well understood; for a number of years this dynamic sector has often been represented in experimental distance learning projects involving interactive video disk or cable television systems.

(8) 'Actualité de la formation permanente', No 87.

It is not by chance, therefore, that representatives of the crafts sector are participating in two projects developed around:

- the transmission of teaching software (C.A.I.) packages via the telephone system,

- the use of cable television.

These two projects are described below; while their experimental nature must be borne in mind, we believe they represent fruitful avenues for future exploration.

SECTION 1 - PROJECTS BASED ON THE DEVELOPMENT OF THE CAPACITY OF THE TELEPHONE NETWORK: THE 'TRANSCOM' SERVICE AND THE RNIS (9)

For our target groups in the small business sector, the prospect of access to 'personalized' instruction facilities close to home or work place has considerable attrac. is.

In this respect the telephone network, with its universal penetration, offers substantial advantages.

It has already made possible useful developments such as the Minitel.

Now, the new RNIS system permits text, voice, data and images to be transmitted rapidly and at low cost (10) through the same network.

The TRANSCOM service constitutes the first step towards the RNIS; it was recently brought into operation in connection with the ARDEMI operation (see Chapter 1, Section 3 - Case No 5).

(9) Réseau Numerique à Integration de Service (digital integrated service network).
(10) See Annex 6.

France began to digitize its telephone network some years ago. Today, data can be transmitted between any two points in the country at 64K bps through purely digital channels.

By 1991, the RNIS system will cover the whole country: the possibilities opened for business communications will be vast (11):

- a significant reduction in transmission costs,
- greater standardization of equipment and downward pressure on prices,
- simplified installation,
- digital quality,
- flexible terminal adressing,
- enhanced interaction between user and network.

TRANSCOM has important training applications, as the ARDEMI Director pointed out:

"With TRANSCOM (digital transmission at 64K bps) we can now transmit software packages of 20 - 40 megabytes and over at high speed directly to work places or training locations, without having to concern ourselves with diskettes; in addition, remote maintenance of the software is envisaged".

(11) Source: FRANCE TELECOM.

ARDEMI (see page 46), the only body of its kind in France, is engaged in an operation for the inter-firm production of teaching software covering the principal areas of vocational training and taking account of technological change. More than sixty major enterprises are taking part, together with training bodies and associations, chambers of commerce, trade associations, educational establishments and universities.

The large-scale distribution and utilization by ARDEMI's members of a C.A.L programme lasting over 150 hours calls for more efficient means of transmission than the conventional diskette (a programme of this type would require almost three hundred 360K diskettes); in addition, the need to maintain and update all this material argues in favour of the use of modern telecommunications technology.

The digital TRANSCOM system (64K bps) offers various advantages:

- immediate, high volume transmission of teaching software from the production centre to users, at a cost not far from that of an intercity telephone call, without the need for the cumbersome dispatching and management of diskettes;

- the efficient transmission, at any time and place, of updated software to the various establishments of the same firm or institution;

- remote maintenance of software, or transmission of updating material between any centre and the production/maintenance establishment;

- high volume transmission of programmes containing data, sound and images in digital form, for training purposes.

SECTION 2: PROJECTS BASED ON THE DEVELOPMENT OF CABLE TELEVISION

Unlike other European countries - especially the UK - France failed to take advantage of the development of cable TV for the purposes of education and training. It is not within our brief here to attempt to explain this failure; we shall merely note that as in the case of the correpondence courses examined in the previous chapter, 'school television' programmes merely reproduced courses taught at secondary school or university with no attempt to adapt them for viewers already practising an occupation. The times at which these programmes were broadcast (video recorders were not yet in general use) effectively excluded working viewers since they were invariably shown on weekdays in mid-morning or mid-afternoon, when audiences are the smallest.

However, the development of cable TV opened entirely new prospects. The national cable TV programme was launched in 1983; today, some 52 major towns and cities have undertaken to install cable networks, of which several are already in operation. By the mid-90s, urban areas in France will be almost fully equipped and roughly 40% of the population will have the option of connection to a cable network by 1995.

By contrast with television by radio transmission, cable TV possesses characteristics which make it very suitable for training applications:

- with its capacity to carry 15, 20, or even 30 different channels, cable TV substantially overcomes the limits imposed by the saturation of the air waves and makes it possible to broadcast training programmes at convenient times;

- the use of cable TV makes possible the direct remuneration of programme producers by the end-user (i.e the viewer) by subscription; programmes can also be adressed to restricted groups with payment being made for each broadcast or for a series of broadcasts;

- even if programme production costs must, in the main, be amortized at national level, the cable networks are **local.** Training programmes can therefor be adapted to the specific needs of a fairly small area and broadcasts can be accompanied by meetings or live transmissions in which viewers can participate by telephone, for example;

- finally, in most cases projects for the development of cable TV make provision not only for leisure and entertainment but for the need to devote certain channels to services to industry - especially training.

In this connection, a number of studies on the subject of cable TV and training have been undertaken during the past three or four years on the initiative of the public authorities, the network promoters and specialized organizations.

Various projects at present under way are due to be completed in the near future. Two of these, aimed at the groups we are concerned with here - craftsmen and heads and managerial staff of small businesses - are described below.

Both projects were undertaken in connection with the opening of the Marseilles cabe TV network, scheduled for the last quarter of 1988. Two channels are to be devoted to the transmission of training material - an ambitious aim but consistent with the size of the city (840 000 inhabitants) and of the network itself, which will be the largest in France after the Paris network. Both private individuals and firms, it is hoped, will be linked to the new network.

The operations to be described are the following:

- an introductory course in electronics for electricians, produced by AFPA, which was presented in the previous chapter;

- an audio-visual trade 'magazine' devoted to training and training information aimed at heads of firms and managerial staff in this sector, created by AREF-BTP, the training/insurance fund (12) for the building trades.

In both cases the aim is the production of multi-media distance learning programmes based on the use of audio-visual material transmitted via the cable TV network; the programmes will be combined with other training methods (manuals, group sessions, etc.).

2.1 AFPA - Introductory course in electronics for maintenance personnel

THE CONTEXT

Electricians working in the areas of consumer electronics, household or automotive electrical equipment, air conditioning or refrigeration equipment, navigation equipment, etc. are more and more frequently confronted by electronic components they do not understand.

Studies conducted in firms, particularly by CEREQ, show that:

- these components are rarely the causes of malfunctions but are often blamed by the electrician because he finds electronics incomprehensible;

- where electronic components are in fact the cause of a malfunction, they should be changed rather than repaired on account of their low cost.

This operation is within an electrician's normal competence.

There is therefore a substantial and growing need for training aimed at:

- demystifying the subject and showing that a component which at first sight appears complex is in fact performing a number of simple and readily identifiable functions;

- teaching personnel to diagnose failures of electronic components reliably and replace them as necessary.

This programme is not an electronics course, therefore, but is designed to provide the electrician with the capacities needed for the normal exercise of his trade.

To meet this need AFPA developed a 375-hour course requiring attendance at a training centre.

In this course, the time devoted to practical work varies from 1/3 to 1/2 of the total in the respective stages of the training, the rest being devoted to basic theory.

Practical work is effected using mock-ups prepared by AFPA on which fitting, assembly and wiring can be carried out; an oscilloscope, a multimeter, a soldering iron, a generator and a stabilized current supply are required.

The possibility of transposing this in-centre training into a course which could be followed at the work place looked interesting for several reasons:

- the course is a long one for trainees - mainly craftsmen and employees of small businesses - who find difficulty in absenting themselves from their work;

- the potential demand can cause extensive waiting lists for enrolment;

- the practical side of the course involves tools and technical operations already familiar to the electrician and the immediate application of the trainee's new knowledge in a familiar context is both possible and desirable.

(12) See pp. 16 and 17 for a description of the training/insurance funds. All firms in the building and public works sector are required to join the appropriate Groupement pour la formation continue (further training association) (GFC-BTP), of which the AREFs are the local branches.

Finally, training at the work place offers the following advantages:

- for the training institution
  a) the need for classroom repetition is largely avoided,
  b) economies can be made in lodging and canteen facilities,
  b) pressure on workshop and classroom space is relieved.

- for the trainee

  a) the need for absence from the work place is avoided and practical work can be directed to productive ends,
  b) there are no travel and subsistence costs.

DESCRIPTION OF THE MULTI-MEDIA TRAINING PROGRAMME

The programme designed, based on the use of cable TV, meets these criteria: it derives from the transposition of an existing conventional course.

In the absence of a cable network - or pending its installation - the programme is equally suitable for the video cassette format.

The package includes the following:

- 50 video sequences each of 20 minutes,
- some written material (possibly in the form of a manual),

- mock-ups for practical work similar to those used in conventional courses,
- six to eight half-day group sessions,
- a continuous telephone service on a fixed date, or alternatively an electronic mail service (Minitel system).

The video sequences are designed to illustrate and explain the principal concepts on which the course is based and motivate and guide trainees' practical work. They take the form of fictional scenes in which two technicians working together discuss and describe the operations they are carrying out; further explanation is provided by diagrams with an off-camera commentary.

The written material is intended to obviate the need for trainees to take notes during the transmissions, setting out - and in some cases developing - the content of each sequence.

Each transmission should be followed as soon as possible by at least two hours of practical work, using the mock-up. Whenever possible, however, trainees should apply their new knowledge at once under field conditions.

The sequences are arranged in blocks with several consecutive numbers being devoted to a particular aspect of the subject matter; each such block is followed by a group session directed by an instructor, designed to take stock of what has been learned so far and ensure that all trainees are ready to tackle the subsequent block.

These sessions are also designed to maintain trainees' motivation.

The telephone and electronic mail services have the same purpose; in addition, they serve to evaluate the effectiveness of the training and could possibly be eliminated when the product has been fully 'run in'. They might perhaps be replaced by live transmissions devoted to particular aspects in which trainees could participate by telephone.

The creation of a distance learning package of this type calls for substantial preparatory work; the audiovisual design of the product must form part of the educational concept from the outset. This means that the training specialists responsible for this work must not only write a very detailed general scenario but a step-by-step script for every sequence.

As an example, we give the scenario of the first video sequence:

"Learning to use an oscilloscope to take simple readings".

Two persons are on the scene, side by side: an electrician and an electronics specialist. The first is attempting to repair a battery charger placed in front of him. He takes readings with a multimeter.

The second is using an oscilloscope which is facing him, but is also within his colleague's field of vision.

These few images at the start of the sequence, together with a very brief dialogue, are designed to prepare the ground for what follows. The entire sequence will enable trainees to understand the basic operation of an oscilloscope and, consequently, its value in diagnosing malfunctions.

A series of simple drawings, sometimes animated using straightforward techniques and accompanied by a brief commentary, are interspersed with the live scenes.

The requirements for the filming of this scenario - in appearance very simple - were the following:

- telling the complete story in 20 minutes, so that at the end of the sequence trainees knew in essence how to operate an oscilloscope;

- preparation of about ten explanatory diagrams;

- writing of all the dialogue and commentary to be coordinated with the images;

- giving a precise description of all the images (other than the diagrams), so that the technician's procedures in operating the oscilloscope would be clearly seen and comprehended.

The script takes the form of a document of about 20 pages set out in a three-column format as below:

Timing	Commentary and dialogue	Images

The video producer must work from this document, which also forms the basis of the accompanying written material for the trainees.

REQUIREMENTS FOR THE EVALUATION STAGE

In the coming months, production of the various elements in this programme will be begun.
It is at present intended that the following evaluation method should be used: each sequence (on video cassette) with its accompanying documents and mock-ups will be tested on groups of trainees:

- in firms, under the same conditions as if it were a cable TV transmission (four firms in the Marseilles area have so far agreed to take part),

- in further training centres.

Trainees' comments and reactions after each 'broadcast' will be used to improve the subsequent products.

When 12 sequences have been shown and two group sessions held, a meticulous evaluaton will be made:

- of of the performance of trainees in firms,
- of the performance of trainees in centres,
- of the performance of trainees in further training centres following the conventional course, who have reached the same point as the trainees testing the multimedia programme.

AFPA's instructors and industrial psychologists are at present working on a series of tests which will enable this evaluation to be made.

The results obtained will make it possible to improve the video sequences and the accompanying material and determine the optimum method of distribution.

They will also form the basis for a final assessment of the finished product in advance of its distribution.

2.2 THE AREF-B.T.P - TRAINING FOR TRAINING

THE CONTEXT

The G.F.C - B.T.P is not a training institution but fulfils two principal functions:

- it pools contributions from firms to finance training provision,

- it acts as an on-the-spot study unit aiding firms and instuctors to diagnose and understand their needs and respond to them.

This second task is central to AREF's mission and is assuming increasing importance.

The building and public works sector is at present being shaken by rapid and profound changes:

- to its occupations, with the introducton of new materials and production techniques;

- to its work organization, with the need for greater autonomy, adaptability and versatility on the part of its site teams;

- to its markets, in which the volume of large new construction and public works orders is in decline as against an increase in demand for the improvement, renovation and rehabilitation of existing structures;

- to its marketing methods. It is no longer sufficient merely to respond to invitations to tender; clients must be offered a complete ready-for-occupation package - including financing.

Training can provide a response to these problems, but only if building sector personnel are aware of this, are able to seek training and know how to seek it.

There are two major problems here:

- the predominance of small firms in the sector means that personnel have limited opportunities for training leave. In Marseilles, the target area for this project, out of a total of 3500 firms, 50% are craft enterprises with no employees, 40% have less than 10 workers and only about thirty have more than 100. Nor is this situation peculiar to Marseilles;

- heads of firms in the sector are deluged with information about training but have little idea of how to make use of it. In seeking training, the first requirement is to identify and analyze needs and then choose a suitable response from the provision offered by the training bodies.

In view of these difficulties, the use of a cable TV-based system seems indicated for several reasons:

- it provides information without requiring absence from the work place,

- it imposes the need for a prior sifting of the information transmitted and its presentation in a manner accessible to the public,

- television, which 'shows' rather than 'tells', is a good vehicle for instructing personnel little accustomed to classroom training (and fearing a 'return to school') and for whom learning by observation - or on the job - has always played an important part.

THE PRODUCT ENVISAGED

The product, therefore, is neither a training programme in the strict sense nor a training information programme, but rather a cross between the two: a trade 'magazine' focussed on training and with educational objectives. These objectives concern both training policy and establishing a communication channel between the AREF-B.T.P and the users, aimed at enabling them to improve their knowledege of, and make better use of, the services available: it is a 'training for training' project.

The synopsis for the first ten numbers of the magazine (which will be distributed monthly for one year) is as follows:

- introduction	30"
- presentation of the AREF-B.T.P	5'
- practical information	4'
- training course	
- opening of a training site	
- etc.	
- presentation of a training instrument	10'
- sub-sections	5'
- building sector vocabulary	
- safety at work	
- concluding section	30"
Total	25'

The section 'presentation of the AREF-B.T.P' prefaces the magazine and, in each number, describes one of AREF's operations - if possible in conjunction with the section on 'presentation of a training instrument'. Later on ths section will be shortened and will become a sub-section under 'practical information'.

The 'practical information' section will include specific information about training courses, legislative measures, local events concerning the trade, etc.

The first two sections could be introduced by a presenter after the fashion of TV news programmes, with slide or videotext insertions.

The section 'presentation of an instrument' can be treated either as fiction or in the form of a reportage. For the first series of issues, the subjects chosen are the following:

- advice on choice,
- building sector occupations and training,
- quality diagnosis,
- modular training systems,
- the "profiloscope": a diagnostic tool for the planning of training in firms,
- marketing,
- choice of training institutions and 'à la carte' training,
- the training plan and individual training leave,
- the financing of training.

The scenarios for the first two sections take a similar form to those described above for the AFPA project, but the production of the audiovisual sequences is less closely constrained by the educational concept.

The other subjects are dealt with in the same way; in some cases use may be made of existing audiovisual material which can be suitably adapted.

The short sub-sections, such as 'safety at work' and 'vocabulary' are - apart from their intrinsic interest - designed to lighten the magazines.

They will be presented in the form of cartoons or graphics.

EXAMPLE: 'Building sector occupations and training'

This scenario was prepared by members of a training institution associated with the project at AREF's request.

It is treated as a documentary with scenes illustrating an off-camera commentary and dialogue between two workers.

It opens by contrasting building sites today with those of former times and moves gradually from a discussion of technical problems and materials to a description of the new occupations: more varied, interchangeable, complex and constantly evolving, they require of all members of the work force a capacity to programme and organize their work both collectively and individually.

After this, the problem of training is tackled:

- on the building site, on-the-job training for every occupation must now combine technical instruction with communication and exchanges of knowledge and know-how;

- basic training and education are indispensable: there is no question of a 'return to school', but after discussing problems at the building site, by generalizing we come to mathematics, physics, the reading of documents, etc. Instruction of this kind can be given in continuous or modular form.

Training makes it possible to place skills more accurately within the work organization of a building project and clearly identify individual jobs and their evolution.

The scenario takes the form of a series of tables:

General idea to be communicated	Sub-themes	Suggestions for images to illustrate the themes	Commentary and dialogue

These documents will serve as a guide for the video producer, who is at liberty to choose images to illustrate the themes but must use the commentary provided and follow the order in which the ideas are presented.

CHAPTER 4

CONCLUSIONS

Below we shall attempt the difficult task of stocktaking in relation to a subject in which many areas of uncertainty persist.

Our summing-up will concern, successively:

- A difficult situation encountered

- encouraging prospects

- Lines of action to be developed

- Proposals for cooperation at European level.

SECTION 1 - A DIFFICULT SITUATION ENCOUNTERED

On the basis of the conclusions of Part One, the following may be asserted without exaggeration:

a) The small business sector plays a very important part in the country's economy. Despite its strong job-creation performance it is still seriously under-represented in further training activities.

b) The training needs of heads of businesses and managerial staff are very diverse, ill understood, largely unrecognized and therefore poorly provided for (to balance this pessimistic view, however, it may be noted that similar problems exist in respect of the training needs of heads of larger enterprises). To overcome resistance on the part of these groups (lack of time, "universal" knowledge, etc.) training will probably have to adopt less academic forms (e.g seminars).

c) As a result of cultural factors, training tends increasingly to be regarded as an indispensable investment ... for others.

d) Distance learning provision specific to the sector is so far practically non-existent.

e) Distance learning is not, up to now, specifically encouraged. Whilst all (see Section 2 below) agree that this method of transmitting knowledge should be promoted, reactions from the training system are conservative. The conventional model - i.e an instructor with a group of trainees - still inspires a sense of security and resists innovations beyond the occasional gadget or experiment.

SECTION 2 - ENCOURAGING PROSPECTS

Our interviews confirmed the encouraging trends noted at the outset of this undertaking:

- distance learning is unanimously seen as a good idea, to be encouraged since it is potentially capable of lifting the existing curbs on the development of vocational training (for our target population);

- the possibilities opened by distance learning in its different forms are still little known and need to be better publicized. The efforts made in this direction by public or semi-public bodies such as the CENTRE INFFO, the CNAM, the CNED and the Vocatonal Training Office should be backed up;

- calls have been made for cooperation at national and European level, especially as regards the development of training packages;

- the specific advantages of distance learning (fewer journeys required, lower costs, individualized training, less scholastic forms of tuition, etc) should be well appreciated by the groups we are concerned with.

SECTION 3 - LINES OF ACTION TO BE DEVELOPED

The encouraging trends noted above will not bear fruit without convergent - and intensifying - efforts. The following list does not claim to be exhaustive; however, the need may be noted:

- to exploit existing promotion and information networks (see above) and further mobilize the support of bodies 'on the ground' - trade organizations, training associations, Chambers of Trade, Chambers of Commerce, etc. - whose credibility is a precious asset when innovative projects are in question;

- to maintain the stimulus given by these bodies through specific invitations to submit projects. While stopping short of any forms of assistance which might prove stultifying, actions to facilitate access to these initiatives by small businesses might be recommended;

- to reflect carefully in launching operations. It is by no means certain that specific training packages need to be developed for the population under study: but undoubtedly individual modifications are required to take account of differing attitudes in circles little used to abstractions or conceptual thinking;

- to use modern information technology deliberately but with caution. Despite its limitations the Minitel (13) could prove revealing of latent demand for computer assisted learning;

- to integrate new developments in high-performance communications networks, which point the way for the future, into our training systems - though with caution;

- last but not least, to revolutionize the practices and ideas of all those active in vocational training, beginning with instructors - whose role will continue to be primordial, but with new attributions: assistance and guidance, with subsequent checks; acceptance of the differing rates of progress of individual trainees.

(13) Cf M. Rennard, "L'explosion du Minitel en France - Quels usages pour la Formation Professionnelle" (The Minitel explosion in France: possibilities for vocational training) CEREP COMMUNICATION, 25pp - CEDEFOP seminar, Berlin, 3 & 4 September 1987.

SECTION 4 - PROPOSALS FOR COOPERATION AT EUROPEAN LEVEL

European-level cooperation in the area of distance learning for heads and managerial staff of small businesses can, in our view, only be effective if called for by several countries simultaneously.

With this in mind, no action can be taken until a comparison has been made of the five studies conducted simultaneously in Germany, the UK, Italy, Spain and France.

The following possibilities may be cited:

- the development of Community programmes such as Delta, Commett, etc., to incorporate areas reserved for distance learning;

- the production of standard European packages. In our view, a pre-established programme should be proposed, to be developed in accordance with precise specifications by teams from different countries;

- the application of international methodologies for the development of training packages, to overcome the very real linguistic problems. These methodologies have yet, in the main, to be developed (with the exception of evaluation methods, in which significant advances have been made);

- finally, the maintenance of permanent liaison networks between firms, study units and research teams.

In our view, the latter can only bear fruit through regular contacts and cooperation between the men and women whose work can alone ensure success.

ANNEXES

ANNEX 1

CASE STUDIES:

DESCRIPTIVE FORM SHEETS

CEDEFOP Berlin	DESCRIPTIVE FORM SHEET	No. 1	Page 1

1. PROJECT NAME	Training in management techniques (forward financial management)
2. PROJECT COMMISSIONING PARTY (PARTIES)/PROMOTER (S)	Chambre de Commerce et d'Industrie de Lyon
3. MANAGING ORGANISATION, NAME AND ADDRESS	C.C.I de Lyon, 3 Place de la Bourse, 69289 LYON, France.
4. CONTACT (name, address, telephone, office)	Jean-Yves Pensec, Délégation à la formation. Tel: 78 38 10 10
5. PROJECT REASONS	The rate at which new businesses are being set up, together with the uncertainties overhanging the economic situation, have brought forward financial management to the fore in the concerns of the business world. There was a need for a training package suited to the requirements of the small business sector.
6. PROJECT OBJECTIVES	To propose a C.A.L package adapted to the needs (content) and constraints (organization) of small businesses(priority target: firms with less than 50 workers).

7. THE INITIATIVE IS : [ ] STARTING [X] UNDER WAY [X] OVER (for certain participants)

CEDEFOP Berlin	DESCRIPTIVE FORM SHEET	No. 1	Page 2

8. DISTANCE EDUCATION AND TRAINING CONTENTS AND METHODS

- A video cassette lasting 1 hour

- Complete documentation covering the information contained in the cassette and a series of exercises designed to test trainees' comprehension level as they progress

- Two days af meetings directed by a group leader.

9. REQUIRED MEDIA AND EQUIPMENT

- Video cassette

- Documentation

10. TRAINEES

ENROLLED	ATTENDING	HAVING COMPLETED
75 trainees from the small business sector on 1/9/1987		

11. TRAINING LEVEL AND VOCATIONAL STATUS OF THE TRAINEES

Very varied: predominantly personnel exercising a trade, with initial technical training.

CEDEFOP Berlin	DESCRIPTIVE FORM SHEET	No. 1	Page 3

12. TRAINERS ASSIGNED TO THE INITIATIVE (tutors, revisers)

TOTAL NUMBER: 3

NUMBER OF TRAINEES PER REVISER:

13. CERTIFICATION, RECOGNITION AND USEFULNESS

No recognized certificate issued

14. FINANCING (check the corresponding box and, if possible, indicate the amount in national currency)

PUBLIC	PRIVATE	TRAINEE QUOTA	OTHER
		X return on investment	

15. POSSIBLE EXTENSION OF THE INITIATIVE AT NATIONAL AND/OR EEC LEVEL AS A JOINT VENTURE

This would not pose any particular problem, but would entail:

- Translation
- The incorporation of relevant legal provisions.

16. ASSESSMENT

This type of product, together with the back-up provided, appears to correspond fully to the training requirements of heads and managerial staff of small businesses who have used it.

Flexibility is the principal positive factor cited by users.

CEDEFOP Berlin	DESCRIPTIVE FORM SHEET	No. 2	Page 1

1. PROJECT NAME

Use of cable television in vocational training: introductory course in electronics for maintenance personnel.

2. PROJECT COMMISSIONING PARTY (PARTIES)/PROMOTER(S)

Délégation à la Formation Professionnelle

Mission interministérielle TV/câble

Association pour la Formation Professionnelle des Adultes

3. MANAGING ORGANISATION, NAME AND ADDRESS

AFPA - Agence Régionale PACA
323 Boulevard Michalet
13008 - MARSEILLE

4. CONTACT (name, address, telephone, office)

M. Michel VERPILLOT (address as above) - Tel: 91 71 52 75

M. Felix WEYGAND Tel: 91 90 07 09

5. PROJECT REASONS

- The very substantial number of technicians to be trained in this area;

- the belief that in the long run this type of training will prove to be more efficient economically.

6. PROJECT OBJECTIVES

Transposition of an existing conventional programme requiring trainees' presence at a centre into a multi-media package using cable TV, and testing it in the city of Marseilles.

7. THE PROJECT WILL BE: ☐ STARTED ☒ RUNNING WAY ☐ OPEN

CEDEFOP Berlin	DESCRIPTIVE FORM SHEET	No. 2	Page 2

8. DISTANCE EDUCATION AND TRAINING CONTENTS AND METHODS

1 - TV transmissions

2 - Mock-ups for practical work and duplicated written material sent by post

3 - Feedback via telephone or electronic mail (Minitel).

Content: Introduction to electronics.

9. REQUIRED MEDIA AND EQUIPMENT

Cable TV network or video tape recorder

Electrician's tools for the practical work.

10. TRAINEES

ENROLLED	ATTENDING	HAVING COMPLETED
-	-	-

11. TRAINING LEVEL AND VOCATIONAL STATUS OF THE TRAINEES

level V: Electrical technicians, salary-earners or self-employed.

CEDEFOP Berlin	DESCRIPTIVE FORM SHEET	No. 2	Page 3

12. TRAINERS ASSIGNED TO THE INITIATIVE (tutors, revisers)

TOTAL NUMBER: [ ]

NUMBER OF TRAINEES PER REVISER: [ ]

13. CERTIFICATION, RECOGNITION AND USEFULNESS

Certificate issued on completion of course

14. FINANCING (check the corresponding box and, if possible, indicate the amount in national currency)

PUBLIC	PRIVATE	TRAINEE QUOTA	OTHER
[X] For duration of experimental project	[ ]	[ ]	[ ]

15. POSSIBLE EXPANSION OF THE INITIATIVE AT NATIONAL AND/OR EEC LEVEL AS A JOINT VENTURE

Marseilles project will later be extended to national level.

16. ASSESSMENT

- Preliminary evaluation before finalizing the package in May 1988. Tests to be made on two groups of trainees, one following a simulated distance learning programme and the other the conventional course.

- Final evaluation: end 1989, following distribution in the Marseilles area.

CEDEFOP Berlin	DESCRIPTIVE FILE SHEET	No. 3	Page 1

1. PROJECT NAME

Use of cable TV in training: vocational training and information in the building and public works sector

2. PROJECT COMMISSIONING PARTY (PARTIES)/PROMOTER (S)

D.F.P - Ministère des Affaires Sociales et de l'Emploi
AREF - B.T.P - PACAC

3. MANAGING ORGANISATION, NAME AND ADDRESS

CEREP-COMMUNICATION
M. Felix WEYGAND
C.M.C.I - 2 Rue H. Barbusse, 13241 MARSEILLE cedex 1.

4. CONTACT (name, address, telephone, office)

-

5. PROJECT REASONS

The substantial number of managerial personnel from small firms in the building sector,

Their lack of opportunity to obtain information and seek training.

6. PROJECT OBJECTIVES

To enable personnel from small firms in the building sector to improve their knowledge of, and make better use of, vocational training provision.

To test the project in the city of Marseilles.

7. THE INITIATIVE IS : [X] PLANNED [ ] UNDER WAY [ ] OVER

CEDEFOP Berlin	DESCRIPTIVE FORM SHEET	No. 3	Page 2

8. DISTANCE EDUCATION AND TRAINING CONTENTS AND METHODS

TV Transmissions

Content: legal aspects, practice and methodology of training

9. REQUIRED MEDIA AND EQUIPMENT

- Cable TV network

- Documentation relating to the transmissions.

10. TRAINEES

ENROLLED	ATTENDING	HAVING COMPLETED
-	-	-

11. TRAINING LEVEL AND VOCATIONAL STATUS OF THE TRAINEES

Heads of firms, managerial grades, representatives of trade unions, etc. in the building sector.

CEDEFOP Berlin	DESCRIPTIVE FORM SHEET	No. 3	Page 3

12. TRAINERS ASSIGNED TO THE INITIATIVE (tutors, revisers) — TOTAL NUMBER: [ ] — NUMBER OF TRAINERS PER REVISER: [ ]

13. CERTIFICATION, RECOGNITION AND USEFULNESS

14. FINANCING (check the corresponding box and, if possible, indicate the amount in national currency)

PUBLIC	PRIVATE	TRAINEE QUOTA	OTHER
[X] During development phase	[ ]	[ ]	[ ]

15. POSSIBLE EXTENSION OF THE INITIATIVE AT NATIONAL AND/OR FRG LEVEL AS A JOINT VENTURE

The project will be extended to national level

16. ASSESSMENT

Following the first tests.

CEDEFOP Berlin	DESCRIPTION OF PROJECT	No. 4	Page 1

1. PROJECT NAME

Establishment of local self-tuition centres

2. PROJECT COMMISSIONING PARTY (PARTIES), SPONSORS (S)

SOREFI - Société Régionale de Financement,
100 Route de Genève B.P 113
69141 RILLIEUX LA PAPE,
France.

3. MANAGING ORGANISATION, NAME AND ADDRESS

idem

4. CONTACT (name, address, telephone, office)

Mme Claudine GERVASON
SOREFI Rhone-Alpes (address above)
Tel: 78 88 31 10

5. PROJECT REASONS

The self-tuition centres are designed to enable trainees to avoid long and frequent journeys. Each centre can be reached by staff members in less than one hour.

6. PROJECT OBJECTIVES

To combine C.A.L facilities with conventional teaching methods to provide:

- high-quality tuition preparing trainees for changes to occupations,

- a high success rate in examinations.

7. THE PROJECT IS: [ ] ONE-OFF [X] LONG WAY (prolonged in 1988) [X] NEW (first year)

CEDEFOP Berlin	DESCRIPTIVE FORM SHEET	No. 4	Page 2

8. DISTANCE EDUCATION AND TRAINING CONTENTS AND METHODS

- C.A.L software on the subject of data processing,

- complementary documentation,

- self-tuition software, used to complement group sessions.

A specialist instructor is constantly available.

9. REQUIRED MEDIA AND EQUIPMENT

- C.A.L work stations (compatible micro-computers),

- C.A.L software,

- Manuals and documentation.

10. TRAINEES

ENROLLED	ATTENDING	HAVING COMPLETED
300 per year	300	295

11. TRAINING LEVEL AND VOCATIONAL STATUS OF THE TRAINEES

Savings Bank staff training for middle-level and managerial posts.

CEDEFOP Berlin	DESCRIPTIVE FORM SHEET	No. 4	Page 3

12. TRAINERS ASSIGNED TO THE INITIATIVE (tutors, revisers) — TOTAL NUMBER: 18 — NUMBER OF TRAINEES PER REVISER: $\frac{300}{18} = 17$

13. CERTIFICATION, RECOGNITION AND USEFULNESS

A Diploma is awarded to trainees passing the BA 1 examination (Brevet d'aptitudes a l'encadrement - Attestation of managerial capacities).

14. FINANCING (check the corresponding box and, if possible, indicate the amount in national currency)

PUBLIC	PRIVATE	TRAINEE QUOTA	OTHER
[ ]	[X]	[ ]	[ ]

15. POSSIBLE EXTENSION OF THE INITIATIVE AT NATIONAL AND/OR EEC LEVEL AS A JOINT VENTURE

Other institutions have been contacted with a view to exchanges. The model should be transposable for application within other structures in the Community (subject to adaptation of the product).

16. ASSESSMENT

The first year was fully satisfactory and the scheme will be extended to other fields.
The quality requirements for the self-tuition software proved to be very stringent.

CEDEFOP Berlin	DESCRIPTIVE FORM SHEET	No. 5	Page 1

1. PROJECT NAME

ARDEMI - Association Régionale pour le développement de l'Enseignement Multimedia Informatisé
(Regional association for the development of multimedia ~~computer assisted learning~~)

2. PROJECT COMMISSIONING PARTY (PARTIES)/PROMOTER (S)

The State (three Ministries)

Région Rhône-Alpes

3. MANAGING ORGANISATION, NAME AND ADDRESS

ARDEMI
93 Chemin des Mouilles B.P 27,
69130 Ecully
France.

4. CONTACT (name, address, telephone, office)

M. Roger GUIR
Director
Tel: 78 33 60 94

5. PROJECT REASONS

To establish a regional - and then national-nucleus for the development of multi-media C.A.L systems for use in continuing vocational training.

6. PROJECT OBJECTIVES

- To create a 'critical mass' of C.A.L software, produced jointly by more than 60 firms,

- to industrialize production methods,

- to test the new high-capacity digital telecommunications networks for the transmission or remote loading of educational software.

7. THE INITIATIVE IS : ☐ STARTING ☒ UNDER WAY ☐ OVER

CEDEFOP Berlin	DESCRIPTIVE FORM SHEET	No. 5	Page 2

8. DISTANCE EDUCATION AND TRAINING CONTENTS AND METHODS

Computer assisted learning software

9. REQUIRED MEDIA AND EQUIPMENT

- Compatible micro-computer,

- Workshop specializing in the development of multi-media courses.

10. TRAINEES

ENROLLED	ATTENDING	HAVING COMPLETED
-	-	-

11. TRAINEE LEVEL AND OCCUPATIONAL STATUS OF THE TRAINEES

Very diverse: over 60 firms of all sizes and from all sectors, including many small businesses, are participating in the ARDEMI operation, besides their representative bodies such as Chambers of Commerce and Industry, trade associations, etc.

The C.A.L modules produced generally relate to the introductory level.

CEDEFOP Berlin	DESCRIPTIVE FORM SHEET	No. 5	Page 3

12. TRAINERS ASSIGNED TO THE INITIATIVE (tutors, revisers) — TOTAL NUMBER: 100 approx. — NUMBER OF TRAINERS PER REVISER: -

13. CERTIFICATION, RECOGNITION AND USEFULNESS: -

14. FINANCING (check the corresponding box and, if possible, indicate the amount in national currency)

PUBLIC	PRIVATE	TRAINEE QUOTA	OTHER
X F7.2 million	X F12.3 million	-	-

15. POSSIBLE EXTENSION OF THE INITIATIVE AT NATIONAL AND/OR EEC LEVEL AS A JOINT VENTURE

Experience acquired has already made it possible to respond to invitations to tender at European level.

16. ASSESSMENT

The first phase (1984-87) is nearly completed: it will have enabled the production of almost 130 hours of software, with the aid of the 60 or so firms participating.

The second phase, involving the large-scale utilization of the software produced, is in preparation; it will be mainly the responsibility of the firms taking part.

ANNEX 2

PERSONS AND INSTITUTIONS CONTRIBUTING TO THE STUDY

IN CONNECTION WITH THE CASE STUDIES:

- PENSEC JY	Chambre de Commerce (LYON)
- VERPILOT M	AFPA (MARSEILLES)
- WEYGAND F	CEREP COMMUNICATION
- GERVASSON CP	SOREFI (RILIEUX 69)
- GUIR R	ARDEMI (ECULLY 69)

WE MET THE FOLLOWING IN CONNECTION WITH THE SEMINAR "ENSEIGNEMENT A DISTANCE ET FORMATION PROFESSIONNELLE" (Distance learning and vocational training), PARIS, JANUARY 1988, AND ITS PREPARATION:

- COUTRET G	DIRECTEUR DU CNED DE LILLE
- LUCAS AM	CENTRE INFFO
- CORSET P	INA (PARIS)
- MEUNIER JP	DIRECTEUR DU CNED DE GRENOBLE
- RIGAULT C	LECTURER, TELE UNIVERSITE (QUEBEC)

INSTITUTIONS REPLYING TO A POSTAL QUESTIONNAIRE:

- BEYREUTER G	DIRECTEUR, TFT (RANTIGNY)
- CAMPOS M	PROFESSEUR, INSTITUT BOTANIQUE (PARIS)
- GERVOIS M	ETMSP (PARIS)
- MOUGEOT	DIRECTEUR, ENRT (PARIS)
- PEROCHON C	DIRECTION DES ETUDES DE L'INTEC-CNAM (PARIS)
- HUMMEL P	(PARIS)
- GRINBERG P	ECOLE SUPERIEURE D'APPROVISIONNEMENT (PARIS)

OTHER PERSONS INTERVIEWED

- Monsieur BROCHIER	Directeur de l'AREDEF (MARSEILLE)
- Monsieur MAURICE	Chargé de mission au service régional de l'Agence Nationale pour l'Emploi
- Monsieur GARNIER	Délégué adjoint Délégation régionale au Commerce et à l'Artisanat Provence Côte d'Azur
- Monsieur de CONINCK	Assistant de Formation Association régionale pour la Formation dans le Bâtiment / Travaux Publics
- Monsieur RAINGARD	Délégué régional de la Formation
- Monsieur FOURNIER	Animateur Economique à la Chambre artisanale des professions du Bâtiment.
- Monsieur BERTRAND	Commission Pédagogique de l'APCCI (MONTELIMAR)
- Monsieur JEAN	Directeur du CESI-Méditerranée
- Monsieur GRIMAL	Association pour la Formation Professionnelle des Adultes - Centre Pédagogique et Technique d'Istres.
- Monsieur GROUSSET	Chargé de mission à la délégation académique à la formation continue d'Aix-Marseille.
- Madame TESSIER	Chef des services de contrôle de la délégation à la formation

- Madame UZEL	Directeur Adjoint de la Maison de l'Entreprise et de la formation de la chambre de commerce et d'industrie de Marseille
- Monsieur ALBERTINI	Directeur de l'IRECACS (ECULLY)
- Monsieur BONNERUE	Université Télématique SUZAN (St ETIENNE)
- Monsieur FONTANEL	Délégation à la Formation Professionnelle (PARIS) (in connection with the colloquium "Technologie audio-visuelle et formation professionnelle en Europe (Audio-visual technology and vocational training in Europe), Berlin, September 1987)

In addition, we profited from exchanges with the teams - coordinated by CEDEFOP - working simultaneously in Germany, Italy, the UK and Spain:

- Monsieur GUERRA	Project Director
- Monsieur POLITI	Assistant Director, CEDEFOP.

ANNEX 3

EXTRACTS FROM INTERVIEWS

1 - Mr BROCHIER (AREDEF)

Craftsmen and heads and managerial staff of small businesses have real difficulty in organizing training; very often it still amounts merely to conforming to the legal requirements or takes place in the context of a very piecemeal strategy (e.g the acquisition of new equipment, when only a very small number of workers will be involved). In general, small firms do not draw up training plans and depend on the equipment supplier, trade organizations, the training/insurance funds, the ASFOs, the Chambers of Commerce or - more rarely - the public training institutions.

Training needs are enormous, very diversified and dependent on the firm's strategy - when it has one. Training levels are very unequal but it is very rare that heads of firms admit to not being up to the mark. The areas in which the need for training is greatest are:

- the new management and communication techniques,
- marketing strategy, sales techniques, exporting,
- office automation, data processing,
- automated systems.

Training needs are formulated in very differing ways; only a few firms possess a training policy in any real sense.

Small businesses call for training adapted to their situation and in line with their development plans. In general, they feel the need to improve their organization and the skill levels of their personnel. The problem, therefore, is to translate development requirements into training requirements.

Today it is no longer sufficient merely to provide a catalogue of available courses, generally long and unrelated to the firm's problems; a response to its needs in educational terms must derive from an analysis of its development strategy. Heads and managerial staff of small businesses will welcome training measures once they percieve that the latter represent the acquisition of knowledge and the enhancement of skills.

To reach this point, educators must revise their traditional concept of the training course and propose solutions to training problems adapted to the specific needs of this sector, ensuring that:

- training projects are in line with firms' development plans,

- instruction is indiviualized, or possibly dispensed to small groups,

- programmes are flexible (in modular form, for example),
- the programme content is specific to the requirements of the target population.

The existing training system meets these requirements only to a very limited extent. Efforts must be made through continuing training to make good the deficiencies of initial training, which does not prepare the individual for change; the capacity to adapt is primordial in today's socio-economic context.

2 - Mr MAURICE (ANPE)

Regional economic development trends have revealed additional training needs in the small business sector, in the areas of management, productics and computer assisted design. Training needs are substantial, since:

- there is a not inconsiderable number of upper or middle level managerial personnel whose qualifications do not correspond to their job title,

- the Chateau Combert 'technology nucleus' will call for highly qualified personnel.

One of the characteristics of the population we are concerned with is inaptitude for change, which becomes exacerbated in the event of unemployment - or the threat of unemployment. At the same time, managerial staff in their 50s do not take readily to training and are unwilling to change or move to another location. Only pressure of inescapable reality will impel them to seek training.

Training provision is at present inadequate: discussions are under way between the universities, other higher education establishments and industry with a view to finding a response to the demand for new skills.

Initial training gives little preparation for technological advances (admittedly difficult to foresee); it should attempt not only to impart knowledge but to develope the qualities needed by heads of firms and managerial grades: realism, good sense, intellectual agility, motivation and a sound knowledge of the markets.

3 - Mr GARNIER (Délégation Régionale au Commerce et à l'Artisanat - Regional Office for Trade and Craft Industries)

Skill levels among craftsmen and tradesmen are very variable: in the main satisfactory among craftsmen who recently took up their trade, they are less so among those who failed to follow an adequate technical training.

On the other hand, young people - who have usually benefited from longer schooling than their elders - are generally readier to follow supplementary training.

There is a serious need for training in business management techniques among craftsmen and tradesmen generally, whatever their age. These people do not always know where to go for help with their problem; usually, they apply to the Chambers of Trade or trade organizations. Another point is that there is a time-lag between the moment at which changes begin to take effect and the moment at which a need for training is expressed. They tend to react passively to the situation, taking a short-term view and seeking training only when difficulties become insurmountable.

The behaviour in this respect of craftsmen and tradesmen therefore depends to a great extent on the institution acting as intermediary - its dynamism and capacity to arouse awareness of the need for training.

4 - Mr de CONINCK (AREF - B.T.P)

The building sector is witnessing profound changes to its markets. Since 1973, in addition to a decline in the overall volume of demand for major

new construction and public works, the market has become more fragmented: sites are smaller but demand for the modernization, thermal insulation or renovation of existing stock is rising. There have also been significant changes in technology and work organization in the sector.

Today, a building must be sold as a finished product, involving both technical and financial expertise: the firm's organization and strategy must therefore be modified accordingly. We are witnessing an increasing rationalization of work organization, changes in marketing strategy and an intensification of competition favourable to firms basing their operations on the introduction of new technologies.

The skills of the groups we are concerned with can be seen in terms of their capacity to assess an overall situation, adopt an overall approach to the sector. The building trade suffers from the over-specialization of its managerial grades; there is a need for training which places greater emphasis on versatility and a methodology which will enable skills to be located within a broader context. A need has been expressed in the trade for expertise as regards commercial strategy and marketing techniques.

The target groups possess the capacity to adapt to change, but personnel often argue that they cannot take time for training except in response to a very specific problem.

5 - Mr RAINGEARD and Mr FOURNIER (CAPEB)

Craftsmen are a very heterogeneous group, whose training needs should be seen in economic terms rather than in terms of diplomas or qualification levels. Low skill levels have economic consequences and an incapacity to handle business transactions directly has resulted in the development of sub-contracting. Craftsmen are not sufficiently well trained to confront recent technological changes and the new demands of the economic situation (especially in view of the single European market to come into being in 1992).

The craft trades are also evolving: the know-how required today is no longer simply manual and technical and the need for overall training (especially in business management) has become acute. CAPEB, reviewing the needs of the sector, is offering a range of training courses of which three-fifths are devoted to general education. The programmes were prepared after extensive discussions with representatives of the craft trades: nevertheless, specific, individual needs are still not fully catered for. Given the fact that the law on further training for craftsmen is still very recent, there is room for every kind of innovation on the part of educationists.

Two points are worth noting: in the Bouches du Rhône a substantial proportion of craftsman trainees invest in training for one year after establishing their individual training plans. Secondly, large numbers of craftsmen's spouses take courses in accountancy, data processing and marketing, since it is they who are generally responsible for the management of the enterprise.

6 - Mr GRIMAL (AFPA-CPTA)

The skills required tend to change in nature. In the context of training provision, simultaneously with technical instruction it is now indispensable to develope aptitudes and skills without which the technical knowledge acquired is becoming harder and harder to apply. The main requirements are:

- a capacity to reason, comprehend, analyze and summarize,

- familiarization with abstract ideas,

- developing independence and initiative; at the same time, trainees must know how to integrate their activity with the work of a team, complementing that of the other members,

- enabling trainees to understand the work system with which they are associated, even though it is complex - i.e to understand what they are doing and why (knowledge of the enterprise),

- knowing how to work from a dossier,

- knowing how to read and decipher coded diagrams (keeping abreast of changing standards),

- acquiring a good knowledge of English, if possible not confined to technical matters,

- acquiring a capacity for group leadership (through experience in chairing meetings and in negotiations).

In the small business sector the acquisition of new equipment is not always backed up by training: however, technological advances are now very rapid and so are changes to firms' structures and work organization. Consequently, the term 'activité professionnelle' (occupational activity) is now preferred to 'métier' (trade).

A major problem for firms at present is how to reconcile their employees' capacity for independence with team work. Needs are being felt but small businesses are unable to give expression to them. There is a gap between these needs, which are not expressed - although foreseeable at European level (they are vast) - and existing training provision (which is inadequate to meet them).

Recourse to intermediaries such as trainee counsellors or in-firm liaison men should be developed: the introduction to new technologies provided by suppliers or manufacturers is very inadequate and it frequently happens that personnel are unable to take advantage of the various facilities offered by new equipment since they have not been properly prepared to apply the knowledge acquired during training.

7 - Mr JEAN (CESI)

The skills required by heads of firms cannot be defined in terms of qualification levels but are rather a matter of qualities, i.e:

- good sense and a pragmatic approach,
- a capacity to lead and give guidance,
- a capacity to think - and make others think,
- self-confidence,

- conviction and enthusiasm.

Also, they should not be specialists.

The problems do not arise from the inadequacy of initial training but at the recruitment stage: managerial staff are recruited solely on the basis of their qualifications. A basic aptitude for leadership - i.e managerial qualities - should also be required.

It is not quite correct to speak of resistance to change on the part of this population; the problem is rather that heads of businesses are not always equipped to carry through the changes desired - in other words, they lack the capacity to manage change. Among the developments they will have to adjust to is one which concerns human resource management: the taking into account of human resources, in every sense of the word and by every means (quality circles, progress circles, participative management, etc.). Tomorrow's enterprise will belong to its personnel in the financial, technical, economic and human senses.

Training, integrated with social policy in firms, can become the catalyst for new and dynamic social trends.

Needs are rarely expressed in terms of training, but on behalf of the employees and by reference to concepts (e.g quality circles or transactional analysis) or situations previously encountered.

The target groups generally demand very short courses, but - except in large-scale enterprises - seek little training, which tends to be seen as an inculpation of the upper-level grades who like to maintain the image of men possessing universal and infallible knowledge. Distance learning presents the advantage of avoiding this problem.

8 - Mrs UZEL (MAISON de l'ENTREPRISE)

Needs differ according to age group. The new generation has benefited from a better basic training than its predecessors, but shows less inclination to seek further training. This group is difficult to mobilize and more open to information than training measures. The key sector in this respect is technology; in other sectors, heads of firms are less indulgent, invoking the shortage of time.

Significant needs may be noted in respect of firms' internal and external communications, new technologies, business management techniques and human resource management.

Needs are never expressed directly. Heads of small businesses speak on behalf of their firm and its workers. They feel the need for training but to prompt them to action efforts must be made as regards presentation (the media are important here) and stress laid on aspects such as cost reductions and the use of the instrument best suited to their training needs.

ANNEX 4

GUIDELINES FOR INTERVIEWS

CEREP
COMMUNICATION

June 1987

Memo for the attention of Mrs Gisèle Martinez

STUDY ON DISTANCE LEARNING
FOR HEADS OF FIRMS AND MANAGERIAL STAFF IN THE SMALL BUSINESS SECTOR
(CEDEFOP)

Methodology for interviews on the training needs of heads and managerial staff of small businesses and distance learning provision.

Initially the aim should be to get the interviewee to talk about the training needs (whether expressed or not) of this category of personnel.

Later he should be asked whether distance learning provision corresponding to these needs exists, whether he thinks this provision is quantitatively and qualitatively adequate, whether distance learning should be developed in this area, and if so by what means and to meet which objectives.

The guide which follows is a fairly summary one, aimed at facilitating analysis of the survey results; it should not be followed slavishly but adapted according to the inteviewee's sector of activity.

0 - Prompt the interviewee to talk freely about the practice of his trade and express his opinion about training in the small business sector (who is he, what does he do, in what branch, etc?).

1 - TRAINING NEEDS OF HEADS OF FIRMS AND MANAGERIAL STAFF IN THE SMALL BUSINESS SECTOR

1.1 Are training levels adequate in this category?
1.2 If not, what are the consequences for firms' performance?
1.3 Is a need for training expressed?

1.4 If so, what are the requirements, does training provision corresponding to those requirements exist and is it quantitatively and qualitatively adequate?

1.5 If not, why is this need not expressed, what are the requirements and what form of training could meet them?

1.6 Does this need for training (whether expressed or not) arise from the inadequacy of this group's initial training, or from their failure to adapt to the technological, organizational and istitutional changes taking place in their sector during the past few years?

1.7 In the second case, give details of these changes.

1.8 In the short to medium term, could further changes occur giving rise to renewed training needs (e.g Single European Act - 1992, new technologies, changes to markets)?

1.9 If so, is appropriate training already provided for? What form daes it take?

1.10 If not, what should be done?

1.11 Has the interviewee anything to add as regards part 1?

2 - DISTANCE LEARNING PROVISION

2.1 Does distance learning provision exist, corresponding to the needs referred to above?

2.2 If so, describe it: What requirement does it satisfy and what form does it take (correspondence courses, use of new communication technologies, etc)?

2.3 Is it quantitatively and qualitatively adequate?

2.4 If not, why does it not exist: have experiments been made in the past, and if so what were the results?

2.5 Would a future offer of training of this kind be well received?

2.6 By what means and in what form should it be provided?

2.7 Has the interviewee anything to add as regards part 2?

PERSONS TO BE CONTACTED

(the list given below is not restrictive)

Institution	Name	Address and telephone No.
ASFO-PROVENCE AGE FOS-PME	M. LAUGAT Directeur	Tél : 91.54.92.12. 16, place du Général De Gaulle 13001 MARSEILLE
CPTA-AFPA	Mr GRIMALD Michel	Tél : 42.56.17.49. avenue F.Gouin BP 84 13803 ISTRES CEDEX
AREF-BTP	Mr DE CONNINCK Lionnel	Tél : 91.77.74.42. 4, avenue Léon Paulet 13008 MARSEILLE
AREDEF	Mr BROCHIER Jacques Directeur	
CAPEB	Mr Patrick FOURNIER	Tél : 91.77.40.17 7, Bd Pêbre 13008 MARSEILLE
DRFP	Mr Jacques MICHEL (DRFP)	Tél : 91.79.91.26. 5, rue de Cassis 13008 MARSEILLE
Maison de l'entre-prise et de la forma-tion CCIM	Mr ARQUISCHE	Tél : 91.37.14.70 35, rue Ste-Victoire 13292 MARSEILLE C6
DAFCO		
UNION PATRONALE		
CHAMBRE DES METIERS		

ANNEX 5

QUESTIONNAIRE

FOR THE INDEPENDENT DISTANCE LEARNING INSTITUTIONS

CEREP
COMMUNICATION

Marseilles, 10 July 1987

Dear Sir (Madam),

The rapid development of new communications technologies and the increasing demand for further training and social advancement bring distance learning to the forefront among individualized training methods.

The public authorities, industry, instructors, teachers and research workers in the countries of Europe are showing a keen interest in the major role distance learning could play, in its modern and very diverse forms (ranging from correspondence courses to audiovisual programmes, telematics etc.), in the development of continuing vocational training and in the context of the single European market to come into being in 1992.

For these reasons, CEDEFOP (Centre Européen pour le développement de la Formation Professionnelle - European Centre for the Development of Vocational Training) entrusted CEREP-COMMUNICATION with the French section of a European study on distance learning for heads of firms and managerial staff in the small business sector. This report will help EEC Commission policy-makers to frame a common policy for continuing training.

We are aware of your long experience in the distance learning field and we should be most grateful if you would complete the attached questionnaire, which will enable us to form a clearer picture of the distance learning provision available to heads of firms and managerial staff in the sector concerned.

We should be much obliged if you could return the completed questionnaire to:

CEREP-COMMUNICATION
CMCI

2, Rue Henri Barbusse - 13241 Marseille CEDEX 1

by 24 July 1987.

Thanking you in advance,

Yours faithfully,

Félix WEYGAND

Head of Marseilles Branch

1 - DESCRIPTION OF TRAINING INSTITUTION

NAME

Ecole Supérieure d'Approvisionnement
(Continuing train .g institution, despite our name)

ADDRESS

8 Rue du Conservatoire 75009 PARIS

TELEPHONE No

45 70 43 35

PERSON RESPONSIBLE

Paul GRINBERG

SUBJECT AREA

a) Give the principal area(s) covered by your training course

Buying

b) What type of course(s) are you offering (mark the appropriate entry)

Pre-training	
Catching-up	
Upgrading	
Further training	X
Advancement	
Retraining	
Preparation for an exam	

3 - TARGET POPULATION

3.1 If your courses are aimed at a particular category - or categories - of users, kindly describe the latter briefly

Buyers for industrial firms

3.2 Kindly indicate the type of user, if known:

* Average age - 35
* Geographical area (départements) - Whole of France
* Employment situation
  - Job-seeker
  - Employee X
  - Other

* Occupational category
  - Manual worker
  - White-collar worker
  - Supervisor X
  - Technician X
  - Engineer
  - Manager X
  - Head of firm
  - Member of liberal profession
  - Craftsman

4 - METHOD EMPLOYED

4.1 Media

a) Kindly indicate media employed for distance learning courses:

* Correspondence courses X
* C.A.L
* Audiovisual
  - Video cassette
  - Video disk
  - Video teleconferencing
  - Telephone
  - Video phone
  - Videotext
  - TV transmissions
  - Minitel
* Other - Audio tapes X

b) If only one medium is used at present, do you envisage testing others or combining several media? If so, which?

Yes - Minitel

4.2 - Teaching and evaluation methods

- If you employ a medium other than the correspondence course, do you provide accompanying booklets for users?

YES X NO

By what means do the instructors maintain a dialaogue with the users?

- Mail
- Telephone
- Electronic mail
- At group sessions X

* Audio cassettes X

What method of evaluation is used?

- Self-correction
- Correction by instructor X
- Other (describe)

If your training courses - or some of them - lead to the award of a diploma, what is its level?

I
II
III X
IV
V

5 - YOUR COMMENTS AND SUGGESTIONS

* About continuing training for heads and managerial staff of small businesses:

- Separate modules can be provided for trainees in accordance with their background and requirements.

(e.g. general economics, contract law, negotiation techniques, etc.)

* About distance learning applications of the new communication technologies:

With thanks for your cooperation

ANNEX 6

FILE TRANSFER BETWEEN PCs: A COST COMPARISON

FILE TRANSFER BETWEEN PCs: A COST COMPARISON
('Red' period: distance - 100km)

	COST (not including tax)			PARAMETERS	
	Outlay per PC (connection)	Monthly subscription	Cost per megabyte transmitted	Transfer time per megabyte	Capacity
TELEPHONE NETWORK	F8210 (Card + software F4000 + modem F4000 + connection F210)	F80	F220 357 units at F 0.165 (for 100 km or over)	80'	2.4K bps
TRANSPAC	F11402 (Card x 25 F8000 + connection F3402)	F1630	F77 F1 for transmission time + F76 for transfer	18'	9.6K bps
TRANSCOM	F11350 (ANTIOPE card F10000 (Cisi Ingénierie) + connection F1350)	F800	F12 F5.30/min (for 100 km or over) F1.60/min (for 50km or less)	2'15"	64K bps

SOURCE: FRANCE TELECOM

ANNEX 7

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