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Conditions of employment and status of staff in institutions using modern educational techniques

John LEEDHAM, André BERRUER

Revised version

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UNITED NATIONS EDUCATIONAL, SCIENTIFIC

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Conditions of employment and status of staff in institutions using modern educational techniques

John LEEDHAM, André BERRUER

Revised version

A synthesis of studies concerning the functions, conditions of employment and career prospects and, in general, the problems of staff employed in formal and non-formal educational institutions, in both the public and the private sector, which use modern educational techniques, in particular radio and television.

(ED-81/WS/120)

In 1976, the General Conference of Unesco approved the preparation of studies concerning the professional status of "educational technologists". These studies were to include an analysis of the functions, professional qualifications and training of such staff, and of the administrative arrangements affecting their careers and status.

The Unesco Division of Structures, Content, Methods and Techniques of Education carried out a preliminary survey in order to take stock of existing material, and national institutions of formal and non-formal education in industrialized and developing countries were invited to submit supplementary studies.

This document takes account of the observations of specialists throughout the world to whom an initial version had been communicated. The present synthesis seeks to present only such cases as would seem to be the most significant in the various regions, and to identify the major problems and the most relevant proposals and recommendations.

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1. PROBLEMS AND DEFINITIONS

The evolution, reform and modernization of educational systems involves the introduction of new techniques or new applications of older techniques. This also implies that the rôles of some traditional educational staff such as teachers, advisers, inspectors and administrators are themselves changing. These new educational techniques associated with radio, television and computer communication have led, and are leading, to an increasingly wide range of professional activities in the education system : production, programming and dissemination of programmes, production of radio and television programmes, organizing the reception of such programmes, devising of individualized learning methods and production of programmes extending beyond the traditional scope of classroom and university studies.

A feature of these modern techniques is their greater reliance on highly organized systems. One consequence of the use of ever more sophisticated techniques is increasing specialization among the personnel, who work within a complex organization. The teacher's rôle is gradually changing from that of craftsman to that of a specialist.

Educational institutions which make intensive use of modern communication media such as radio and television encounter a large number of staff problems, particularly in the case of educational personnel whose administrative and professional standing is not clearly defined in relation to that of the traditional categories of teaching staff. This synthesis, drawn up on the basis of studies submitted by national institutions with wide experience of such problems, should be of benefit to education systems seeking to generalize the use of modern methods and techniques.

Changing educational staff policy as to recruitment, training and career conditions appears to be impeded by the following obstacles :

resistance to change ;

the lack of precise job descriptions (profiles) ;

the lack of adequate recruitment and training programmes ;

in some cases, the rigidity of public service regulations.

The purpose of these case studies is therefore to provide information on these problems and to present an international overview of the situation. The inquiry covered more particularly those institutions that use radio, television, distance learning and programmed self-teaching techniques, i.e. those where these problems are most keenly felt.

The question of professional and technical qualifications was frequently raised. For example, the World Confederation of Organizations of the Teaching Profession (WCOTP), which is concerned primarily with the rôle of teachers in industrialized countries, is insistent that a preliminary pedagogical qualification acquired through teacher training is essential before the question of a differentiated status for specialized rôles is acknowledged. Non-industrialized countries with few teacher training establishments but possibly with large-scale educational broadcasting systems are less categorical on this point. There is, however, a broad consensus of opinion that staffs involved in conceptual and production work whose functions are analysed in this study ought to possess some pedagogical qualifications or intend and be in a position to acquire such qualifications. As regards technical staff employed in educational broadcasting systems, it would seem that their position and status within the public service are less favourable than those of their counterparts with equivalent qualifications and skills working in national broadcasting systems.

The aims of this synthesis are :

- to identify the functions, conditions of recruitment and status of staffs employed in institutions which make intensive use of modern educational techniques ;

- to try to identify occupational categories that can be internationally recognized ;

- to list the profiles and qualifications of staff occupying such occupational categories ;

- to review and quote samples of stated training policies and curricula relevant to such staff ;

- to quote examples of prevailing staff conditions and rules ;

- to make such recommendations arising from the studies and synthesis as may benefit countries and institutions called upon to employ such staffs in the future.

The Changing Rôles

The term "educational technology" is certainly not applicable to all the occupations reviewed in these studies. A very broad interpretation of the term might possibly encompass most of the educational activities quoted, but whereas some Member States, Hungary for example, define their policy in terms of educational technology, others, such as the Ivory Coast, make no mention of the term in their policy formulation. It is rather the term "modern educational techniques" which is under discussion. Educational broadcasts, audio-visual packages and

programmed self-teaching are not necessarily modern. The current linking-up of newspapers and local radio braodcasts for educational purposes on the West Coast of the United States of America is quoted as a "modern method", but it is in fact no more than a re-application of a method often used elsewhere in past years. The following rationalization for staff employed in major education systems using modern methods and techniques is based on the work of Professor E. Rein Buter of Amsterdam University [1]. He distinguishes three levels of activity, which give rise to three broad staffing divisions :

- the macro level : here, major projects at national level are supervised by qualified staffs. The career structures of such staffs are usually well defined within a Government department. Macro levels can also exist at regional and local levels.

- the micro level : this is the teacher-pupil situation, i.e. that of classroom instruction. The use of new educational techniques, in particular those involving the mass media, is tending to transform the traditional functions performed by teachers, activity organizers and teacher trainers, as well as those of supervisory staff.

- the meso level : this is where educational schemes worked out at the macro level are translated into teaching situations before being applied at the micro level. It is here that specialized categories of staff are required to programme, administer, devise, produce and broadcast audio-visual programmes. It is at this level that the problems of staff status and career prospects arise. The need for larger numbers of staff at the meso level is becoming ever more apparent as modern education systems develop. The need to provide such staffs with suitable qualifications and a satisfactory career is the reason underlying these studies.

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[1] See the appended bibliography.

2. ORGANIZATION OF THE INQUIRY

2.1 The methodological tool

In requesting case studies, Unesco suggested adherence to a rigorous 8-page methodological tool. Institutions were invited to submit reports responding to the following headings :

a - A full description of the Institution.
Identification of tasks and staff categories :
a two-dimensional identification model, giving 28 categorizations.

b - A description of job profiles for the task identifications in (a) above.

c - An account of training policy with details of the extent of training actually undertaken.

d - A description of the training curricula, content and organization serving (c) above.

e - Staff conditions and rules. The patterns of conditions and rules obtaining for staff in the identified posts especially where such conditions contrast with the professional status recognized for the work when performed by non-education based staff.

The methodological tool expanded these requirements in some detail. Each institution was required to define its status, staffing and function, and precise guidance was given as to the responses required.

2.2 Institutions consulted

The institutions which used this methodological tool in their replies are listed in Table 1.

In addition, other institutions supplied extremely useful supplementary information :

- The Asian Programme of Educational Innovation for Development : UNESCO, Bangkok (Details of existing facilities and needs for staff training).

- The British Council Media Centre, London (Survey of Overseas

Training Groups under preparation for broadcasting and more traditional audio-visual work).

- Concordia University, Montreal : Professor David Mitchell (Educational Technology Courses at Post-Graduate level).

- The Tokyo Institute of Technology ; Professor Sakamoto (Review of current situation in Japan).

- Association for Educational Communications and Technology, United States of America : Dr. H. Hitchens (Guidelines for Certification of Media Specialists) ; Dr. Jenny K. Johnson, Director of the Association's International Division (M.A. Courses in educational technology provided by 89 English-speaking universities).

- The American Society for Training and Development : Dr. James W. Walker (A Study of professional training and development. Rôles and competencies in the Media).

- The Organization of American States : Dr. A.J. Romiszowski (Summary of Multinational project on educational technology).

- The World Confederation of Organizations of the Teaching Profession, Geneva.

- The Multinational Project on Educational Technology, South America : Dr. C. Chadwick (Follow-up of Course Graduates).

- Special case studies submitted by the Department of Media Studies, British Council, London.

- The Council for Educational Technology for the United Kingdom (Analysis of technical responsibilities).

2.3 Observations

i. The wide spread of the inquiry and the diversity of the replies call for a few preliminary comments. Of the thirteen commissioned contributions, five are studies of radio or television-based educational systems; six studies cover audio-visual systems, educational technology and sometimes radio and television broadcasting systems ; two - those of the United Kingdom and Hungary - are studies of support systems. The supplementary studies have served to provide an overall, international view of the situation.

TABLE 1 - LIST OF INSTITUTIONS WHICH REPLIED TO THE INQUIRY

Member State	Name of Institution	Author(s)	Number of staff reviewed	Comments
Algeria	Centre audio-visuel de l'Institut pédagogique national	Tayeb Louanchi	59	Sub-department of Education Ministry responsible for promoting A/V and ETV education and preparing materials
Argentina	Instituto de Cultura Popular (Asociación Latinoamericana Radiofónica)	Pedro Antonio Luna	52	Religious education and social broadcasting unit
France	Centre audio-visuel de l'Ecole Normale Supérieure de St. Cloud	S. Strasfogel	93	Premier Ed Tech Institution, undergoing re-organization
France	Centre national de documentation pédagogique (CNDP)	-	201	National Centre, part of Education Ministry, responsible for production and distribution of educational training materials both printed and broadcast
France	Centre régional de documentation pédagogique, Toulouse	-	125	Regional Bureau of CNDP
France	Centre de resources audio-visuelles de St. Quentin en Yvelines	Pierre Corset Jacques Oppenheim	7	Submitted by the French Institut national de l'Audio-visuel as a typical smaller resources centre in France
Federal Republic of Germany	Institut für Film und Bild in Wissenschaft und Unterricht	W. Cappel	193	The National Institute for A/V aids and materials. Produces materials for 14 regional and 500 local centres
Hungary	Hungarian National System of Educational Technology Units	Andras Nadasi	112 separate ET units	A review of the state-of-the-art in Hungary
India	Delhi School Television Project	Saulat Rahman	61	Operating since 1961. TV School Branch (Education) co-operates with ETV unit at Television Centre
Ivory Coast	Ministry of Primary Education and Educational Television	Ali Hamadache André Berruer	1788	An ETC complex linked with school inspectorate to implement a complete Primary School (plus- programme
Mauritius	College of The Air	-	35	Since 1973 functions to support and develop school and out-of-school education by radio
Niger	Télévision scolaire du Niger - Télé-Niger	Marcel Inné	276	An Educational TV project to upgrade education levels
United Kingdom	Leicestershire Education Authority	Peter Baker	approx. 80	Integrated Co-operative Support Systems

ii. Submissions were supplemented by comments received following the distribution of an initial synthesis, emanating in particular from :

- The Ontario Educational Communications Authority, Toronto, Canada : Professor Ignacy Waniewicz, Ed.D., Director of the Planning and Development Department ;

- The National Centre for Educational Technology (OOK), Budapest, Hungary : Professor Ferenc Genzwein, Director-General ;

- Unesco's Regional Office for Education in Asia and the Pacific (ROEAP), Bangkok : Professor Raja Roy Singh, Assistant Director-General, and Mr. A. Latif ;

- The Educational Department, Leicestershire, United Kingdom : Professor Andrew N. Fairbairn, Director for Education ;

- The College of Education, University of the Philippines, Deleman, Quezon City, Philippines : Professor Liceria Brillantes Soriano, Director ;

- The Open University, Institute of Educational Technology, United Kingdom : Professor David G. Hawkridge, Director ;

- ECT Foundation, Washington, United States of America : Professor Howard Hitchens, Executive Director ;

- ERIC, Syravuse University, School of Education, Syracuse, United States of America : Professor Donald P. Ely, Director ;

- Programme of Educational Renewal, Ministry of Primary Education and Educational Television, Abidjan, Ivory Coast : Mr. Ali Hamadache, Acting Chief Technical Adviser ;

- The Scottish Council for Educational Technology, Glasgow, United Kingdom : Professor Richard N. Tucker, Deputy Director.

iii. A final observation concerns the representativeness of the institutions involved in the study. The members of staff studied may appear small when compared with the overall staffing of education systems, but their activities have a multiplier effect which confers considerable importance upon their functions. For example, the 59 professionals quoted by Algeria are responsible at the national level for :

maintaining an information service ;

maintaining a training function ;

organizing research seminars ;

producing schools radio and television programmes ;

producing related audio-visual material ;

running the schools television research unit ;

installing correct audio-visual equipment in educational establishments ;

developing suitable prototype equipment ;

organizing equipment maintenance at the National level.

3. ANALYSIS OF RESULTS

This section contains an analysis of the data yielded by the studies and replies received. This analysis has been arranged under five heads :

3.1 Identification of functions and occupational categories

3.2 Description of job profiles

3.3 Training policies

3.4 Training curricula, content and organization

3.5 Status : staff conditions and regulations

beginning in each case with a description of the methodological approaches proposed by Unesco.

3.1 Identification of functions and occupational categories

3.1.1 The methodological approaches

It was proposed that the various functions performed by the personnel of an education system using television (and/or radio) be analysed on the basis of the sequence : design - production - technical execution - diffusion - utilization and feedback. The analysis starts with the preparation of programmes and goes as far as the "field" workers whose job is to use the programmes for teaching purposes, in other words the teachers and other staff (activity organizers, documentary staff, and so on) who collaborate with them at the level of the establishment, class or any other target population (group of adults, for example).

It was proposed that account be taken not only of functions linked with the use of radio and television but also of those involved in the use of other media and teaching aids such as the press, printed materials and so on, some of which may be produced at the level of the individual establishment or training group or used in multimedia centres. For each of these functions respondents were asked to identify duties implying or likely to imply new full-time or part-time jobs.

It was urged that a distinction be made between changes in the functions of conventional staff categories (teachers, inspectors and educational advisers) and the advent of new functions in the form of full-time jobs done by specialists in producing, evaluating or managing educational media systems whose work is no longer measurable in hours of teaching.

It was also urged that, in view of the difficulties that seem to arise more particularly at these links in the chain, special stress be placed on certain decisive rôles - administrators of multi-media systems, producers, inspectors and educational advisers - whose work is concerned with controlling the systems and is essential for their coherent operation. The point is that these functions often provide vital support to teachers in the reception and utilization of broadcast programmes and as regards feedback to the producers.

Apart from teaching functions, respondents were asked to identify other functions of a technical or technical/artistic nature at the level of the execution, production and broadcasting or distribution of visual, sound or printed messages and the maintenance of the equipment used. They were also asked to identify any new occupations emerging at the level of the centres where these messages are produced and put out, the various functions being classified according to the various stages in the sequence referred to earlier.

A two-dimensional model in which fields of activity might be cross-tabulated with the functions exercised was proposed in order to make this identification easier. Its purpose was to give an indication of which groups of functions lead to the creation of new jobs.

The fields of activity proposed concern :

I. Management and administration : these are the control, co-ordination, management and planning activities necessary for the systems to function satisfactorily.

II. Educational research and conceptual design : this covers the definition of objectives and the design of educational media, their utilization in educational settings and their evaluation.

III. Technical/artistic activities : this covers everything directly related to the production of educational media - directors, graphic artists, layout artists, model makers, photographers, etc.

IV. Technical activities : this covers all those activities involved in the physical manufacture and distribution or broadcasting of educational media and the maintenance of equipment.

This model produced a variety of responses. Reservations were expressed as to its suitability. In the United Kingdom, most educationists would consider themselves to be highly versatile : most categorized themselves in more than one of the rôles and in many of the functions. Some institutions made specific reservations.

TABLE 2 - MODEL FOR IDENTIFYING OCCUPATIONAL CATEGORIES

FIELD OF ACTIVITY	FUNCTIONS						
	A planning, conceptu-alization	B production	C technical execution	D distribution/ diffusion	E maintenance, technical services	F utilization	G evaluation feedback
I. management and administration							
II. educational research and conceptual design							
III. technical/artistic activities							
IV. technical activities							

Examples :
I.A. Director of an Institution
I.B. Head of Production Department
I.F. Inspector or educational adviser
II.A. Media designers
II.B. Media producers (directors)
II.F. Teacher, activity organizer, etc.

Some boxes may have nothing entered in them.

Télé-Niger offered alternative categories, while INCUPO (Argentina) used the model to analyse four different groupings. The Ivory Coast offered a special system of categorization to take account of differences between the educational and the multimedia approach. Algeria listed other categories. The Leicestershire Education Authority (United Kingdom) listed job rôles without categorization. The Audio-Visual Centre at St. Cloud (France) and the Mauritius College of the Air extended the analysis further by explaining in some detail the function and interdependence of each job. The Hungarian study presented a careful analysis of "conventional categories for educational technology staffs" and "new categories for educational technology staffs". Other studies adhered to the model but made minor reservations. Prominent were the claims that local conditions prevented fuller categorization. Some Directors of Institutes might well cover a range of functions : indeed at a meeting of Heads of Institutes held in London, ten of the participants filled in every box of the model to represent the overall nature of their responsibility. It was also possible at this stage to identify differences in approach between the Anglo-Saxon and French systems. Those submissions which represented French influence appeared more accustomed to concepts such as staff categorization, promotion ladders and official ratings than those embodying the teacher-oriented and job-integrated approach of the Anglo-Saxon cultures (United Kingdom, United States of America, Scandinavian countries).

3.1.2. Case studies

There appears to be some advantage in dealing with the submissions on a regional basis so that an identity of background may assist comparison.

3.1.2.1. Europe : France, Federal Republic of Germany, United Kingdom, Hungary.

France : three submissions were received from

the Audio-Visual Centre of the Ecole Normale Supérieure, St. Cloud ; the Centre National de Documentation Pédagogique (Paris) ; the Centre Régional de Documentation Pédagogique (Toulouse), which all contain highly specialized analyses of rôles and functions.

The Audio-Visual Centre at St. Cloud, for example, lists 88 permanent and 5 part-time staff members, covering three principal activities :

- fundamental and applied research ;
- production of audio-visual materials and documents ;
- training of specialists and development of training programmes.

In all three activities the Centre can claim to have achieved an international reputation. Its permanent staff are categorized as follows :

Management and administration	8
Educationists, researchers, specialists and teachers	31
Graphic and technical artistic personnel	14
Technicians	18
General services	17
	88

The St. Cloud Centre also provided a numbered listing of each and every post, ranked hierarchically, and giving full details of:

(a)	(b)
Conventional title of post	Main function undertaken if not explicable by post title

for the following categories in Model Field of Activity I (management and administration)

Assistant Director
Assistant teachers
Assistants
Foreign language assistants

The same extensive detail is provided for each of the other three "Fields of Activity" shown in the model.

The submissions from CNDP (Paris) and CRDP (Toulouse) define their responsibilities, nationally (CNDP) and regionally (CRDP) as :

> "preparing and disseminating educational documentation and documentation concerning curriculum content, using all available printed and audio-visual media and such new media as may be developed by modern communication technology, particularly with a view to the training and further training of teachers and assisting at all levels of schooling in the initial and career-long training of teachers."

The CNDP provides a staffing list (5,148 staff members employed in : the National Centre for Educational Documentation, 25

Regional Centres for Educational Documentation, 60 Département Centres for Educational Documentation and six tele-education centres). In Paris, the breakdown of staff functions is as follows :

Department of teacher documentation and multimedia activities	
Management and administration	4
Educationists and specialists	58
Graphic and technical artistic staffs	22
Technicians	46
Office staff	40
Documentalists	8
	178
Seconded teachers	23
	201
Television/Film Department	
Teacher/researchers	2
Technical/artistic staff	1
Technicians	100
Office staff	14
Documentalist	1
	118

Each department is separately analysed by reference to the proposed model.

The Regional Centre in Toulouse accounts for a further breakdown of its staff into eight Département centres (CDDP). Considered in the aggregate, its staff breakdown is as follows :

Management/administration	18
Teacher/researchers	23
Technicians	40
General services	44
	125

The model was not used for the analysis. This is indicative of the situation encountered in other institutions. While at the national level staff can be broken down under the suggested heads, this becomes more difficult at the regional level, and is frequently impracticable at the local level, where staff are multi-functional.

Federal Republic of Germany

The responsibilities of the Institut für Film und Bild in Wissenschaft und Unterricht (Institute for Audio-Visual Aids in Science and Education) include :

- the production of audio-visual and printed materials required for pre-school, primary, secondary and higher education, teacher training and technical education ;
- the promotion and use of such materials ;
- the preparation of computerized documentation on publications in this field ;
- the testing of audio-visual equipment and formulation of recommendations concerning such equipment.

The Institute supplies and advises 14 regional audio-visual centres and approximately 500 local centres which distribute the materials and in their turn directly advise educational establishments in the Federal Republic of Germany. Its staff breakdown is as follows :

Management and administration	9
Educational staff	46
Production staff	21
General services	94
Technicians	16
Manual workers	7
	193

The study lists this staff under the headings proposed but amends the Field of Activity for educational research by separately listing : Subject experts, Editors, Public relations staff, Documentalists, Research staff. The point is especially made that educational staffs and most production staff are seconded teachers who definitely return to class room or lecture hall after five years. The wide scale of activities precludes detailed identification for more than such categories as "require a full university career". This study is very representative of European institutions operating sophisticated communications systems.

United Kingdom

The study is submitted from Leicestershire, one of the major education authorities enjoying considerable autonomy in the United Kingdom. The account of their staffing arrangements is subordinated in some measure to the explanation of their co-operative arrangements.

The Authority employs some 10,000 teachers in all grades of education, from nursery schools to Polytechnics. These teachers are accustomed to curriculum innovation on a dispersed basis - some schools may well practise advanced methods, others follow more traditional patterns. Much of the modern methodology is focussed by various resource centres. In the Middle, High and Upper Schools there are usually quite generous provisions of resource materials in the school resource centres, several of which possess production units. Some units are quite sophisticated and can produce good grade printed materials and audio-visual material, while some even have television studios. Each school is linked to a neighbouring resource centre. There are ten such centres, which give each other mutual support. A centre for educational technology, a local radio station, and six mobile vans all supply materials into the resource-centre system. School production/resource units are described as possessing a head of centre, an assistant librarian and two or three technicians. Various teachers are given time off to assist in production.

Resource centres are staffed by 1 or 2 teacher leaders supported by one or more technicians and secretaries. The Authority's estimate of staff specifically engaged in such activities is as follows:

Management and administration	2
Teachers/producers/organizers	60
Technicians	80
Clerical staff	30
	170

This study shows that modern educational methods are being applied on a day-to-day basis. The staffs concerned may well not be originally qualified for their specialized rôles. Recruitment to Head of Resources posts is based upon evidence of previous experience, and also takes account of specific qualifications in media management or production. In the United Kingdom, there are now some thirty Institutions of Higher Education offering degrees or diplomas in some aspect of Educational Technology, and the numbers of suitably qualified people are consequently increasing. Qualified librarians with specialist media qualifications increasingly tend to occupy posts in higher education establishments.

Hungary

The Hungarian study lists 112 educational institutions operating within ministries, trade unions, etc., which use modern educational techniques, and provides a more detailed analysis of the National Centre for Educational Technology (OOK), which was set up on 1973 with Unesco assistance. The Centre's aims are stated to be the following :

- organizing and directing research in educational technology and publishing such research ;
- developing experimental production and distribution of educational media for public education ;
- organizing training in educational technology ;
- organizing conferences and courses ;
- preparing and developing experimental multimedia programmes ;
- supplying materials to a National Information and Resource Centre.

OOK draws attention to its special responsibility for producing multimedia packages as well as for testing and applying them. Members of the OOK staff responsible for devising such packages possess teaching qualifications, specialize in subjects taught in public education and have had some form of further training in research, experimentation and organization. Technical/artistic staff possess qualifications as technicians or engineers.

There appear to be approximately 132 full-time staff and 15 part-time staff.

	Full-time	Part-time
Management/administration	29	9
Teachers/planners	59	2
Technicians	34	2
General services	10	2
	132	15

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3.1.2.2. Africa : Ivory Coast, Niger, Mauritius

Ivory Coast

The study analyses the organization of a television-based system providing primary and out-of-school education, together with its support services.

The "Educational Television Programme" (PETV) forms an integral part of the Ministry of Primary Education and Educational Television. It consists essentially of :

- an Educational Television Complex (CETV), which devises, produces and broadcasts the television programmes and is also responsible for the associated printed materials ;
- a National Centre for Lifelong Training (CNFP), which provides continuing training for educational personnel ;
- a Centre for Specialization in Educational Technology (CSTE) with responsibility for training national technical and technical/artistic personnel working in the PETV.

These institutions are all situated in Bouaké, some 400 km from the capital, Abidjan.

There is also a directorate for out-of-school education which produces materials for non-formal education.

Technical staff are mostly civil servants seconded to the PETV by the Ministry of Information. Staff responsible for designing and producing materials are civil servants employed by the Ministry of Primary Education and Educational Television.

The PETV also comprises :

- educational training centres (CAFOP) providing initial training for primary school teachers ;
- central services responsible for management, evaluation, documentation and buildings.

The Educational Television Complex (CETV) is organized on the following lines :

- a general directorate, to which is attached a documentation service ;
- a general secretariat ;
- four sub-directorates : pedagogics, multimedia production, television production, printed materials ;
- a maintenance unit.

The breakdown of CETV staffing in 1978 was as follows :

	Nationals		Ex-patriates	TOTAL
	Civil servants	Temporary & day staff		
Management/ administration	18	19	8	45
Educational staff	21	6	17	44
Multimedia production staff (TV and associated printed materials)	80	139	39	258
Technical staff	3	25		28
	122	189	64	375

Since 1973 the Ivory Coast has gradually been replacing expatriates by nationals throughout the educational and multimedia production staffs.

The study highlights the correlations between the design, production and evaluation units ; between research and training ; and between multimedia production and initial and continuing training.

In the case of each function presented, a detailed description is given of the duties to be performed, the general and specialized knowledge to be acquired and the position of the person occupying the post within the civil service.

These follows a more detailed account of the functions and occupational categories which are most representative of this institution, both at the audio-visual production centre and in the field, and which are presented with sufficient additional particulars to clarify the context in which the work is performed.

Audio-visual production centre

a) Educationist : specialist in educational content and methodologies

Under the authority of the Assistant Director responsible for pedagogics, the educationist :

- works out programming in the light of general objectives;
- works out the appropriate progression as regards the disciplines involved ;
- formulates the aims of the learning sequences ;
- compiles the educational materials for a multimedia package of broadcasts and printed matter, in collaboration with the designers of multimedia packages ;
- ensures compliance with the aims and the conceptual unity of the visual document, and sees to it that the script, the finished product (pre-viewing) and the associated printed materials are all up to the requisite standard.

b) Script-writer/multimedia package designer

Under the authority of the Assistant Director for multimedia production, the script-writer :

- helps to built up a multimedia package of educational materials ;

- undertakes the necessary documentary research ;

- originates and drafts the synopsis, or gives his formal approval in the case of synopses drafted in collaboration with the producer ;

- helps with the guide-marking where necessary ;

- originates and drafts the script, or gives his formal approval in the case of scripts drafted in collaboration with the producer ;

- originates and drafts the commentary ;

- helps with the drafting of the printed materials ;

- assumes responsibility for establishing the file on the broadcast, jointly with the producer ;

- takes part in the shooting of the film [1] ;

- takes part in the editing [2] ;

- helps in the production of the sound track ;

- assumes responsibility, jointly with the producer, for the final product ;

- at the CNPF, ensures co-ordination with external broadcasting bodies (Radio-Télévision Ivoirienne, Fraternité-Hebdo).

The script-writer works at the CETV. In the earlier stages, he works with the educationist in putting together the materials of the multimedia package ; in the later stages, with the producer and, for the purpose of ensuring the unity of the multimedia product, with the editor responsible for finalizing the printed materials. The Assistant Director for multimedia production supervises his work, in particular by formally approving the file of materials relating to the broadcast, thereby authorizing the shooting or recording.

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[1] if necessary, he serves as commentator, presenter, anchorman and actor.

[2] during the screening of rushes, and at the cutting table.

c) Multimedia package designer/editor

Under the authority of the Assistant Director for multimedia production, the editor :

- helps to put together the multimedia package of educational materials ;
- undertakes the necessary documentary research ;
- originates and drafts the accompanying document and co-ordinates his work with the script-writer in order to ensure uniformity of content in both the audio-visual and the printed materials ;
- collaborates with the graphic artists in the design and preparation of the printed materials.

The editor works at the CETV, collaborating with the script-writer to ensure the uniformity of the multimedia package ; the Assistant Director for multimedia production supervises his work and approves his written materials for the press.

Immediate superior : the Assistant Director for multimedia production.

d) Production manager

Under the authority of the Head of Production, the production manager :

- scrutinizes the files relating to broadcasts ;
- prepares and assigns orders for the workshops ;
- follows up orders and keeps the director and producer informed of the progress of work ;
- reassembles the file once the orders have been completed and puts it away in the archives ;
- makes sure that the planning schedule has been complied with satisfactorily by the technical centre ;
- keeps accounts of the sums spent and compares actual expenditure with estimates ;
- once the broadcast is over, transmits the original and two copies to the multimedia library ;

- assembles the data required for identifying the video tapes ;

- deals with administrative problems relating to copyright.

In addition, the production manager is responsible to the multimedia production service of the CNFP for :

- filling out and processing service request forms ;

- assembling and co-ordinating all materials and equipment needed for shooting the film ;

- once the shooting is over, ensuring that all equipment not normally used on the set is returned.

The production manager works at the Bouaké Complex as a link-man between multimedia production and the technical centre, his task being to ensure that all the preparatory and manufacturing operations are completed satisfactorily and on time. His work is supervised by the Head of Production.

In the field

a) The teacher

Under the Educational Television Programme, the teacher tends to be a leader/adviser, an organizer of learning and an observer/evaluator more than a transmitter of knowledge. In addition, he must take on the rôle of adult education organizer and development agent within the community. As a result, his functions are extended and no longer limited to classroom instruction. He is thus obliged to take on new duties in a whole range of closely linked situations : in the classroom (utilization of the Programme's multimedia materials) ; in his school (participation along with his colleagues in continuing training activities) ; in the new educational system (providing feed-back for purposes of regulating the Programme, and participation in the summative evaluation of objectives, content and methods) ; and in his community (organizing out-of-school broadcasts).

b) Primary school inspector (IEP)

The primary school inspector ceases to be a reporting officer or supervisor and becomes the "organizer/observer" and "regulator" of a system which he must be capable of both administering and energizing.

Assisted by educational advisers, the inspector takes part in:

- the promotion of educational activities designed to renew the system and the evaluation of teachers' performance ;

- the regulation, at the educational and technical levels, of the aims and products of the PETV ;

- the evaluation of the objectives, content and methods of primary education in its new, regenerated form ;

- the organization and promotion of continuing training activities, in conjunction with the CNFP and the CAFOPS ;

- all-round promotion of community activities, designed to bring the school more closely into touch with the community and the environment (public relations function).

In the light of these duties, a new profile is currently being defined as part of the efforts to reorganize the curriculum of Section III in the Ecole Normale Supérieure.

c) The educational advisers

Under the authority of the primary schools inspector, the educational advisers perform briefing and training tasks, organizational and supervisory tasks, while assuming responsibilities for relations with the world outside the school. Freed from classroom and administrative duties, they are able to step in wherever major adjustments have to be made. They provide feedback and serve as the essential link for evaluation and continuing training. Unlike the primary schools inspectors, they are not empowered to make performance reports.

The establishment of a set of operational objectives and exercises to monitor their attainment, so essential to the system of formative evaluation, is another task performed by the educational advisers, who are specially trained to undertake the following duties :

- determination of the objectives to be attained ;

- devising of exercises for monitoring progress in the attainment of the said objectives ;

- arrangement of the exercises so as to obtain tests that are easy to apply ;

- setting of tests ;

- correction ;

- analysis of results, including identification of objectives that have not been attained ;

- deciding on appropriate corrective measures ;

- transmission of results to the data bank for recording.

The general structure of the PETV system has been influenced by the pattern of French administration. This study is the outcome of four years of active participation in the project, and clearly illustrates the problems encountered in any attempt to develop specialized projects.

Niger

The school television network in Niger - "Télé-Niger" - is an experimental, autonomous unit [1], whose objectives were to develop a system capable of :

- meeting the needs of mass schooling ;
- improving the standard of teaching ;
- speeding up training on an egalitarian basis.

In practical terms, Télé-Niger set up a primary education system of a palliative kind, based on the following principles :

- a carefully worked out conception of educational messages, and the transmission of such messages to an ever wider audience through television and associated printed materials;
- the use in the field of minimally qualified personnel (assistant instructors in classrooms) backed up by continuing and lifelong training arrangements.

Its fields of activity comprised :

- schooling at primary level ;
- educational and methodological research ;
- adult education ;
- training for all teaching staffs.

The breakdown of full-time staff was as follows :

Administration	7
Teaching and media design	163
Technical/artistic personnel	39
Technicians	40
General services	16
	265

[1] This programme came to an end in 1979, but its impact remains far-reaching.

Additional specialists were engaged on a part-time basis. The programmes were devised by educational units, each being responsible for the subject taught : French, mathematics, environmental studies, reading, vocational training, lifelong education.

The staff employed at the Centre were classified according to educational criteria : the director, producers and evaluators were all teachers, while the technical/artistic staff were qualified in the graphic or other arts. The project was devised by French and Canadian experts, and in the early stages much depended upon them. After the replacement of expatriate staff by nationals, Télé-Niger relied more upon attitude and experience than upon training and qualifications. Locally recruited staff were selected on the basis of psychological tests and then trained on the job. This practical training, geared to a specific job, included almost no theory.

Mauritius

The Mauritius College of the Air (MCA), a quasi-governmental institution founded in 1971, is responsible to the Ministry of Education through a Board of Trustees. It began to operate in 1973 as a support service of the Private Secondary Schools Authority - the majority of secondary schools are so constituted - and as a means of assisting non-formal and further education. This was to be achieved by correspondence courses, and radio and television broadcasting. The overall aim was to produce a comprehensive range of self-teaching materials for classroom use. Since 1977, part of its work has been taken over by the Mauritius Institute of Education, and the College of the Air has diversified its activities to cater for 'O' and 'A' level courses previously superintended from the United Kingdom [1]. The provision of printed back-up material for radio and television broadcasts is also an integral part of MCA's responsibilities. Staffing is shown as :

Management and administration	4
Educational	10
Technical/artistic	5
General services	16
	35

[1] Final years of lower and upper secondary schooling.

In addition, about 50 teachers mark correspondence courses on a fee basis. The MCA designated their job classifications quite precisely : all directing and educational staff have pedagogical qualifications and training. Their status and salaries are set slightly higher than those of educational staff working in schools in order to compensate for shorter holidays. Recruitment and career prospects appear to be rationally planned.

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The three projects surveyed in this section represent two major and one minor institution. All use modern educational techniques (radio and television broadcasting and support materials) in order to provide comprehensive educational programmes for primary and secondary schooling, and for lifelong education. The foreign aid input decreases with the rising level of qualifications acquired by national personnel, either through specialized training courses or through on-the-job training. The status and career prospects enjoyed in the public service are those of educational personnel. The extremely thorough study from the Ivory Coast cites considerable disparities between teaching staff and technical and technical/artistic staff. The fact that in several cases the technical responsibility for broadcasting the material by radio or television lies with the national broadcasting system makes it possible to draw comparisons between the rôles of educational programme producers and technicians and those of their counterparts in the national broadcasting system. The two major projects being developed under French influence contrast with the Mauritian project. In the latter case, there is a considerable similarity in regard to staffing arrangements with the situation described in the submission from the United Kingdom.

3.1.2.3. Latin America : Argentina

A great deal of experimentation in the use of school broadcasting and distance education has been conducted in Latin America. It was to Argentina that Unesco applied with the request for a representative study. The Instituto de Cultura Popular (INCUPO) of Argentina is a religious foundation belonging to the Latin American Association for Education by Radio (ALER). The Institute's objective is to use radio broadcasts and support materials to develop an integrated adult education system and to promote social communication. It operates essentially in the north of the country, and covers ten different zones representing a potential audience of some three million. The curriculum is religiously based, and makes use of field instructors and area support systems. The breakdown of staff at the main centre is as follows :

Management and administration	14
Teachers and researchers	27
Artistic/technical personnel	4
Technicians	3
General services	14
	62

The Institute also receives voluntary help, and the technical side of broadcasting is in the hands of the regional State radio stations. The study provides very precise definitions of job profiles, the nature and length of service, recruitment methods and the functions of the superior officer in the chain of authority. As regards staffing, a list of 23 posts shows that salaries and status are generally comparable to the norm in the education system.

In general, the special nature of this religiously oriented work generates a great deal of voluntary, dedicated effort which cannot be categorized in formal terms.

There is a notable difference between the basic academic qualifications regarded as necessary in this region and those in the Ivory Coast, for example, where practical application of pragmatic routines has produced satisfactory educational results but where the staff cannot be correctly ranked in the Civil Service hierarchy because they lack a recognized diploma.

3.1.2.4. Asia : India

India's submission is a case study of the Delhi School TV Service. In India, the development and use of new educational techniques (radio and television) is a joint venture on the part of the Ministry of Information and Broadcasting and the education authorities at central and individual state levels, that is, the Ministry of Education and the 30 directorates of education in the constituent States. The Delhi School TV programme is the oldest and best organized of the educational television programmes, and it covers all secondary schools in the region of Delhi. In addition, the Delhi Directorate of Education has established a TV Branch which works in co-operation with the ETV unit of the Delhi Television Centre. It has existed since 1961. The assignments of the TV Branch are :

- to provide liaison between the Directorate of Education and the Television Centre ;

- to supervise and organize work pertaining to the planning, preparation, utilization and evaluation of the television lessons ;

- to orient classroom teachers to ETV techniques ;

- to supply and maintain TV sets in schools.

Currently, 600 schools are covered by the service, with a potential audience of 300,000 pupils. Two significant evaluations of the service have been carried out, one in 1965 and one in 1974. The latter inquiry found the response to be "fairly satisfactory". Initially training was provided by British Council experts, who thus formed the nucleus for a continued operation of the service, supplemented by ad hoc training in the field. The more recent establishment of special training courses by All India Radio has met the needs for trained technical staff. In recent times, the influence of the Centre for Educational Technology, which is part of the National Centre for Research and Training (NCERT), both located in New Delhi, has been of particular significance.

The breakdown of full-time staff is as follows :

	TV Branch	ETV Unit	Total
Management and administration	3	1	4
Education specialists, researchers and teachers	15		15
Artistic/technical		14	14
Maintenance and supporting	24	1	25
	42	16	58

The table of occupational categories gives a clear picture of the breakdown of functions in this institution (see Table 3).

The status and career structures of the staff employed in the two institutions - the ETV unit operating under the Ministry of Information and the TV Branch of the Delhi Directorate of Education - are equivalent.

3.1.2.5. Arab States : Algeria

The study concerning Algeria was submitted by Dr. Tayeb Louanchi, Director of the Audio-Visual Centre of the National Institute of Education in Algiers. The Centre works closely with other units

TABLE 3 - Identification of occupational categories - Delhi School TV Service, India

Field of Activity	Planning and conceptualization	Production	Technical execution	Distribution/ Diffusion	Maintenance Technical services	Utilization	Evaluation feedback
Management and administration	Director of Education (1) Assistant Director of Education (TV) (1)	Director, TV Centre (1) Assistant Director TV Centre (1) Producer Coordinator (1)				Deputy Education Officer (TV)	Deputy Education Officer (TV)
Educational research, conceptual design	TV teachers (15)					Classroom teachers (large numbers)	TV teachers Classroom teachers
Artistic/ technical	Scriptwriter (as required)	Producer (3) Production assistant (2)	Animation artist (1) Graphic artist (1) Camera-man (1) Sound recording engineer (1) Film editor (1)				
Maintenance, supporting				Service staff (19)	TV Technician (4)		

Note : Figures in brackets indicate the number of personnel.

concerned with development, and handles educational programmes both in Arabic and in French. Its main functions are :

- to devise, produce and test a whole range of teaching/learning materials for both training and information purposes ;
- to organize training courses and to develop appropriate curricula ;
- to devote special attention to educational radio and television broadcasts, films, multi-media packages, and illustrated textbooks ;
- to try out experimental school broadcasts ;
- to supervise the operation of all audio-visual equipment installed in Algeria and to develop suitable prototype equipment ;
- to set up and supervise a national maintenance service for audio-visual equipment ;
- in liaison with other bodies, to evaluate audio-visual programmes and to promote their effective use.

The breakdown of staff in 1977 was as follows :

Management/Administration	5
Teachers/Specialists	15
Technical/artistic staff	4
Technicians	20
General services	9
Manual workers	6
	59

The National Institute of Education also comprises three technical and educational centres ; the Technical and Educational Centre for audio-visual aids, the Technical and Educational Centre for scientific education ; and the Centre for supplementary school activities and the educational film co-operative.

Staff recruitment and rank are based upon teaching experience and attainments. Staff are broken down into the following statutory categories :

Inspectors of education

Specialist teaching staff and experts

Teachers

Technicians (educational grade) and artists

Technicians (support and maintenance)

Assistant technicians

3.1.2.6 Other submissions

Brief reviews of national situations were obtained from the Swedish National Board of Education, the National Extension College (United Kingdom), the Open University (United Kingdom), Concordia University (Canada), the National Centre for Adult Education (Iran) and Syracuse University (United States of America). More extensive information was forthcoming from the Association for Educational Communications and Technology (United States of America), the American Society for Training and Development and the Tokyo Institute of Technology (Professor Sakamoto). The Association for Educational Communications and Technology (AECT) in the United States has been conducting research for some 15 years on the qualifications and recognition of staff working in the educational media. In 1977, AECT proposed to all education authorities precise norms governing qualifications, diplomas and status for staff engaged in media production or management. In all cases, the minimum requirement is a degree, occasionally at Master's level, and in most cases some form of teaching training is also required. A category of staff specifically concerned with modern educational techniques is recognized at the national level.

The Council for Educational Technology (United Kingdom) has recently completed a study of the rôles, activities, status, salaries and career profiles of high-level staff working in the fields of educational technology :

- organization of resources ;

- storage of training and learning materials ;

- organization of technical services ;

- information services ;

- production for training purposes ;

- printing and reproduction techniques ;

- planning of courses ;

- evaluation of courses and materials ;

- consultations within and outside the education system ;

- training ;

- research.

The work of identifying and formally defining functions is being continued and extended to other levels.

In their work "Media Personnel in Education : A Competency Approach" (Prentice Hall, 1976), Chisholm and Ely present an interesting comparative table of various approaches to the problem of functions.

3.2 Description of job profiles

3.2.1 The methodological approaches

The aim was to describe the skills needed to carry out each task in the various jobs or occupational functions, and to provide for each job identified a description of the duties and qualifications required : general education, specialized training, experience. In a word, answers were canvassed to the following simple but basic questions :

- what new skills must be acquired in order to carry out the new tasks entailed by the development of modern educational techniques ?

- if the rôles or functions are modified, in what direction and in what manner should skill requirements be changed in order to ensure that staff are able to perform effectively ?

Two specific problems arise in reviewing the job profiles :

- the multifarious and complex nature of some of the submissions ;

- the failure to adhere to the rôle identifications provided in the model.

The method adopted for analysing the job profiles is once again to compare them on a regional basis. A case study has been selected for each region, and a list of job profiles drawn up.

3.2.2 The case studies

3.2.2.1 Europe

The case study of France's National Centre for Educational Documentation (Appendix D) provides a list of the Centre's personnel which enables a detailed analysis to be made of each post. This list points up the preponderance of educationists.

The United Kingdom and Hungarian studies offer job classifications which in the former case is locally specific and in the latter case is nationally specific. These two descriptions of tasks and competencies are to a great extent complementary, but cannot easily be outlined in this synthesis.

The Hungarian study presents a number of interesting general conclusions. For the manager and administrator categories, educational technology entails new tasks which encompass responsibilities of a conceptual and financial nature, since those occupying such positions of responsibility are required to take decisions not only on educational matters but also on questions relating to production techniques and financing.

Researchers, designers, producers and trainers working in the field of educational technology represent a new type of specialist. The main feature of their job profile is greater versatility, and even, in the case of the audio-visual production technicians (cameramen, graphic artists, etc.), some knowledge of teaching methodology and, above all, considerable creative flair.

Federal Republic of Germany

In the study presented by the Federal Republic of Germany, each function is first identified, after which a detailed analysis of the task involved is provided (cf. 3.1.2.1, under Federal Republic of Germany).

The job profile of subject experts, who form the basis of the Institute's personnel (34 staff members), is of particular interest. Their function is to ensure that co-ordination is maintained throughout the production process between strictly educational requirements and the technical and financial possibilities and constraints. This is a difficult job, calling for special skills in four main areas:

- the subject itself ;
- pedagogics ;
- ability to translate ideas into audio-visual and printed materials ;
- ability to facilitate group work.

Such a job calls for highly qualified persons who wish to continue to learn. The qualifications required are the following:

- Abitur (secondary school certificate) and first-level State diploma in education ;

- two to three years of classroom experience, and second-level State diploma in education ;

- a minimum of three years full-time teaching experience after obtaining the second-level diploma together with considerable experience of audio-visual media ;

- experience in the production of simple audio-visual aids in the classroom.

In addition to these qualifications, it is desirable for the new would-be subject expert to have some experience in training teachers, either as lecturer or assistant lecturer. However, candidates seldom meet all these requirements. Hence the Institute considers a sound scientific training and a minimum of three years' teaching experience in the relevant subject to be the most important criteria. In addition, candidates must be familiar with new scientific and educational developments.

Likewise, experience in the use and/or production of audio-visual aids is desirable, but not essential. This is because amateur interest in the field of media production may prove a handicap when it comes to learning professional production techniques. However, it must also be acknowledged that teachers who have never used audio-visual aids will have difficulty in understanding the audio-visual productions originated by the Institute. It has also become apparent that subject experts who have had an excellent scientific training but possess no experience of teacher training are not in general proficient at producing audio-visual materials.

Subject experts lose their "edge" and need to change their job after five years. Eight years is the absolute maximum period of service. Their return to their previous occupation is generally attended by an improvement in their status, thanks to the experience acquired at the Institute. Such posts are greatly sought after, and carry status and salaries rather above those of conventional teaching posts.

3.2.2.2 Africa : Ivory Coast, Niger

The case studies provide detailed information on the evolution of skill levels of different categories of staff.

Ivory Coast

The Ivory Coast study provides extremely detailed criteria for the following posts :

1) For the production of educational television broadcasts :

- educationist/subject expert and expert in learning methods
- multimedia package designer/script-writer
- multimedia package designer/editor
- production manager
- producer
- feedback linkman
- multimedia documentalist

2) For teacher training :

- lecturer
- audio-visual instructor
- closed-circuit television operator

3) For non-formal educational programmes :

- out-of-school activities organizer
- research officer
- research assistant, inside the production unit
- research assistant, outside the production unit
- head of broadcasting

4) In the field :

- teacher
- primary schools inspector
- educational adviser.

We shall concentrate on certain job profiles corresponding to the duties described in 3.1.2.2 (under Ivory Coast), as they are fairly typical of profiles of staff responsible for drawing up educational programmes, and of the changes made in conventional job profiles (teachers in the field).

1) Production of educational television broadcasts

a) Educationist : responsible for putting together the educational package

The following skills and abilities are required :

- considerable experience of primary school teaching ;
- a grounding in educational sciences, with particular reference to the formulation, analysis and evaluation of educational objectives and to methods of learning ;
- knowledge of the sequence of production ;
- knowledge of mass communication problems (radio, TV and printed support material) ;
- ability to evaluate classroom use of broadcasts ;
- knowledge of semiology as related to education ;
- knowledge of the environment, particularly in its social and cultural aspects ;
- familiarity with documentary techniques ;
- creativity ;
- proficiency in typing.

At present, the level of general education required is that of the baccalauréat (currently, most hold the Brevet d'études du 1er cycle) ; ideally, the requirement for this post should be a university degree. Teachers working at the Production Centre must in any case have had several years experience in the field.

At the Centre they receive six weeks' initial training in the production sequence and mediated communication problems.

b) The multimedia package designer/script-writer : jointly responsible with the producer for the finished audio-visual product.

The following skills and abilities are required :

- familiarity with the production sequence ;

- basic knowledge of production equipment and processes: TV, film, sound, print media ;

- knowledge of mass-communication problems and of semiology as related to education ;

- knowledge of image psychology ;

- familiarity with educational problems (identification of objectives, teaching and evaluation methods, target audiences) and experience of primary school teaching ;

- creative ability ;

- flair for "visual writing" ;

- ability to formulate documentation requests ;

- knowledge of the environment, notably in its cultural, social, economic and political aspects ;

- basic knowledge of graphic techniques ;

- basic knowledge of evaluation methods and techniques ;

- proficiency in typing.

The level of general education desired is that of the baccalauréat plus two years of higher education. Candidates for this post from the teaching profession generally hold the Brevet d'études du 1er cycle and have had several years' experience of teaching in the field.

Audio-visual skills are acquired at the Centre in the course of some 18 months' training spread over several years in six-week periods, alternating with production work.

c) The multimedia package designer/editor : in charge of the production of printed materials.

The following skills and abilities are required :

- familiarity with the production sequence ;

- basic knowledge of production equipment and processes : TV, film, sound, print media ;

- knowledge of mass-communication problems and of semiology as related to education ;

- familiarity with educational problems (identification of objectives, teaching and evaluation methods, target audiences) and experience of primary school teaching ;

- creative ability ;

- ability to formulate documentation requests ;

- ability to write clearly in French ;

- aptitude for analysis and synthesis ;

- knowledge of the environment, notably in its cultural, social, economic and political aspects ;

- knowledge of evaluation methods and techniques ;

- basic knowledge of graphic techniques ;

- proficiency in typing ;

- knowledge of written English.

d) Production manager : in charge of the planning and management of the human and technical resources required to produce broadcast series.

The level of general education desired is that of the baccalauréat ; in practice, the incumbent, being a former teacher, will hold the Brevet d'études du 1er cycle. Part of his training is provided at the Centre, during the joint sessions for multimedia package designers and producers.

It is planned to arrange further, specialized training in the form of on-the-job courses or practice periods abroad.

2. Training of teachers

a) Audio-visual activities organizer

The incumbent has de facto responsibility within the teacher training college for audiovisual-based training.

He should possess the same level of teaching knowledge and ability as lecturers in teacher training colleges, plus a familiarity with :

- audio-visual communication problems ;

- techniques for organizing video-based activities;

- film-shooting, sound-recording and editing techniques for optimal use of closed-circuit television.

General education requirements are similar to those for his fellow lecturers at the teacher training college : baccalauréat, plus two years in Section IV at the Ecole Normale Supérieure. The incumbent receives supplementary training in audio-visual techniques during short courses at the Centre.

3. In the field

a) Teacher : he or she should possess the skills and abilities needed to :

- organize and stimulate group activities ;
- organize and give direction to courses of instruction ;
- make effective use of the system's resources ;
- evaluate both the pupils' attainments and his or her own work as a teacher ;
- consolidate and extend the continuing training he or she receives through self-instruction ;
- master the new curriculum content and new methods introduced into the classroom.

The training received is either that of an assistant teacher (one year) or a teacher (two years). This training is continued throughout his career by means of lifelong education schemes.

b) Primary schools inspector

The primary schools inspector is responsible at the educational and administrative levels for primary school teachers within his district. He or she must possess the skills and abilities needed in order to :

- gain a good knowledge of the local environment ;
- become completely familiar with educational problems as these occur in the classroom ;
- organize working groups ;
- assess the results of summative and formative evaluation exercises ;
- devise evaluation tests ;
- analyse evaluation results and identify learning difficulties ;
- attend to all administrative duties.

The Inspector's vocational training is obtained at the Ecole Normale Supérieure. He is recruited on the basis of a competitive examination from among teachers with a minimum of ten years' experience in public education, of which at least five must be in a post with tenure. After three years' study, he takes the examination for the Certificat d'aptitude à l'inspection de l'enseignement primaire (CAIEP).

Further training is provided in the form of in-service courses.

c) Educational adviser : the educational adviser is responsible in all educational matters for primary school teachers within his province.

He is required to possess the following skills and abilities :

- thorough knowledge of educational problems, particularly those relating to classroom practice ;

- familiarity with the tools and methods of evaluation.

He or she is selected from among the most experienced teachers in established posts. The National Centre for Lifelong Training and the evaluation service organize in-service training courses.

Niger

Télé-Niger was organized on the following lines :

The Director - also serving as an inspector of primary education - assumed full responsibility for administration and production.

The division responsible for originating the educational broadcasts comprised the following units :

French	10 producers
Mathematics	4 producers
Reading/writing	5 producers
Pre-vocational training	1 producer
Environmental education	2 producers
Lifelong education	5 producers

These units were responsible for devising the broadcasts. Following the guidelines provided by the Director and under his supervision, the producers devised the programmes, decided on the number of broadcasts, drafted their content, monitored the production and recording, devised and wrote the data sheets and the various printed materials for pupils. The personnel assigned to these duties was made up of primary school teachers supervised by a number of French technical assistance staff with the same job profile. A Bureau for educational co-ordination was responsible for monitoring and rationalizing the entire output.

The Teacher Training Department consisted of two producer-trainers, one evaluator and six educational advisers. This Department was responsible for selecting teachers wishing to work with primary school TV classes, and produced the training programmes broadcast by radio and television as well as lifelong-education programmes. It also organized feedback concerning production towards the schools and colleges, as well as lectures and courses.

One of the strategies adopted by Télé-Niger was to work in the field with national staff - teachers, organizers, instructors - in order to set up a communication system in an integrated environment and to "spread education in a tone and with gestures and attitudes that were familiar to the children. This is an important factor, since teachers with roots in other cultures would have constantly disturbed the pupils' perception of the messages and distorted their meaning ; the presence of national instructors, on the contrary, is a guarantee of clarity. Moreover, their presence gives pupils a sense of security : it is their own people who are doing the instructing".

The instructors were selected from among young people holding the CEPE (Certificate of basic primary education). "Thus what dictated their selection was less know-how than a willingness to act, less knowledge than a desire to learn, less concern to comply with instructions to the letter than interest shown in the children. Generally speaking, the prime quality sought after was what is conventionally termed the instructor's "value as a human being"."

3.2.2.3 Latin America

The Asociación Latino-Americana de Educación Radiofónica (ALER), of which INCUPO is a member, has considerable experience in using radio as a medium in literacy and health education programmes. INCUPO is concerned primarily with religious and social education through radio broadcasting and distance education in northern Argentina.

The INCUPO study analyses each job in the field (monitors and instructors) and at the central level.

"The philosophy of this Institution (a vision of the world and of mankind that accords with Christian inspiration and doctrine) is geared to spreading this belief ... A specific system of inner training is required ... The staff study in particular the Church's social doctrine, cultural anthropology, social psychology, economics, sociology, history,etc., as well as adult education techniques and communication. The calibre of the staff guarantees the value of the programmes presented".

The chief qualifications required for the job profiles studied may be summarized as follows :

Director-General

- knowledge of social Christianity and communication systems ;
- knowledge of pedagogy and training systems ;
- all-round abilities and attitudes.

Secretary-General

- the same as for the Director-General ;
- a practical knowledge of financial and administrative problems.

Head of the documentation and research department

His function is that of researcher/co-ordinator, requiring an ability to :

- take decisions ;
- lead his team and manage its resources ;
- conceptualize and transmit information.

Researcher

A university graduate specializing in the social sciences, he must be able to :

- work in a team ;
- co-ordinate and supervise activities in the field ;
- grasp the institutional objectives.

Documentalist

Secondary level education is required, supplemented by training as librarian or archivist, together with an ability to :

- work in a team ;
- grasp the institutional objectives ;
- communicate.

Head of CECAL (Centre de Capacitación de Lideres - Training Centre for local community leaders). Requirements include a knowledge of the region, the language spoken and the local customs, familiarity with educational techniques, together with an ability to :

- outline the main aims and translate them into training situations in the field ;
- formulate operational objectives ;
- evaluate ;
- employ local resources, both human and technical.

CECAL teacher

Same basic knowledge requirements as for the Head of CECAL, together with an ability to :

- work in a team ;
- take account of social values and local customs in his or her teaching.

He is trained within INCUPO after completing his primary education.

Field delegate

Requirements for this voluntary worker include primary education and an ability to :

- communicate ;
- transmit information clearly ;
- organize local resources.

The hundred or so INCUPO field delegates constitute the "system's essential grass-roots workers".

INCUPO also provides a hierarchical classification ; however, "the specialized skills of staff are not recognized officially, and INCUPO is not in a position to provide its staff with qualifications or diplomas".

There is a system of internal recognition and promotion which bears no relation to the civil service system.

The following table provides a few particulars concerning salary levels. If a primary teacher's starting salary is taken as the bench-mark (100%), then :

a CECAL teachers receives	162%
a provincial head	118%
the head of publications	198%
the Director-General	390%
the head of radio broadcasts	198%
a researcher	175%
a CECAL instructor	59%

In the light of this study and of the observations of Chadwick (1979) and Romiszowski (1977), it is clear that the tasks and competencies of staffs in Latin America first need to be identified with the requirements of the region.

3.2.2.4 Asia : India, Malaysia

India

The Delhi School Television Project, which has been operational for 18 years, comprises :

a) the Delhi School TV Service (ETV), the oldest and best organized ;

b) the TV Branch of the Delhi Directorate of Education, which works in co-operation with the Delhi TV Centre.

The situation is very similar to that of schools and educational broadcasting in the United Kingdom, from which Radio India drew much of its early expertise. As regards the career prospects of staff, the position is very much the same. The staff engaged on the Delhi Programme is employed by the Central Government or the Delhi Administration, and is categorized into four grades of officers:

Grade 1 : management, top technical

Grade 2 : educational middle level

Grade 3 : clerical, junior technical

Grade 4 : service staffs

Taking 100 as base, representing the salary of an elementary school teacher, then :

TV Branch teacher receives	176%
TV Branch Assistant Director	364%
TV Branch Director	545%
Producer	197%
Director, Delhi School TV Service	454%

Table 4 summarizes the desired abilities and the qualifications required for such posts.

Malaysia

The information provided by the Educational Media Service (EMS) in Kuala Lumpur, Malaysia, is of great value for this synthesis. This Service is an integration of Schools Radio, the Audio-Visual Aids service (AVA) and Educational Television serving the Ministry of Education.

The EMS prepares and produces all programmes and supporting materials for educational broadcasts at all levels in Malaysia. It works frequently in five languages, covering most subjects in the school curriculum through some 40 hours of broadcasting per week. The AVA prepares materials for publication, runs courses and evaluates equipment. A common administrative unit also houses evaluation services. The EMS works with other units at the Ministry, especially in teacher training. The breakdown of staff is as follows :

Audio-visual aids	17
Radio	56
TV	65
Administration	30
	168

TABLE 4 : Educational television, Delhi. Abilities desired and qualifications required of staff

Job	Desirable abilities		Level of responsibility	Qualifications on recruitment	
	Existing skills	New skills		Present	Additional required
Director, TV Centre	Intellectual Human relations Administration	-	High	University degree Media experience	-
Assistant Director, TV Centre	Intellectual Human relations Administration	Management of TV and ETC operations	High	University degree Media experience	Advanced training in TV communication
Activities Co-ordinator	Intellectual Human relations Activity leadership Field supervision	Organization of ETV operations	High	Postgraduate Degree in Education/Teaching supervision for 5 years	Training in ETV organization
Producer/ Co-ordinator	Intellectual Communication skill Team leadership	ETV production	High	University degree or diploma in film/TV/theatre. Experience in radio/TV presentation	-
Production/Research Assistant	Stage setting skills Human relations	Exposure to ETV	High/ middle	Secondary school certificate Experience of stage setting Teaching experience in schools (2 years)	Training in ETV
Scriptwriter	Subject competence Communication skills	Aptitude for visual representation	High	Postgraduate Degree in Education/Teaching for 5 years	Training in scriptwriting and visual conception
TV teachers	Intellectual Subject competence Teaching skills	Understanding of ETV	High	Postgraduate Degree in Education/Teaching for 5 years	Training in scriptwriting and ETV utilization
Classroom teacher	Subject competence Human relations Teaching ability	Training in ETV utilization Orientation in evaluation	Middle	Postgraduate Degree in Education	Training in ETV utilization

The service is an integrated one, that is, all staffs serve on a common governmental scale and rôle requirements are specific for recruitment purposes.

3.2.2.5 Arab States : Algeria

The personnel referred to in the Algerian case study are those working under the direct authority of the Ministry of Education in :

- the Technical and Educational Centre for Audio-Visual Aids
- the Technical and Educational Centre for Science Education
- the Centre for Supplementary School Activities and the Educational Film Co-operation.

This case study does not correspond to the Unesco model, but provides a summary of the tasks involved and gives particulars concerning the general operating conditions as defined by ministerial decree when the Service was established in 1964.

Inspector of Primary Education

Inspectors are responsible for maintaining educational standards and for advising teachers on professional matters. They are recruited following a two-year probationary period, after completing their training at the teacher training college and acquiring the necessary classroom experience. They serve as liaison officers between the centres and the schools.

Specialist teachers

Such staff are spread among different services, their function being :

- to help slow learners and the physically disabled ;
- to assist in pre-vocational training schemes (apprenticeships) ;
- to undertake educational research and research relating to audio-visual aids.

Such staff must be at least 23 years old and have had five years' teaching experience after certification.

General service teachers

Such staff provide elementary instruction and operate the

audio-visual programmes. After completing their teacher training and reaching the age of 18, they acquire the status of qualified teachers. The educational staff of the above-mentioned Centres is largely composed of such teachers.

Technical staff

The breakdown of technical staff is as follows :

Head of the audio service	Illustrators/graphic artists
Head of the visual service	Head of the research service
Head of technical services	Head of the broadcasting service
Producer	Head of prototype section
Head of publications	Head of maintenance services

Such technical staff employed in educational establishments have responsibilities consistent with their specialized skills. They work under the supervision of researchers, teachers and engineers to produce inter alia photographic documentation, audio materials, illustrations for supporting texts, to plan and monitor the production of educational materials, and more particularly to take part in "training users and producers of educational films and carrying out checks thereon, and in general to facilitate training in the use of audio-visual techniques".

The general service technicians assist in the work of the technical/artistic production units.

3.2.2.6 Other examples : United States of America, Canada, Japan

The major contribution from the United States is that of the Association for Educational Communication and Development (AECD). Its "Guidelines for Certification" contains a close analysis of core competencies for jobs in media management and media production. Its inquiries reveal a wide range of certification according to individual State requirements.

Table 6 summarizes the preparation requirements for the certificates listed, indicating whether or no library or media qualifications are essential.

Whilst certificates with combination titles reflect professional preparation in both library and educational media (including educational TV), the preparation in library is at present considerably more extensive.

"It appears that educational media specialists and librarians are different kinds of workers ... Educational media personnel are in media product development, instructional programme development and media management ..."

TABLE 6 : Association for Educational Communication and Development :

Analysis of certificates leading to a media activity

Title of certificate	Total no. of certificates	No. of certificates with no Library requirement	No. of certificates with Library and Media requirement	No. of certificates with no Media requirement	No. of certificates with no specified requirement
Audiovisual Personnel	11	6	3	0	2
Library Personnel	54	0	8	32	14
Ed. Media Personnel	39	9	20	0	10
Learning Resources Personnel	2	0	1	0	1
AV Library Personnel	4	0	1	0	3
Media/Library Personnel	17	0	12	2	3
TOTALS	128	15	46	34	33

Considering the years of teaching experience required for media certification it appears that the rôle of educational media specialist continues to be directly related to instructional support and classroom instructional activities.

Extensive examination of the qualifications required before certification shows that graduate qualification is generally indispensable, and it is usually backed with teaching qualifications and experience.

Each function is analysed for supporting competencies required by :

Media Management Specialists

Media Management Technicians

Media Product Specialists

Media Product Technicians

Development Specialists

Development Technicians

and the resulting profiles are displayed as related histograms. Table 7 illustrates the detailed analysis offered by AECD.

The American Society for Training and Development has also made a comprehensive survey of required competencies (1978). Whilst not requiring certification as a guideline for employment in industrial/commercial/armed forces training schemes they match the AECD in their required recruitment and competency profiles.

In Japan, the endorsement of a teacher's certificate with an audio-visual speciality appears to be the acceptable mode of profiling staff using "modern methods".

The post-graduate courses offered by Concordia University, Canada (Appendix A) may be regarded as typical of the advanced courses - hence required profiles - developed for the training of educational technologists and the like. Its particular relevance is to the section on training but its content gives a good indication of the required competencies and, to some extent, of the difference between this and the pragmatic approach adopted by the less developed countries.

TABLE 7 : Association for Educational Communication and Development

Competencies required for the main functions

Function	Title of Main Competency	Number of detailed sub-competencies
Organization and Personnel Management	To improve communication of technicians/artists	3
	To supervise Graphics Unit	4
Research/Theory	To conceptualize theoretical models	18
	To conduct research project	37
	To analyse research data	10
	To improve standards of research projects	5
	To research learning strategies for computer-aided instruction	24
Design	To design instructional materials for a course	13
	To design programmed instructional material	30
	To design materials for Instructor Training	14
	To co-ordinate design of Instructor Training Course	11
	To write Unit for Instructor Course	6

For example, in the last case quoted - "to write Unit for Instructor Course" - the six sub-competencies listed are :

- analyses learning mode ;
- assigns modes to objectives to provide model for instruction ;
- analyses lesson plans ;
- designs sample lesson plans ;
- analyses test instructions ;
- designs sample tests.

3.3 TRAINING POLICIES

The 35th Session of the International Conference on Education, held at Geneva in 1975, dealt with the new profiles and new status for teachers and other professionals in education. The inquiry clearly confirms the existence of these new profiles, particularly in specialized institutions and centres, i.e. at the meso level (cf. section 1.7 above). The professional at this intermediary level is a specialist with a new rôle whose task derives from a new division of labour in the education field. The inability or refusal of administrations to recognize these new rôles is a core complaint of this "new professional". Nevertheless, the qualifications and training corresponding to the new job profiles must be identifiable if the new rôles are to be officially recognized. The following pages offer a tool for identifying these job profiles in the form of a rôle functions model. Even though the procedures for granting official recognition are fairly well advanced in some countries, the rôles themselves are nearly always regarded as variants of the traditional teaching rôle. As was said in 1975 : "certification does not include an evaluative criterion for suitability in innovative roles"."

3.3.1 The methodological approaches

The introduction of modern communication media into education systems generally presents the national authorities with problems of training policy. Basing themselves on the analytical model proposed, the case studies were aimed at establishing :

- which professionals have received training and in what form (on the job, in national or foreign institutions) ;
- what forms of further training are required - and possibly planned - in order to encourage occupational mobility ;
- what are the institutions' needs for expanding activities during the coming years, and what forms of training have been planned for this purpose ;
- what problems have been encountered and what measures need to be taken in order to improve training.

3.3.2 The case studies

3.3.2.1 Europe

United Kingdom : Leicestershire Education Authority

This independent Authority co-operates with :

- a Centre for Educational Technology ;
- seven associated teacher in-service centres.

Training opportunities are essentially of an internal nature, being provided by the in-service centres, two local universities and the Polytechnic. An advisory team of 70 specialists with inter-subject disciplines provides in-service training. From time to time short courses are organized by the secondary schools themselves. The teachers as a whole have considerable influence on the content and direction of such courses ; the Authority's rôle is to monitor progress, advise, promote interest and fund the programmes. Courses in educational technology are also available at the national level.

This case study provides no statistical data concerning the current situation or future needs. This is undoubtedly because these specialists are seen by the Authority as part of the overall teaching force with the same level of recognition as is given to any other specialist. In this respect, the study states : "There are numerous courses in media management available nationally, ranging from simple skills courses in equipment maintenance for aspiring audio-visual technicians to degrees in educational broadcasting or educational technology. The Universities, including the Open University, colleges of higher education and the Polytechnics offer teachers long and short courses in most aspects of media production. Leicestershire teachers are encouraged to attend (...) courses specifically to do with media production. The prime objective of any such exercise would be, in any case, to produce a better teacher with skills in media production (and management) rather than a full-time media man".

France : the Audio-Visual Centre of the Ecole Normale Supérieure, Saint-Cloud

This Centre enjoys a considerable reputation for the training programmes which it offers for national and foreign students and in-service teaching staff. The job identifications highlight the rôle of education specialists and subject researchers and show in detail the heavy demands made upon them for both instructional and programming tasks. The extremely multifarious character of the work makes it impossible to provide training in any one specific field.

France : National Centre for Educational Documentation (CNDP)

The CNDP has a staff of over 5,000, working at Headquarters and in 25 regional centres (CRDP), 60 local centres (CDDP) and six educational television centres (cf. Appendix D).

Many of the CNDP staff are recruited from among former trainees of the Audio-Visual Centre at Saint-Cloud. However, there is no internal staff training system.

France : Audio-Visual Resource Centre, Saint-Quentin-en-Yvelines

This Centre has been operational since 1976, and has a very extensive field of action, working in close contact with formal, life-long, social and vocational education institutions.

"This means that, whatever their own special field, the professionals are at all times both trainers and teachers".

With regard to training, the general policy is to rely on the St. Cloud Audio-Visual Centre, the CNDP and the CRDP. The initial training of Saint-Quentin staff is described in the following terms :

"As audio-visual resource centres currently operate, staff recruited to them do not form part of the national education system. They have received specialized training, either in university departments which offer audio-visual training courses, notably as part of the Master's degree in communication sciences and techniques, or in private organizations and institutes".

Federal Republic of Germany : Institut für Film und Bild in Wissenschaft und Unterricht (Institute for Audio-Visual Aids in Science and Education)

This Institute provides a national service through 400 regional and local centres (cf. 3.1.2.1 and 3.2.2.1).

Its training policy is dictated by the vast range of staff categories. The case study devotes particular attention to the training of subject experts. Such training ranges from scientific university education, supplemented by special training in film and television production, to short in-service courses for teachers at local resource centres. Some 400 subject or media experts work full-time in the production of audio-visual materials.

The 34 subject experts working at Grünwald are all trained teachers with at least three years' classroom experience. All newly appointed staff at the Institute receive in-service training for approximately three years. This training ranges from informal experience to symposia and projects which have to be prepared and presented.

After five years, all such staff resume direct contact with educational institutes and students.

Hungary : Orszagos Oktatastechnikai Kozpoint (OOK) (National Centre for Educational Technology)

The case study from Hungary surveys the situation as regards educational technology in the country (cf. 3.1.2.1 and 3.2.2.1) and distinguishes between teacher training in educational technology and specialist training.

Of the 406 educational technologists recorded as working in 57 institutions (regional centres for educational technology, teacher training colleges and institutes, colleges and universities), 75 have followed courses lasting less than three months, 13 have followed courses of over three months and 9 have studied abroad.

There is judged to be a very considerable need for educational technologists. According to the data supplied, initial and continuing training still needs to be provided for some 500 specialists. Training is the responsibility of OOK and its five regional centres, which organize specific training activities either in the form of courses or in the form of modular self-instructional packages, of which 30 - out of a planned total of 82 - have already been completed.

The training of teachers in educational technology is undertaken by universities and teacher training colleges. This takes the form of :

- basic training for future teachers in teacher training colleges and education departments of institutes and universities (60 hours) ;

- in-service, continuing training for teachers in regional distance-education institutes (30 to 150 hours).

Finally, specialized training, leading to a diploma in educational technology and lasting one to two years, is provided at OOK.

The table below summarizes the courses in educational technology offered in Hungary in 1977.

		Average number of participants
Central OOK courses	Specialists	789
Regional OOK courses	Further training for teachers	230
Regional courses	Further training for teachers	658
Teacher training colleges	Teachers under training	9380
Specialist centres in universities	Lecturers/ specialists	212
Education centres	General service teachers	620

In the case of all these courses, it is difficult to distinguish clearly between educational technology and instruction in audio-visual methods. The study is an extremely interesting one, providing as it does a representative picture of a centralized national policy in operation.

3.3.2.2 Africa

Ivory Coast : Educational Television Programme

The case study stresses that the national goal is to develop an overall education system supported by educational television. Originally, most of the staff working for the communication channel were teachers trained on the job ; technical staff are either civil servants employed in the Ministry of Information or contract employees (i.e. non-established staff). Since 1975, 79 staff members have undergone vocational or university training, with particular emphasis on "on-site" courses. The table below summarizes the training situation in 1978.

Educational Television Programme

Number of participants in training courses in 1978

	Internal short courses	External short courses		External long courses	
		Ivory Coast	Abroad	Ivory Coast	Abroad
Administration	12		1		
Teaching/Research	70	11		1	19
Technical/Artistic	101	11	7	42	17
Documentation	11		1		
Services	76	7	6		
TOTAL	270	29	15	43	36

A major effort has been made to replace expatriate staff by nationals in jobs involving evaluation, which forms part of educational research ; 10 specialists underwent training at the Laboratoire de

Pédagogie Expérimentale in Liège, and six courses were organized locally for educational advisers and producers. 67% of all serving teachers have received training under the Educational Television Programme. The case study draws attention to the importance attached by the Programme to developing national training institutions.

Training establishments

- Centre for Audio-Visual Teaching and Research (CERAV), University of Abidjan ;
- the Training Studio of the Ivory Coast Broadcasting Corporation (SERTI) ;
- the Educational Technology Centre of the PETC (for technical and technical/artistic staff) (CSTE).

Niger : Télé-Niger

The study on Télé-Niger includes teachers in charge of classes using its TV programmes. The types of training provided are summarized in the table below :

	On the job		Specialized courses lasting over three months	
	No training	Courses under three months	In Niger	Abroad
Administration	2		3	2
Teaching		122	31	10
Technical/Artistic			25	14
Technical support			29	11

This table corrects the idea that one of the features of Télé-Niger is that is trained its own staff. The case study points up as a weakness the failure to institute a training policy and procedure from the outset. The palliative measures taken each generated many problems. The report accordingly concludes that "As far as new

training courses are concerned, it would be desirable for these to be organized jointly with specialized establishments and production centres, and to be balanced, in theory and practice, by periods spent on actual production work".

Mauritius : Mauritius College of the Air

The training policy pursued by the College is dependent upon other Mauritian institutions : the Broadcasting Corporation, the Audio-Visual Centre of the Ministry of Education, the Ministry Film Unit, the Institute of Education. The technicians concerned with equipment receive practical training on the job. The College is granted fellowships abroad for purposes of training its staff, but generally speaking endeavours to recruit experienced personnel. Senior staff are usually university graduates or have a Fine Arts background.

Mauritius joins several other countries in questioning the relevance of training abroad.

"Past experience in Mauritius seems to indicate that long periods of training abroad can have several undesirable effects. During training, many trainees are so completely cut off from the realities of everyday work that they are completely overwhelmed by these realities once they are back and keep yearning for the 'ideal' conditions which they cannot hope to recreate".

It was therefore decided to limit overseas courses to periods of four to six months. In addition, salary scales are linked to continued service after training.

3.3.2.3 Latin America : Argentina, INCUPO

The authors of this case study have described in considerable detail the special nature of INCUPO's activities, and express doubts as to whether comparisons can be made with other training systems, in view of the fact that : "teaching methods in many academic institutions are not suited to the new and expanding demands for adult education in rural communities separated by vast distances and relying upon an integrated and on-going programme of instruction".

The nature of the work, the strategies of multi-media presentation, the production of educational kits or packages and the associated broadcasts all make it essential that training be adapted to the situation. Staff learn on the job. The case study outlines a training method in which periods of action alternate with periods of reflection.

The training facilities available to serving personnel include seminars for field staff, participation by INCUPO personnel

in seminars abroad, correspondence courses, group and individual counselling sessions. The spread of an instructional culture has led to the creation of an identifiable corps of specialists and field staffs. There is an identity of purpose, a need for action-oriented studies and a pooling of staff experience aimed at rationalizing the training systems of similar institutions in Latin America.

3.3.2.4 Asia : India, Delhi School TV Project

Information on training for the various functions is summarized in the table below :

TV Branch		
(Delhi Directorate of Education)	Directors	On-the-job training
	Educationists	On-the-job courses of under three months duration
	Technical/ artistic	No details - scriptwriter only in this category
	Technical and support	No training given
ETV		
(Delhi School TV Service)	Directors/ Producers	One on-the-job short course, one abroad for over four months
	Technical/ artistic	10 took courses at All-India Radio of over four months' duration

The case study provides the following additional information on the subject :

"The development of a training programme to provide education specialists with a grounding in communication theory and practice, and communication experts with an understanding of the process of education, is a long-term programme. ETV requires specialization in management, designing, production, technical execution, utilization and evaluation. Measures have been taken to built up appropriate training facilities. On the technical side, the Film and Television Institute of India, Pune,

has plans to start a course on TV production. On the educational side, the Centre for Educational Technology is developing new courses of training in different specializations. In addition, planning is under way to expand training facilities in the whole country through the creation of 30 Institutes of Educational Technology".

This effort corresponds to a planned mean growth rate for institutions up to 1985 of 5% a year.

3.3.2.5 Arab States

Algeria : Audio-Visual Centre of the National Institute of Education

The diverse and increasingly numerous demands made upon this national Centre for audio-visual aids frequently hamper plans for training. A very broad strategy has been instituted for the purpose of :

- organizing research on training arrangements and content ;
- preparing training manuals and texts concerned with modern educational techniques ;
- promoting attitudes and providing materials designed to bring about change within the traditional system ;
- providing special training for educational technologists within a multimedia system.

This action has to be pursued in the face of psychological resistance and tradition, the lack of precise objectives, the high cost of setting up new systems and the lack of continuity in recently launched projects. The Centre, which has been concerned with training for ten years, sent staff for long-term training to the Audio-Visual Centre in Saint-Cloud and the CRDP in Toulouse (France) between 1963 and 1966.

Unesco has taken part in on-site programmes, notably in connexion with courses on the aims and methods of audio-visual education. Despite the many difficulties encountered, such training schemes have had some impact. In the future, increased aid will be provided from national and foreign sources.

The training of technicians comprises :

- on-site training for technicians concerned with portable equipment ;
- more advanced training provided under contract with Radio Algiers and the Institute of Communications ;

- for high level technicians, when no training opportunities are available within the country, long-term courses abroad leading to a diploma.

3.3.3 Observations

Training policies and the strategies stemming from them vary with the experience and size of the institutions. Some have had lengthy experience in using modern educational techniques, while others are creating the bases upon which they may be used. This disparity is reflected in differing provisions relating to training. The Ivory Coast's Educational Television Programme has succeeded in setting up a national training scheme for all categories of staff which is linked to a precise identification of job profiles, whereas other institutions have resorted to on-the-job training or training abroad. In the case of long-term courses, training abroad has met with considerable reservations, as there is a danger of its alienating the trainees from their social and cultural environment and from the realities of working conditions in their institutions.

3.4 TRAINING CURRICULA, CONTENT AND ORGANIZATION

3.4.1 The methodological approaches

Institutions were invited to provide as detailed information as possible on the methods and content of training resulting from the policies chosen (cf. 3.3). For each occupational category identified, they were asked to indicate existing vocational training institutions, with details of the curricula, content, duration and certificate or diploma awarded in the case of each training course.

Some of the case studies provide few particulars on the subject, while others give a description of internal training courses as well as courses offered at the national, regional and local levels. One or two studies provided extremely useful outlines of the range of courses and opportunities available.

3.4.2 The case studies

3.4.2.1 Europe

France

a) The Audio-Visual Centre of the Ecole Normale Supérieure, Saint-Cloud

The training provided by the Audio-Visual Centre is devised on a modular basis, and covers three areas :

- the teaching of audio-visual methods ;

- communication and expression by audio-visual methods ;

- training teachers in the use of audio-visual media.

The requisite qualifications for recruitment may be summarized as follows :

Category of personnel	Level of qualification	Specialized training
Teachers/researchers	Ph.D/Master's degree	Annual course at the St. Cloud Audio-Visual Centre
Activity organizers/ teachers	Teacher's Certificate	Annual course at the St. Cloud Audio-Visual Centre
Producers/technicians	Baccalauréat or Brevet	Institute of Advanced Cinematography ; National School of Photography ; various technical colleges

b) Audio-Visual Resource Centre, Saint-Quentin-en-Yvelines.

The study does not describe the content of the training dispensed but indicates a number of national institutions providing courses in audio-visual techniques for the main job profiles.

i) Specialized training in audio-visual practices - Master's degree in communication sciences and technology, University of Grenoble III ; the Institut National de l'Audio-Visuel provides training for the following job profiles : director, organizer/producer, consultant and counsellor in audio-visual teaching methods.

ii) Specialized training in audio-visual equipment maintenance techniques - Degree in audio-visual technology from the University Centre of Valenciennes ; Advanced Diploma in multi-media production

from the Centre d'Education Permanente, University of Paris I.

iii) Specialized training in audio-visual methods as a supplement to training in librarianship - Institut des Techniques Documentaires of the Conservatoire National des Arts et Métiers, Institut d'Etudes Politiques, Paris (advanced, specialized course in information and documentation) ; photographer/graphic artist/set designer - senior technician's certificate in audio-visual expression, Technical Training Centre (cartoon film department) of the Paris Chamber of Commerce and Industry ; adviser in audio-visual teacher methods - University of Paris VIII, audio-visual option for the Master's degree in educational sciences.

United Kingdom : Leicestershire Education Authority

The study describes a local rather than a national situation. A publication of the Council for Educational Technology, "Qualifications in Educational Technology" (1977), provides some further information.

Information concerning university and other courses is provided in general terms, since each institute awards its own diploma or certificate. Generally speaking, all have the same approach to curricula. A useful comparison might be made of Appendix A (Concordia University, Montreal, Canada) with Appendix B (CSTE/PETV, Ivory Coast).

Federal Republic of Germany : Institute for Audio-Visual Aids in Science and Education

The case study highlights the fact that 60 graduates of university institutes are selected each year to undergo special training in the two schools for film and television production in Munich and Berlin. In these two establishments, 80% of the time is devoted to production and approximately 20% to education. Several fields of study are covered by the diploma awarded by them.

The Institute's 14 regional centres offer two or three short training courses each year for the heads of local audio-visual centres (approximately 400 in number). Specialized topics, such as "audio-visual media and communication" are dealt with by the regional audio-visual centres.

All in-service teacher training institutes in the Federal Republic of Germany offer regular courses, either on the media in general or in one particular subject-area. Some 50 institutes offer approximately 400 specialized courses a year to serving teachers ; these are attended by roughly 6,000 teachers each year. In addition, all probationary teachers attend regular seminars on the use of audio-visual aids. In some 20 universities there are professorships in media based education whose courses are attended by some hundreds of undergraduate and post-graduate students.

North America

American institutions, be they regional organizations such as the Organization of American States (Chadwick, 1979) or national bodies, such as the University of Syracuse (Diamond, 1977), adopt modular training systems.

The Association for Educational Communications and Technology (AECT) in the United States devises curricula for training in five specialities :

- educational media specialists ;
- media specialist supervisors ;
- media specialist trainers ;
- directors and administrators of institutions providing courses leading to media specialist certification ;
- staff of associations which evaluate training programmes and are consequently called upon to formulate evaluation matrices.

The training courses offered by some American and Japanese institutions take account of the most recent discoveries in computer and micro-electronic technology.

3.4.2.2 Africa

Ivory Coast : Educational Television Programme

The study analyses the training courses offered for each of the rôles identified under the Programme. It distinguishes between staff working in the Production Centre, who design, produce and disseminate the multi-media materials, and those working in the field - teachers, educational advisers, inspectors - who make use of them.

The Centre for Specialization in Educational Technology (CSTE) provides initial and further training for the technical and technical/artistic staff of the CETV and the CAFOPS. It specializes in particular in training personnel engaged in the production of multi-media materials. The methodological thread running through this training is one of experimentation, research and evaluation.

The Centre for Audio-Visual Education and Research (CERAV) of the University of Abidjan trains organizers of adult education programmes in the use of light-weight video equipment.

Other national bodies which participate or have participated in such training include :

- the Ivory Coast Broadcasting Corporation's training studio (SERTI) ;
- the university institute of technology of Abidjan University, electronics section;
- a number of foreign centres.

The content of various training courses provided by the CSTE is shown in Appendix B.

Niger : Télé-Niger

"The Training Centre for Information Techniques is the only institution which provides training in audio-visual occupations for radio, television and press personnel. The Centre has just been set up, and its first intake of 9 students is training for jobs in radio-broadcasting. The admission requirement is the baccalauréat or equivalent, and the courses last between one and three years. The course content and curricula, which were being prepared at the time of the inquiry, were not described."

Mauritius : Mauritius College of the Air

The preparation of the case study provided an opportunity to undertake a first analysis of job descriptions and qualifications. As staff are recruited locally and trained abroad, there is no set training curriculum. The development of the Mauritius Institute of Education heralds the establishment of a national training system for media specialists in liaison with the MCA.

3.4.2.3 Latin America

Argentina, INCUPO

The INCUPO curriculum is centred in particular on psychology, the history of Christian doctrine, social and adult psychology and the teaching of basic skills for development. At field level, the curriculum is applied by means of internal and external seminars, correspondence courses, programmed instruction materials, all of which are related to broadcasts and group meetings.

3.4.2.4 Asia

India : Delhi Schools TV

The Film and Television Institute, Pune, offers appropriate training courses for All-India Radio personnel.

The Pune Institute, which has already trained some 800 specialists through courses lasting five months, gives considerable prominence to practical work (75%). It offers specialized courses for producers, lecturers and instructors.

The New Delhi Centre for Educational Technology offers courses in script-writing, audio-visual systems design, evaluation procedures, and the organization and management of human and material resources.

The development of local cells of educational technology is expected to spread the use of such techniques widely.

3.4.2.5 Arab States

Algeria : Audio-Visual Centre of the National Institute of Education

Training in audio-visual techniques supplements the general training programme worked out for trainee inspectors of elementary education, university students taking courses in educational sciences, and primary and secondary school teachers.

Short courses are also organized for Ministry of Education staff. Table 8 below summarizes the objectives of such training and the forms in which it is provided.

3.4.3 Observations

The replies to this question cannot easily be synthesized. Some replies deal with matters at the national level, while others concern the internal operation of particular institutions. However, certain common denominators do exist. There is a general recognition of the need to provide special training for the designers and producers of audio-visual materials. In most cases, such specialization is conceived as an extension of teacher training.

Appendices A, B and C are useful reference documents, confirming as they all do the idea of a broadening of the teaching function and the recourse to extra-classroom criteria in order to define the objectives of training in audio-visual techniques.

TABLE 8 : ALGERIA : Audio-Visual Centre of the National Institute of Education
Programming of courses in "Audio-visual teaching techniques"

	Duration	Enrolment	No. of courses per year	Dates	Instructors	OBJECTIVES
General inspectors	2/3 days	15	4	October December	4	- audio-visual techniques, methodological problems - utilization of audio-visual techniques (taking account of the subjects taught) - rational use of specialized classes (timetable of work)
Heads of establishments - teacher training colleges - lycées - CEM (intermediate colleges)	3/4 days	15	10	October February March	4	- audio-visual techniques, methodological problems - integration of audio-visual media into classroom instruction - rational use of specialized classes - practical demonstrations
Bursars (financial administrators)	4/5 days	20	10	October November December	4	- integration of audio-visual media into classroom instruction - maintenance problems - purchase of educational equipment - organizational problems : functional use of premises
Inspectors of primary and intermediate education (IEEM) Educational advisers	4/5 days	60	4	Winter and Spring Vacations	8	- audio-visual techniques, methodological problems - integration of audio-visual media into classroom practice - practical demonstrations - handling of equipment
Lecturers/teachers : teacher training colleges, lycées and colleges	4/6 days	60	10	September December March	8	- audio-visual techniques, methodological problems - utilization of audio-visual media in classroom practice (by subject) - practical demonstrations - handling of equipment
Specialist teachers	4/6 days	60	2	Winter and Spring vacations	8	- practical use of audio-visual techniques in classroom instruction - handling of equipment

3.5 STATUS : STAFF CONDITIONS, RULES AND REGULATIONS

3.5.1 The methodological approaches

The main concern was to analyse the implications as regards status and staff regulations of the gradual development of the new profiles of specialists in modern educational techniques and the new training channels. What provision do institutions, and more generally national administrations, make for these new educational media specialists insofar as career prospects (recognition of diplomas, salaries, promotion) are concerned ? How are these new job profiles identified and integrated into the Civil Service ?

The synthesis aims to present information on meso-level staff as identified by the analytical model proposed, and highlights the difficulties encountered by the institutions.

3.5.2 The case studies

3.5.2.1 Europe

France : Audio-Visual Centre of the Ecole Normale Supérieure, Saint-Cloud

Three types of staff status are identified :

a) civil service staff who are public sector employees ;

b) contract employees whose status (CNRS-type) is identical to that of staff employed by the National Scientific Research Centre (CNRS) ;

c) temporary staff on short-term contracts (minimum of one year).

a) Civil servants

i) Researchers : university graduate level

Two grades : assistant lecturers, who have tenure, and assistants, who do not. Assistant lecturers have the same teaching load as university lecturers, while assistants are required to work a minimum of 15 hours per week in addition to the time spent on research. The time actually worked regularly exceeds this requirement. No account is taken of the new specialized duties of such staff in career structures. They are entitled to university vacations, albeit only insofar as production requirements permit.

ii) Producers/advisers/teachers

These are established civil servants coming under the Ministry of Education - primary and secondary school teachers - who are seconded to the Saint-Cloud Audio-Visual Centre.

After a first, probationary year, secondment is extended to three years, renewable. Although their specialized qualifications in educational technology (diploma awarded by the Saint-Cloud Audio-Visual Centre) are not recognized, for salary purposes they are ranked two grades higher than their actual grading. Although it may be possible for them to acquire a specialized qualification, the criterion for admission is not initially based on any specialized audio-visual skills. They receive a quarterly allowance of FF 700.

iii) Technical staff ; technical college qualification

School hours, 37 days annual leave. Promotion is either by seniority or on merit. There is also a procedure for securing promotion based on written and practical tests. Such staff receive a quarterly allowance of FF 700 for overtime ; but there is no provision authorizing overtime payments for production work.

iv) Administrative staff

Their working conditions are comparable to those of education-office staff (a 37-hour working week and seven weeks' leave).

b) Contract staff

The status of contract staff is determined by reference to the status of the various categories of staff employed by the National Centre for Scientific Research (CNRS). Technicians are paid at the same rate as the Saint-Cloud Audio-Visual Centre's established staff. Producers/cameramen/editors do not enjoy such good conditions as those obtaining in the private sector. The trade unions are trying to secure improvements and recognition from a reluctant administration, which points out that guaranteed employment compensates for the higher salaries paid in the private sector.

A comparative table of technician and production staff salaries shows a salary scale averaging out at 250% (100% = primary school teacher). Such contract staff work a 38-hour week and have eight weeks' annual leave.

The copyright of materials produced at the Saint-Cloud Centre is at present a vexed question. There are also considerable disparities between the status and working conditions of seconded personnel and those of university staff of comparable level. Qualifications in audio-visual techniques and educational technology are not officially recognized.

France: Audio-Visual Resource Centre, Saint-Quentin-en-Yvelines

Staff employed by the Centre are recruited by the "Association for the Promotion of Social and Cultural Activities" governed by the Law of 1901, in accordance with job profiles drawn up by the Director. However, such staff are treated as employees of the Association, enjoying the corresponding status, only at two grades : that of "administrator and organizer-co-ordinator", corresponding to the post of Director, and that of "technician-organizer", corresponding without distinction to the other job profiles at the Centre.

The sole advantage in respect of promotion and career structure is the salary increase that comes with seniority. Annual leave is set at 30 working days. Salaries are calculated in accordance with the Civil Service scales ; however, no provision is made for "family supplement". Staff are free to join the trade union of their choice. The Centre has no difficulties to content with in regard to staff rules and regulations. Copyright is vested in the Centre.

Federal Republic of Germany : Institute for Audio-Visual Aids in Science and Education

Subject experts are seconded from various State schools ; they work for five to eight years at the Institute, during which period they may receive promotion on the salary scale. Some heads of department and technicians may be employed for longer periods, on terms similar to those obtaining in educational institutions of the same type. They generally belong to the appropriate teacher unions.

Comparative table of salaries (primary school teacher = base 100)

Subject expert	191
Head of department	234

United Kingdom : Leicestershire Education Authority

The main salary scales apply to members of production teams. The following comparisons may be made :

(Primary school teacher = base 100)	
Head of resource centre	230
Advisers/researchers	320
Technicians	90
General service staff	75

Salary scales and conditions of employment are related to the nationally agreed scales for teachers, advisers and inspectors. Local Authority scales of pensions, leave and hours of service equate to those for schools and college staff. Technical and general service staff usually receive some six weeks' leave. There are payments for special qualifications in media production or management which equate with any other specialization payment for qualifications in, say, science or the arts. No specialization, save that of librarian, is officially recognized unless associated with a teaching qualification.

Hungary : National Centre for Educational Technology (OOK)

The OOK draws attention to the diversity of the job profiles of the educational technologists working in the various institutes. Stress was placed on the functions of : training, briefing, counselling, administration, media design, in accordance with the institutions' particular needs. The universities and teacher training colleges accept that full-time specialization for staff in educational technology is justified ; colleges training nursery school teachers, regional centres and other colleges are less convinced of this.

Research and publication opportunities appear to exist in most institutions, and younger employees have the right to continue their studies. There are professional unions to which staff may belong. Copyright appears to belong to authors. Conditions of employment of teaching staff at OOK are similar to those of staff in university departments.

3.5.2.2 Africa

Ivory Coast : Educational Television Programme (PETV)

The Programme employs both national and expatriate staff. The latter, who are diminishing in number as they are progressively replaced by qualified nationals, are recruited either under bilateral co-operation agreements (in particular with Canada and France) or as temporary contract staff.

National personnel are classified in three categories, differing in the methods by which they are recruited and administered.

Temporary workers are taken on to occupy vacant posts when it is not possible to appoint civil servants. They are placed in one of four categories, according to their level of qualification. Each category is further split up into groups and sub-groups.

Day workers are paid from budgetary appropriations other than those earmarked for staff expenditure. They generally do minor jobs.

The comparative table below shows selected salaries :

Category		Starting Index	Final Index
A	Inspector	169	348
	CAFOP teacher/lecturer	139	271.5
	Works engineer and head of production	101	264
B	Teacher (primary school)	100	207
	Operations monitor	75	189
	Printing assistant (technical)	55	119
C	Assistant teacher	54.5	102.5
	Operative	50	107
	Printing operative	45	77
	Classroom monitor	49	75
D	State Broadcasting Corporation employee	41	68

It should be noted that :

- disparities exist between the salaries of employees of the Ministry of Primary Education and Educational Television (MEPET) and those of Ministry of Information employees : to the former's advantage at the start of their careers, to the latter's advantage at the end of their careers ;

- since 1979, primary school teachers employed in the production process are required to hold a teacher's certificate (CAP/CAFOP) and to form part of the CAFOP teachers' corps, with a specialized qualification in educational technology or audio-visual techniques.

Temporary staff may, once they have been trained in the PETV, take up employment in the private sector, which is better paid.

Mauritius : Mauritius College of the Air

The new specialized skills in media production and management have not yet received recognition other than as a general qualification. Salaries at MCA are slightly higher than those of secondary school teachers. The MCA is an approved service operating under the Ministry of Education, with the same guaranteed pension rights. The leave system is the same as for staff in schools. There is no professional association. Copyright for material belongs to the MCA.

Comparative table of salaries (primary school teacher = base 100)

Director of MCA	902
Department head	707
Senior tutor	414
Senior graphic artist	414
Maintenance technician	292
Printing staff	139
General service staff	56-74

Major difficulties include :

- lack of finance ;
- absence of a system which takes due account of the importance of the work of radio and television staff ;
- disadvantaged position of staff in relation to that of other similar national bodies, with a consequent draining away of MCA staff.

Niger : Télé-Niger

Niger nationals employed by Télé-Niger formed part of the Civil Service in accordance with the provisions of the Interprofessional Collective Agreement. No recognition was given to specialized skills in media production.

"Staff were assimilated to the occupational categories identified by the Agreement for other sectors of activity. An impasse has consequently been reached in this respect, and the feasibility of establishing a special statut for such staff might usefully be explored".

There are separate professional associations for radio and television staffs and for teachers. Copyright is vested in the Ministry of Education.

3.5.2.3 Latin America

Argentina : INCUPO

There is no special legislation governing the status of teachers employed by non-formal education institutions like INCUPO. Such staff perform a wide range of duties, and conditions of employment vary from one region to another. There are no diplomas which can be awarded in recognition of specialized skills. As a private organization, INCUPO has acquired a measure of prestige which redounds upon its members and appears to represent a form of compensation. In addition to recruiting new staff from outside, INCUPO has organized an internal system of promotion.

The system of paid annual leave provides for a maximum of 35 days in the case of employees with over 10 years' service ; associated teaching staff are entitled to eight weeks' paid leave annually.

The salary scale is as follows (primary school teacher = base 100) :

INCUPO specialist teacher (CECAL)	162
Head of Publications	198
Field instructor	90
Head of social education	257
Director-General	390
General Technician	60
Film cameraman	144
Laboratory assistant	65

All staff employed by voluntary organizations may join the national trade union. All copyright is vested in INCUPO.

The major difficulties appear to be threefold :

a) absence of an adequate status covering the employer-employee relationship, career prospects, seniority, qualifications (diplomas, etc.) ;

b) as a result of a), the institution's inability to provide any certification for staff seeking to secure outside recognition ;

c) the present impossibility of securing recognition by the Civil Service of the job profiles and specialized skills specific to INCUPO.

3.5.2.4 Asia

India : Delhi Schools TV Service

Staff are Government of State employees, ranked in four grades (classes) :

I - Management/administration/Top-level technical staff

II - Educational/Middle-level technical staff

III - Clerical and Junior technical staff

IV - Service and supporting staffs

In some cases, recruitment is contingent upon possession of a diploma ; specialized media certification may be an asset, but is not recognized by the Civil Service. The leave system is the same as that for teaching staff in schools.

The following are some comparative salary gradings (elementary school teacher = base 100) :

TV Teacher (post-graduate)	176
Director	545
Producer	197
ETV Director	454
Graphic artist	129

There are no professional associations, and all copyright is vested in the Government.

3.5.2.5 Arab States

Algeria : Audio-Visual Centre of the National Institute of Education

This case study outlines the employment guarantees given to workers, and the conditions and regulations applicable for determining the grades of technicians and assistants. For example :

a) Technicians and assistant technicians in educational establishments

Most (60%) are recruited on the basis of a competitive examination from among candidates in the 20-35 age bracket, who have completed a minimum of 12 years' schooling. Some posts are open to older candidates, possessing higher qualifications. A probationary period of one year is required prior to final appointment. Seniority, proven abilities and reliability are criteria on which promotion is based. Such staff are paid 10% less than primary school teachers, but the acquisition of professional qualifications may lead to a rise in salary.

b) Specialized technical officers

The entry-level requirement is that of fifth grade at secondary school or possession of a technician's certificate. The conditions of employment are the same as for technicians, but access to senior posts is easier. The salary is grade V on the establishment scale.

No information is given about the salary scales of professional staff.

The authors of programmes are entitled to retain some rights in their original material.

3.5.3 Observations

The information provided tends to show that there is de facto, but not de jure, recognition of the functions involved in using modern educational techniques. Where posts are established and permanent, they are of an equivalent level to those in teaching ; indeed, several case studies show that such posts carry financial advantages in relation to teaching posts, but that opportunities for promotion are sometimes limited. For this reason, the seconded teachers who frequently occupy such posts return later to their original service with a promotion. Comparisons between staffs in the private sector and those in the public sector show that the position is much the same the world over. Personnel trained in broadcasting or media production enjoy increasing opportunities for working outside education, in better paid jobs.

4. PROBLEMS AND TRENDS

4.1 Problems related to the introduction of new methods and techniques

The traditional problems associated with introducing new educational techniques such as audio-visual presentations, educational radio and television, programmed texts and multi-media packages are particularly keenly felt in countries where the technological environment is not very highly developed. Such problems include :

- psycho-sociological difficulties when old meets new in a traditional culture ;
- the fact that, compared with traditional methods, the new techniques are not geared to specific objectives ;
- the increasing budgetary resources needed to develop these new methods ;
- the difficulty of planning and lack of qualified staff to introduce modern educational methods ;
- the impossibility of planning appropriate evaluation procedures from the outset.

The case studies from industrialized countries suggest that the demand for media specialists is being satisfied by existing institutions. The fact that by 1985 the Western world will have a surplus of trained teachers (the Federal Republic of Germany will have a surplus of 100,000 by 1985) militates against the urgent call for some form of specialist teacher status, and encourages the maintenance of the present qualification procedures. The situation is very different in countries where, after a few early experiments in the use of radio, television and multi-media packages, mass distance-education schemes must be developed for primary and adult education. The problem there is to identify the qualifications needed and to see to it that they are acquired "on the job".

The authorities hesitate to recognize specific qualifications for specialists in modern educational methods. Every change in classroom organization or in teaching techniques cannot be regarded as necessitating some special qualification and hence giving rise to a special rate of remuneration. A distinction must be drawn between the level of application, i.e. classroom use of new techniques (micro level), entailing a transformation of the rôle of certain categories of educational personnel, in particular teachers and inspectors, and the level of design and production of programmes aimed at vast audiences

(meso level), which gives rise to categories of personnel whose functions no longer bear any relation to those performed by traditional categories of teachers.

Some institutions consider that such personnel working at the meso level - designers, producers, organizers, evaluators - need to "recharge their batteries" by returning to the school environment after a "creative" period of three to five years. Other institutions - the BBC in the United Kingdom for example - appoint staff on a permanent basis to work on educational programmes ; such staff may be promoted to work on other programmes for general audiences or may remain in educational programme production.

The question of versatility ("polyvalence") was discussed and gave rise to argument. In the smaller production units, differentiation of functions is limited. Elsewhere, versatility appears to interfere with the specific skills regarded as essential to production quality. In point of fact, the problem is one of industrialization : the greater the scale and volume of production, the greater the degree of diversification of rôles.

A problem undoubtedly exists as regards career prospects for production personnel and personnel in charge of media systems organization. The criteria governing promotion frequently have little or nothing to do with the work actually done by such specialists and are extrinsic to the institutions which employ them. One organization which sets up major educational schemes based on the use of radio and distance-training systems admits to having no means of granting specific qualifications to enable its staff to pursue a clearly defined career.

One possible solution suggested by certain studies is to assimilate such educational personnel to occupational categories performing equivalent functions in other sectors of activity or in the Civil Service. An alternative solution is to broaden and diversify the range of training courses provided for teachers so as to include media production and management. In the United States, for example, future teachers may choose between 112 different State diploma courses.

Some African and Latin American case studies show clearly that training staff for long periods away from their place of work poses a major problem. Such staff are not always able to "fit in" successfully on their return, having no means of re-investing the benefits of their training in the national institution, whose technical features and social and cultural circumstances differ from those with which they have become familiar abroad. They may then, after their long and costly training, leave the institution. The trend is to develop training systems close to the place where they will be applied, in the country itself.

The essential problem may be expressed in the simplest possible terms. However programmes, techniques and systems change or are changed, nothing will be altered so long as people's attitudes do not also change.

4.2 Problems related to the identification of functions and occupational categories

The study by the Saint-Cloud Audio-Visual Centre expressed these problems very clearly :

"Teachers/researchers in fact pile up a considerable number of hours of work which by university standards appears to be unjustified simply because no account is taken of their specific situation ... A 30-minute university television broadcast may call for up to 200 hours' work on the part of its originator".

"Because of their specific nature, it is impossible to rationalize all the services performed by the Centre's teachers/researchers. Even though it has become established practice for a team or even an individual team member to perform several functions, such versatility is intrinsic to a new system which has been set up ; but the concept of service should not be misused to extend it unduly, as this would be to deny the specific nature of the professional duties discharged by teachers/researchers specializing in audio-visual education".

"The organizers, teachers and researchers are assigned to the Audio-Visual Centre under administrative procedures that take account neither of their qualifications nor of their functions. This is a further illustration of the non-recognition of audio-visual skills as a qualification in education and of the refusal to create separate staff categories for teachers and/or researchers qualified in modern educational techniques".

Several case studies present a thorough analysis of their staffing structure on the basis of the methodological tool proposed, with sometimes a few modifications to take account of local circumstances. Other studies did not follow the model ; the 28 categories of the grid did not represent distinct functions inasmuch as the fields of activity of the institutions in question call for a measure of versatility. Some institutions adduced other divisions and categories, quoting in certain cases over 50 different overlapping functions. Sometimes the technical aspect of communication blends with the artistic aspect of production, and the line of demarcation is drawn only by the trade unions. The situation becomes further complicated when the educators become "field organizers" or producers. The proliferation of occupational categories is a common phenomenon ; this militates against international recognition, which would on the contrary require their limitation.

The Council for Educational Technology (CET) in the United Kingdom highlights three major and highly interdependent problems encountered in its efforts to identify functions :

- the complexity of the situation, resulting from the considerable growth of educational technology over the past two decades, a factor which makes job description difficult and whose consequence has been :
  - the lack of any systematic training, linked to the absence of any clear definition of forms of activity ;
  - the absence of any recognition of career profiles for those working in educational technology.

The World Confederation of Organizations of the Teaching Profession (WCOTP) urges that the occupational categories identified in I and II of the model (management/administration and educational research and conceptual design - media specialists) should form part of the teaching profession. It expresses the wish that movement between the different categories, on the one hand, between the micro level (teachers in the field) and the meso level (media specialist teachers) and, on the other hand, between the teaching categories and the technical categories III and IV (technical/artistic and technical) should be facilitated by means of ad hoc training either in technology or in education.

4.3 Problems related to training and curricula

There appears to be a broad consensus as to desirable curricula at advanced level. Appendices A and B are representative of such curricula. Where alternative curricula drawing upon pragmatic techniques are proposed, they concentrate less on systems procedures than on on-the-job training, as is apparent in Appendix C. Overall, however, a communications specialist trained in Toulouse (France), Munich (Federal Republic of Germany), Syracuse (USA) or Plymouth (United Kingdom) might be considered to possess sufficient qualifications to be situated in the highest-ranking staff categories. It would seem that these training programmes have been operating for a fairly long time, and that the content of the courses offered is similar in all essential respects.

Problems occur in the training of staff in developing countries where high-level technologies are applied. Télé-Niger poses the problem clearly :

"Over and above the technology employed as the medium, it is first and foremost the educational problem that must be faced in the context of the developing countries - which itself highlights the gulf between our structures and our needs. The use of technology is

justified ... in our situation by the need to "catch up". In this perspective, it is of paramount importance to reply to two questions: who is the trainer, and how is training best undertaken ? Modern techniques may provide an answer to the second question, but not to the first".

The problem is "historically endemic". Florida State University has reorganized its communication courses in order to take account of the cultural specifics of staff seconded from South America ; however, it may not always have achieved this objective (Chadwick, 1979).

One of the problems associated with "on-site" training is that in many cases it may only perpetuate current practice. Hence the need to maintain links with specialized institutions which are launching new projects. This has become absolutely essential with the introduction of microtechnology, which enables communications networks to be extended cheaply and with less dependence upon public electricity supply systems.

Training schemes based on an essentially pragmatic approach do not always offer the guarantee of a professional qualification. A balance should be established between "theoretical" training in liaison with specialized institutions and practical on-the-job training, geared to production and applied research activities.

The Hungarian case study suggests that the content of training for serving staff should be clarified in view of the need to establish new categories for staff. Different training profiles are envisaged for educational technologists working in the various types of educational establishments. The specialist working in nursery-school education requires a different training from that provided for specialists employed at the National Centre. This of course pre-supposes that all-round (general) educational technologists already exist - a supposition that may or may not be true, depending on circumstances.

The problem of admission requirements is dealt with once and for all in most of the case studies. Generally speaking, candidates are expected to have received teacher training or appropriate technical training ; occasionally, however, the situation calls for some radical solution, and recourse is had to people with just enough education to cope with the difficulties. This would seem to be a problem which solves itself according to circumstances. On the whole, entry criteria are sufficiently similar to allow of harmonization.

4.4 Problems relating to staff status

The issue has already been touched upon in 4.1 above, where it was pointed out that staff concerned with media production or management sometimes find their careers blocked. Most of the institutions reviewed in fact offer limited career prospects because of their size. If we revert once again to the macro-meso-micro concept, it becomes clear that most career structures in the meso field will be limited to media production or management. This is a very real problem, which can be solved only at individual level, the limitation involved being only partially compensated by job satisfaction. Major institutions such as the Institute for Audio-Visual Aids in Science and Education in the Federal Republic of Germany and the National Centre for Educational Documentation in France use the administrative procedure of secondment, thereby seeking to get round the problem of career prospects. The staff of the Open University in the United Kingdom perform virtually the same functions as the staff of the Saint-Cloud Audio-Visual Centre, but, the Open University being considerably larger in scale, its staff enjoy career prospects which can readily be equated with those offered by other universities.

Radio and television staff working in education frequently judge their status to be lower than that of their colleagues in the public and private sectors. The guaranteed employment offered them is not always an adequate compensation, and does not prevent them moving away to more remunerative sectors.

Better job identification should make it easier to solve these problems of staff status.

5. RECOMMENDATIONS

The case studies, and the problems and trends identified through the analysis, make it possible to formulate a number of practical recommendations which may help to solve the specific problems relating to staff status and conditions of employment in existing institutions using modern techniques and in particular mass-communication media for educational purposes.

Although in the case of both existing institutions and those yet to be established there are many constraints, not studied here, which curb their capacity to attain objectives and to pursue particular strategies, it would seem possible to recommend a methodology for tackling the problems relating to staff status and conditions of employment, which form the subject of this study.

5.1 Identification of tasks

5.1.1 It appears essential to carry out an analysis of the existing or projected institution in order to define each staff member's task at the macro, meso and micro levels identified in this study. Such an analysis, conducted if possible jointly with the whole staff (a), will in particular highlight the new tasks resulting from the application of modern techniques and the practical consequences thereof (b).

5.1.2 This identification of tasks then makes it possible to define functions and job profiles (c) and to determine which are new and which pertain to occupational categories already recognized by the Civil Service (d), which call for versatility (different degrees of

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(a) A systematic approach can have a positive psychological influence upon all staff members of the institution, firstly by making them fully aware that, in their respective capacities, they are each taking part in the operation of the institution and, secondly, by enabling them to situate their job within a coherent whole.

(b) These consequences are not limited to the educational field ; the organization of the education system must be entirely rethought if new methods of integration are to be introduced. The highlighting of constraints - in particular the misgivings at the micro level (teachers working in the field and their trade union organizations) - will facilitate efforts to overcome them (briefing and information campaigns).

(c) The model proposed by the Organization can serve as a framework for inquiry. The broad categories put forward ensure that job profiles are not fragmented ; this is always desirable if the higher authorities within an administration are to be persuaded to recognize them.

(d) The rôle of the Civil Service is singled out here since most institutions develop within the framework of public-sector administrations.

"polyvalence") and which are specialized (different degrees of specialization).

This approach will serve in particular to delineate meso-level job profiles (multi-media design, production, technical/ artistic studies, etc.) whose specific characteristics call for recognition on the part of the administration.

5.2 Staffing policy

Policy-makers responsible for staffing will then have all the facts needed to formulate a staffing policy [a], which in most cases is the product of concertation with the Civil Service. For the meso level, this will involve in particular :

5.2.1 seeking equivalences with recognized categories, while taking account of new skills, both already acquired and remaining to be acquired ;

5.2.2 establishing career profiles both within the individual institution and overall in the Civil Service, with cross-over points at various levels to permit movement from one institution to another [b] ;

5.2.3 working out a coherent training strategy which takes account of all job profiles [c] and of the need, constantly identified

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(a) In the case of institutions in process of being set up, such a policy should ideally be worked out from the outset and implemented simultaneously with the commencement of production activities. Not attending to staffing policy until problems arise is likely to endanger the functioning of the institution ; it is essential to think ahead.

(b) Such flexibility in career structures should limit the draining away of meso-level specialists to the private sector, which can be assumed to offer more remunerative jobs, through medium- and long-term career planning, with all the advantages that this offers in the way of job security and rank. It should also allow movement between the macro, meso and micro levels.

(c) Staff with no training prospects tend to move away from the institution.

by its beneficiaries, for training to be twofold, involving both more advanced training in the professional skills possessed and training for acquiring additional skills and, sometimes, additional responsibilities ; efforts will be made to identify national and foreign training institutions whose courses and leaving examinations are recognized by the Civil Service, thereby settling in advance the problem of equivalence of diplomas [a] ;

5.2.4 estimating the cost of the training and career patterns proposed, not only from the financial standpoint (additional cost) but also from an overall point of view (social cost) [b] .

5.3 Training

It then becomes possible to plan and organize training, which will be all the more readily accepted by the trainees themselves in that the points referred to above have already been settled. In particular, it will be necessary to :

5.3.1 organize initial and continuing training suited to the institution's actual requirements ;

5.3.2 ensure that such training is geared to the social and cultural realities of the country's situation. For this purpose, the institution may, if its size warrants it, create its own internal training system, or it may call upon other institutions within the country or the region [c] . Courses held in extremely different cultural environments should be of short duration ;

(a) Negotiations conducted after the event always hang fire, and seldom lead to a satisfactory solution for those with the training behind them, who all too often imagine that they can force the hand of the Civil Service by placing it before a fait accompli.

(b) The concern here is to take account of the benefit for a country of the extra culture and education given to a particular social group, as this can be expected to have a snowball effect.

(c) The practice of sending trainees from developing countries to attend training institutions in developed countries for long periods is fairly generally criticized, as it cuts them off from their social and cultural environment and from the life, and hence the development, of their institutions. It would seem desirable to exhaust national and regional resources first, and to take advantage of the reception and exchange facilities of the International Association for Technical Co-operation between Tele-education Systems in Developing Countries (TCDC/TELEDUC).

5.3.3 plan and organize a fellowship scheme in accord with the training system, the first beneficiaries of which should be those who are to be trained for new job profiles (organization and production of messages) so that they may acquire relevant experience ;

5.3.4 provide career-long training facilities which can be combined and integrated with production activities within the institution [(a)] so that both are geared to applied research aimed at constantly up-dating the products of the system from within ;

5.3.5 provide for the briefing and training of field staff (micro level) by distance methods and/or through refresher courses and workshops so as to ensure that the meso and micro levels are both working towards the same objectives.

5.4 Evaluation

It is important that those running an institution should closely follow the evolution of the working conditions of staff in order to ensure that no departures from the statutes occur. To this end, it would seem necessary to initiate procedures for evaluating the operation of the institution and the results of its training programme [(b)].

(a) That is to say, on-the-job training which combines practical work with theoretical instruction that serves to strengthen it.

(b) The evaluation of the training provided by the institution, as of its educational message production system, should be formative, that is, it should take account of the process and not only of results. A feedback system should be devised to pass information back to the decision-makers (macro-level) promptly.

APPENDIX A

Degree of Master of Arts in Educational Technology (Concordia University, Montreal, Quebec, Canada

All students are expected to complete the following courses :

606: Educational Cybernetics
607: Philosophical Aspects of Educational Technology
613: Learning and Instructional Design I
640: Quantitative Methods and Research Design I

PLUS one of these :

631: Curriculum Development
643: Measurement and Evaluation in Education
653: Educational Systems Analysis
654: Instructional Systems Analysis

Option A

Students who follow curriculum Option A:

"Research and Development of Educational Technology", take Educational Technology 641: "Quantitative Methods and Research Design II", plus four of the following :

611: Psychological Foundations of Educational Technology
614: Human Communication I
622: Mass Communication Research
651: The Concept of Educational Planning
653: Educational Systems Analysis
654: Instructional Systems Analysis
655: Educational Technology in Developing Nations
661: Educational Simulation and Gaming
662: Computer Based Systems
691: Advanced Readings and Research in Educational Technology I
692: Advanced Readings and Research in Educational Technology II
701: Administration of Educational Technology Units

Option B

Students who follow curriculum Option B :

"Production and Evaluation of Educational Materials", take Educational Technology 642: "Research and Evaluation in Educational Media", plus four of the following :

623: Graphic Communications
624: Theory of the Moving Image
632: Curriculum Development
634: Computer Assisted Instruction
661: Educational Simulation and Gaming
681: Seminar on Research and Writing for Media
682: Lab in TV Production and Evaluation I
683: Lab in TV Production and Evaluation II
684: Television Workshop
685: Lab Courses in Radio, Audiovision, Tape-Recording and Editing
686: Lab in Motion Picture Production and Evaluation
701: Administration of Educational Technology Units
702: Development and Organization of Educational Broadcasting

APPENDIX B

Training Units constituting the common core in educational technology: Centre de Spécialisation en Technologie Educative (Centre for Specialization in Educational Technology), Bouaké, Ivory Coast

TU 1 : Audio-visual communication I

Identify the main modules of analysis in mediated communication
Apply these analytical modules to common instances of mediated communication

TU 2 : Audio-visual communication II

Identify certain variables which determine an audio-visual educational message (audience, media, communication situation ...)Placed in the educational process, visualization processes, transmitted culture (models)
Analyse an audio-visual document leaving to one side problems of immediate content

TU 3 : Audio-visual communication III

Identify the various functions of communication
Draw up a list of different types of audio-visual messages in terms of educational objectives

TU 4 : Audio-visual communication IV

Identify certain parameters involved in the process of signalling the pictorial message and in the relationship between words and images

TU 5 : Audio-visual communication V

Define concepts and tools used to analyse the process of signifying in a mixed message (word/picture)
Combine word and picture to obtain a communication objective

TU 6 : Audio-visual communication VI

Define the problems involved in the use of audio-visual techniques in a learning process

TU 7 : Programming I

Write up an educational objective in behavioural terms

TU 8 : Programming II

Identify the methods of drawing up a programmed instruction document
Draft sub- objectives of a given objective
Classify objectives according to given criteria
Devise and elaborate means of monitoring a given objective
Use content analysis methods to determine the information to be transmitted in order to attain a given objective

TU 9 : Programming III

Identify the programming function in the CETV (Educational Television Complex)
Identify the stages in programming
Describe the programming method used in the CETV
Define the principal terms used in CETV programming

TU 10 : Learning I

Describe the organization of a television class : the teacher's rôle, the distribution of activities, the work phases, pupil/teacher/TV communication

TU 11 : Learning II

Identify the principal skills needed by the teacher using TV
Work out class observation grids

TU 12 : Learning III

Distinguish the learning phases in the conduct of a TV class
Identify the main learning problems (types, factors ...), in general and intrinsic to each specific discipline.

TU 13 : Multi-media I

Choose and combine different media, taking into account a given educational situation

TU 14 Multi-media II

Plan the stages and apportion the tasks for production, dissemination and utilization of a multi-media educational package under the CETV programme

TU 15 : System I

Identify the permanent factors in any educational institution

TU 16 : System II

Describe the CETV in terms of functions in the light of the trainee's experience

TU 17 : System III

Identify and describe the main features of the Ivory Coast education system ;
Identify the mutual influences exerted by different educational environments in the Ivory Coast

TU 18 : System IV

Describe the CETV in system terms
Identify the inter-relationships between functions and the pre-conditions for maintaining a balance between functions
Identify tne CETV's relationship with the PETV and with the outside world

TU 19 : Study of costs

Estimate the approximate cost of a CETV programme

TU 20 : Environmental research methodology

Use survey and interviewing techniques within the context of an environmental research project

TU 21 : Documentation

Identify the documentation function within the system
Use the CETV's documentary resources and information sources

TU 22 : TV Graphics

Identify the rôle of the graphics studio in the production function
Apply norms of ligibility and visibility to the production of graphic materials
Send an order to a graphics service in accordance with standard practice

TU 23 : Evaluation

Identify the evaluation function in the CETV
Describe the methodological tools and techniques used by the evaluation service
Modify a programme component or a feature of broadcasting and utilization norms in the light of the results of an evaluation exercise

TU 24 : Printed support materials

Identify and describe the stages in the process of producing and disseminating printed support materials
Draft support material for a broadcast in the light of a given objective

TU 25 : Photography

Identify the parameters involved in any communication mediated through photography
Take shots in accordance with predetermined criteria

TU 26 : Sound recording

Identify what is required in order to make a sound recording with a specific objective in mind
Carry out sound recording and mixing work

TU 27 : Video

Identify (in the case of designers) or use (in the case of producers) the various elements of the video process at the CETV

TU 28 : Film

Identify (in the case of designers) or use (in the case of producers) the various elements of the film production process at the CETV

TU 29 : Workshop I

Identify and describe the functions and tasks corresponding to each stage in the production line at the CETV

TU 30 : Workshop II

Devise and produce broadcasts or sequences that might suitably be assembled in magazine format

TU 31 : Workshop III

Draw up the objectives and educational strategy of a multimedia package, taking account of the existing situation at the input and output stages
Produce one or more television broadcasts
Produce the associated printed materials to accompany the broadcasts
Devise the evaluation procedures

TU 32 : Support modules (non-exhaustive list)

- History of the film industry, photography, television
- Communication theory
- Case method study
- Strip cartoons
- Oral traditions and educational technology
- African arts and crafts as illustrative aids
- Information on other educational television experiments
- International dimension of the PETV
- Briefing on out-of-school education, the Office National de Promotion Rurale (National Office for Rural Extension Work), etc.

APPENDIX C

Diploma in Educational Technology, Plymouth Polytechnic, United Kingdom

Level of diploma : Post-Graduate or equivalent

Admission requirements

1. A degree or equivalent academic qualification ; or
2. Two- or three-year diploma or certificate of education plus five years' teaching experience.

Length of course — One academic year

Objectives — This course has been designed to cater for a diverse intake, producing personnel who will be able to apply modern techniques in such positions as :

1. educational managers, e.g. heads of departments, library or learning resource centres within schools, colleges or training units, and educational advisers ;
2. regional or area resource centre controllers ;
3. curriculum planners ;

At the end of the Course, each participant will :

1. be able to apply a systems approach to curriculum design ;
2. be aware of psychological and sociological principles underlying learning processes and social interaction ;
3. be able to select, develop, produce and evaluate materials and methods appropriate to given educational needs
4. have a working knowledge of curriculum theory, practice and innovation ;
5. be able to manage or advise on storage and retrieval of resources ;
6. be able to apply relevant modern educational practices to improve efficiency and effectiveness of educational and training processes ;
7. be able to function as a trainer or consultant for other educationalists.

APPENDIX D

The Centre National de Documentation Pédagogique (CNDP)
(National Centre for Educational Documentation), France

by

S. Strasfogel

I. IDENTIFICATION OF INSTITUTIONAL FRAMEWORK

I.1 Name and address of institution

The institution studied in case No. 2 is the Centre National de Documentation Pédagogique (CNDP). The Centre's General Directorate, General Secretariat and General Services are located at 9 rue d'Ulm, Paris.

Since the Centre's services are complex, diversified and spread out geographically in both the Paris area and the provinces, we shall give here the addresses of only two central services lying within the scope of our case study :

- Département de la documentation des maîtres et des actions multi-média (Department of Teacher Documentation and Multi-Media Activities) (DAM), 21-23 and 31 rue de la Vanne, 92.210 Montrouge.

- Département des productions audio-visuelles (Department of Audio-Visual Productions) (DEPAV), 31 rue de la Vanne, 92/210 Montrouge.

I.2 Administrative status

The CNDP is a national public establishment with legal personality and financial autonomy and operating under the authority of the Ministry of National Education.

I.3 Functions and rôles

Decree No. 76.645 of 3 August 1976 defines the Centre's functions in its article 2 :

"The purpose of the CNDP is to prepare and disseminate educational documentation and documentation concerning curriculum content, using all available printed and audio-visual media and such new media as may be developed by modern communication technology, particularly with

a view to the training and further training of teachers ; and to assist, at all levels of schooling, in the initial and career-long training of teachers".

In implementation of this decree, the CNDP pursues three major lines of action :

- teacher training ;

- continuing training ;

- France and the future.

The Centre's rôle in teacher training :

- publication of documentary cards for teachers in sectors determined by ministerial departments and in agreement with them ;

- dissemination of radio and television broadcasts designed to enable teachers to improve their teaching methods ;

- initial training in audio-visual methods and techniques.

The Centre's rôle in continuing training :

- assistance in the training of teacher trainers through the provision of information on model experiments ;

- support for individual efforts to secure continuing training. Some operations may combine television broadcasts, a fortnightly journal and correspondence courses.

"France and the future"

"The aim is to help children to fit into their natural surroundings and to enable them to come into direct contact with the physical, human and economic realities of the environment of their region.

Such action involves combining radio and television broadcasts with slide shows and printed materials (for teachers and pupils). and associating the regional press with this work".

Among the specific activities undertaken by the Centre, mention may be made of the production and dissemination of films on scientific research by an associated service, namely, the Service du Film de Recherche Scientifique (SFRS).

I.4 Types of teaching aids procuced and volume of annual output

The audio-visual materials produced by the central services include :

- radio broadcasts : 265 in 1977, with a mean annual production corresponding to 435 hours ;
- television broadcasts : 151 in 1977 (annual mean of 336 hours) ;
- 16 mm films : 25 in 1977, with a total of 682 copies ;
- super-8 short films : 44 in 1977, with a total of 33,212 copies ;
- slides : approximately 60 annual series ; in 1977, 31 files, with a total reproduction of 3,631,612 copies ;
- transparencies for overhead projection : 19 originals and 23,600 copies ;
- phonograms : 74 originals, in 238,000 copies.

I.5 Number of full-time employees

The Centre has a staff of 5,148. This comprises administrative staff, educational staff, documentalists, technical staff and manual workers, employed in the following services : central services, decentralized services, 25 regional centres (CRDP), 60 Département centres (CDDP) and six tele-education centres (cf. the organizational chart, Table 1).

Since our study is limited to DAM and DEPAV, we shall deal only with occupations within these two departments, classifying them as far as possible in the categories defined by Unesco.

DAM

Management and administrative grades	: 4	
Educational staff	: 58	
Technical/artistic staff	: 22	(service operated jointly with DEPAV)
Technicians	: 46	
Administrative staff	: 40	
Documentalists	: 8	
	178	permanent staff members
Seconded teachers	23	
	201	

TABLE 1 : ORGANIZATIONAL CHART OF THE CNDP

GENERAL DIRECTORATE

CNTE

CRDP CDDP

SFRS AVS

GENERAL SECRETARIAT

Division of Personnel
Division of the Budget and Studies
Division of Financial Management and Payments
Division of Equipment and Internal Services
Social Service

BUREAU OF STATISTICAL ANALYSES AND STUDIES

DIVISION OF ADMINISTRATIVE & FINANCIAL AFFAIRS

DEPARTMENT OF STUDIES, CO-ORDINATION AND INFORMATION

General Affairs and Information Service	External Centres (CNTE, CRDP, CDDP) Services	Programming and Monitoring Service	Service for International Affairs

DEPARTMENT OF DOCUMENTARY RESOURCES AND PUBLICATIONS	DEPARTMENT OF TEACHER DOCUMENTATION AND MULTIMEDIA ACTIVITIES (DAM)	DEPARTMENT OF AUDIO-VISUAL PRODUCTIONS (DEPAV)	DEPARTMENT OF PROMOTION AND SALES	DEPARTMENT FOR DISSEMINATION AND SCIENTIFIC EQUIPMENT
General Services Documentary Resources Services Book Division Division of General and Administrative Documentation Educational Resources Division Periodicals Division Computerized Documentation Division Publications Services Publishing Division Graphic Studios Printshop Attached Services "Official Bulletin" and Staff movement Correspondence with schools Migrant Workers Documentation Centre	Joint Organizational and Management Service - Co-ordinating Group for Programmes and Resources, Division of Administrative and Financial Affairs - Operations General Services Administrative Office Documentation Centre Media Resource Centre - Antenna Editorial Office Evaluations Division Division of Teacher Documentation Primary Schools Division (multimedia activities schemes) Secondary School and College Division (multimedia activities)	General Services Production Office Technical Services Film and Video shooting Film and Video studio Film Edition Set design, Animation/Captions Photo and Lab. Sound Recording Studio and Auditorium Equipment and Maintenance Verification and reproduction	Bureau of Statistical Analyses and Studies Division of Information Division of Forward Planning and Contracts Legal and Claimes Office	Division of Administrative and Financial Affairs Division for Dissemination of Publications and Periodicals Film Library Division Division of Scientific Equipment (CEMS)
schools Migrant Workers Documentation Centre	Division of Continuing Training (multimedia activities) Division of Training in Modern Educational Techniques			

DEPAV

Educational staff	:	2
Technical/artistic staff	:	1
Technicians	:	100
Administrative staff	:	14
Documentalists	:	1
		118

Two staffing tables for DAM and DEPAV (Tables 2 and 4) are presented below, albeit with a few reservations as to whether they are fully up to date, inasmuch as there is always a certain time lag in recording fluctuations in staff numbers. For example, according to the tables, there would seem to be a certain decline in the number of posts filled in relation to the lists published in the Official Bulletin of the Ministry of National Education. In the following pages, we shall refer to these tables, which show the structure of the two departments and the breakdown of staff in the different services.

II. IDENTIFICATION OF THE FUNCTIONS OF THE STAFF CATEGORIES

In order to identify staff functions, we shall use, in addition to Tables 2 and 4, the matrix reproduced in Table 3. It was based on the same model as the Saint-Cloud Audio-Visual Centre.

II.1 Observations concerning Table 2 (DAM staff categories)

This table shows the organizational structure of DAM, its staff categories and their distribution over the various services.

The educational staff is considerable, accounting, with its 62 members, for over 50% of the department's entire staff. The predominance of the educators in this department is therefore quite marked. The systematic use of the media is also to be noted. The breakdown of educational staff among the three key divisions is significant :

- Primary Schools Division (multi-media activities)	13
- Secondary School and College Division (multi-media activities)	15
- Division of Continuing Training (multi-media activities)	22
	50

TABLE 2 : DEPARTMENT OF TEACHER DOCUMENTATION AND MULTI-MEDIA ACTIVITIES (DAM)

(Staffing Table for 1978)

Permanent staff	Management	Division Teacher Documentation	Primary Schools Division	Division of Secondary Schools and Colleges	Division of Continuing Training	Division of Training in Mod. Ed. Tech.	Evaluation Division	Documentation Centre	Media Resource Centre - Antenna	Editorial Desk	Admin. Office	TOTALS
Educational staff	2	3	13	15	22	1	1	1		2	2	62
Documentation staff			1	1	2			1	2	1		8
Administrative staff			6	4	7	2	1	5	8	3	3	40
Technical staff and Manual Workers	1			1	5			2	4			13
Contract staff (CNRS-type contract)			2	3	8	3	10	1		1	1	29
Contract staff (article 40)		1		1			1			1		4
Producers	22											22
TOTALS	25	4	22	25	44	7	13	10	14	8	6	178
Seconded teachers			6	11	5	1						23
												201

TABLE 3 : IDENTIFICATION OF FUNCTIONS OF DAM/DEPAV STAFF CATEGORIES

Fields of activity	Staff categories	A	PRODUCTION B	PRODUCTION C	D	E	F	G	H	TOTALS
DAM		Programme design/development	Production	Manufacture	Dissemination/Broadcasting	Maintenance/Technical Services	Utilization	Evaluation/feedback	Management Secretariat Documentation	
I Management/Administration	(District Inspector of Schools; Head of Department; Deputy Head and Representative	+	+	+	+		+	+	+	7
	Chiefs of Division and Offices	+	+	+	+		+	+	+	7
II Educational Research and Conceptual Design	Chief Project Officers	+	+	+			+	+	+	6
	Teachers responsible for studies	+		+			+	+		4
	Documentalists	+							+	9
III Technical/artistic	Producers	+	+	+			+	+	+	3
IV Technical	Technicians					+			+	2
DEPAV										
I Management/Administration	Head of Department	+	+	+						4
	Heads of Production		+	+						3
III Technical/Artistic	Producers/Assistant Producers	+	+	+						3
IV Technical	Technicians		+	+		+				3

TABLE 4 : DEPARTMENT OF AUDIO-VISUAL PRODUCTIONS - DEPAV

Staffing Table for 1978

Staff categories	General Services	Pro-duction Offices	Film/ Video Shooting	Film/ Video Studio	Film Editing	Set Design/ Animation/ Captions	Photo and Laboratory	Sound Recording Studio/ Auditorium	Verification Reproduction	Maintenance	TOTALS
Educational staff	1							1			2
Documentation staff	1										1
Administrative staff	5	4					2	2	1		14
Technical staff (status : ex Radio Télévision Française	3	7	29	2	12	8	5	5	2	2	75
Technical staff (status : "National Defence")	3	1	12	2	1		1	1		3	24
Technical staff (status : CNRS-type)			1								1
Producer (status : Radio Télévision Française)							1				1
TOTALS	13	12	42	4	13	8	9	9	3	5	118

The wide range of functions and the volume of activities undertaken by these divisions and by the general services (see the Organizational Chart) make it necessary for the administrative structures to be integrated with the services ; hence the large number of administrative posts (40).

Also worth noting is the presence of 22 producers, who are in fact responsible to a joint DAM/DEPAV administrative and management service. They are probably included in Table 2 because of the essential rôle they play in the designing of audio-visual materials.

II.2 Observations concerning the matrix (Table 3 as it relates to DAM)

This matrix illustrates in another way the preponderance of educational staff in DAM. As already noted in the case of the Audio-Visual Centre, the corollary of this preponderance is the multiplicity of functions performed by staff in activity sectors I and II.

In the case of Heads of Departments, Divisions and Offices, seven functions are performed - not as regards the performance of the duties but so far as concerns the competency needed for decision-making, co-ordinating, evaluating, etc. We do not consider it necessary to define functions I_A, I_B, I_C, I_D, I_F, I_G and I_H, which have already been defined in the study on the Saint-Cloud Audio-Visual Centre. They are valid for the present case study, even though the titles or designations are not the same. It may nevertheless be helpful to give the definition of the functions of chief of division or office as drawn up by the Department Head. As will be seen, stress is laid on the technical and administrative aspects,with particular reference to the "hierarchical position" of the divisional chief and the administrative duties stemming therefrom. This represents an institutional approach, which gives an insight into a conventional system of organization, whereas the whole thrust of the Division is in fact towards modern multi-media activities.

The text reads as follows :

"Definition of the functions of Chief of Division or Office :

These functions are twofold :

1. Technical : under the authority of the head of department or service, the chief of division or office is responsible for ensuring that the tasks assigned to him are performed satisfactorily. He makes proposals to the head of department as to how these tasks should be apportioned, takes the necessary steps to secure the execution of the tasks and monitors such execution. He ensures that deadlines are kept and that

the funds allocated to him are properly spent. He canvasses, develops and transmits all proposals likely to help the department or service to accomplish its mission.

At this level, therefore, he is essentially a well-informed and responsible organizer and co-ordinator.

2. Administrative : since he occupies a position in the hierarchy, the authority delegated to him entails in turn that he be involved in the work of administration.

In this capacity, he assists the head of department or service in discharging his duties by advising him and putting forward proposals. He informs him promptly of any incidents or difficulties encountered, and takes part in personnel management. He is thus called upon to answer mail transmitted to him through the hierarchical channels, to advise on correspondence dispatched under his authority and on staff performance, particularly for the purpose of drawing up performance reports. He also has a special responsibility in matter of punctuality and assiduity, and is required to report staff absences and leave requests as rapidly as possible. Lastly, he plays a major part in facilitating the flow of information, being responsible for communicating to staff memoranda and notices emanating from the Central Office or the head of department or service and for transmitting to those higher authorities such information as he may consider will facilitate the smooth functioning of the CNDP".

In activity field II - Educational research and conceptual design - we find "chief project officers", educational staff (primary and secondary school teachers) hierarchically responsible to the chiefs of division. Their versatility (the range of functions which they perform) is similar to that of the assistants at the Saint-Cloud Audio-Visual Centre (the six functions : II_A, II_B, II_C, II_F, II_G, II_H).

Here again, rather than refer to our own definitions, it may be useful to consider how these functions are defined within the institution, and how the profile of a "Chief Project Officer" at the CNDP is determined.

"Definition of the Functions of Chief Project Officer

1. Acting in accordance with the directives of the competent commission, and under the authority of the Chief of Division and Head of Department, the Chief Project Officer undertakes the action for which he is responsible, up to the final stage of the operation.

2. He is appointed, in the light of the annual programming requirements of CNDP and DAM, by the Head of Department, upon the proposal of the Chief of Division.

3. He is responsible for the educational dimension of the operation and draws up the project jointly with the Chief of Division. He takes part in the work of preparing the project document, and sees to it that the various materials needed for the execution of the project are prepared within the deadlines specified. He may propose topics for evaluation in connexion with his project, and he promotes the execution of the studies selected, within the Department's study programme.

4. He leads the team working with him to carry out the project.

5. He sees to the smooth functioning of the educational commissions and working groups.

6. He takes part in project management, and in particular submits proposed contracts, mission order requests, etc. to the Chief of Division. He discusses with him whatever measures may be needed to ensure that the project is managed effectively and deadlines are met. At various stages in the execution of the project he represents DAM in its dealings with DEPAV and DDP (Département de la Diffusion et de la Promotion) under the procedure worked out by SCAG.

7. In liaison with the services concerned, he monitors and takes part in all schemes designed to provide users with a better service.

8. As an exceptional measure, in the case of complex projects, an organizer may take charge, as required by the volume and/or nature of the components of the project, of a subsidiary part of the project, and monitor, in liaison with the Chief Project Officer, the educational preparation and the execution of that part of the project".

The teachers responsible for studies or organizers assist the chief project officers (there were 32 in the 1977/78 programme), forming working groups whose functions are the following : II_A, II_C, II_F, and II_G. Such organizers are assigned specific tasks in both the devising and the utilization of educational messages, depending on their nature, content and target audience.

In the technical/artistic activity field III, the function of the professional producers is of fundamental importance in III_A, III_B, and III_C. These activities concern, it may be recalled, educational radio and television, film production and continuing training.

Activity field IV, which is purely technical, is represented by only a small staff ; these are responsible for the maintenance and operation of equipment.

II.4 Observations on Table 3 : that part of the matrix corresponding to DEPAV

It goes without saying that the major functions concern activity fields I, III and IV. Activity field II is not represented in this section of the matrix, as is quite natural : the DAM educational advisers and designers help with production when their presence is considered necessary.

The Head of Department is generally a teacher. He is concerned by functions I_A, I_B, I_C and I_H.

The heads of production offices are professionals performing functions I_B, I_C, and I_H, similar to those described in the case of the Saint-Cloud Audio-Visual Centre.

The activities exercised in activity fields III and IV are centred on B and C. We shall not describe these technical functions, which are recognized as such and whose importance is not disputed. The problems raised are of another kind ; they concern the media system, the cost/effectiveness ratio and, for the staff, their status vis-à-vis the profession.

III. STAFF TRAINING AND STATUS

III.1 Training

In the case of the Saint-Cloud Audio-Visual Centre, we considered the question of the training to be given to teachers intending to specialize in modern educational techniques. Some of the Centre's former trainees now occupy various posts at CNDP : heads of department or division, chief project officers, organizers, etc. However, there can be no doubt that many of the teachers seconded to CNDP have been able to acquire qualifications in the use of modern educational techniques elsewhere than at the Saint-Cloud Audio-Visual Centre, sometimes even in the field.

A s regards the vocational training given to technicians, we provided an instance of this in case No. 1. To quote all the technical training schemes offered by specialized establishments would take too long and would in fact be unnecessary in this context.

III.2 Staff status

- Educational staff : as already indicated, teachers are seconded with special responsibility for undertaking studies. Some of those seconded have secured permanent appointments to certain jobs.

Teachers in one category may, after three years' service,be promoted, upon the proposal of the head of service, to the category of specialist teachers (two groups). We have already described the CNDP status, an administrative status which does not correspond to the new functions exercised by specialists in modern educational techniques.

- Technical staff : Three types of status are granted to such staff :

- the CNRS-type status, already discussed ;

- the 'National Defence'-type status for manual workers ;

- the ex-RTF (Radio Télévision Française) type status for staff employed by Radio-Télévision Scolaire.

We are unable to make a detailed comparative study of the status and rates of pay applied by CNDP, the State radio and television corporations and the private sector. However, it would seem that, while security of employment is guaranteed, the wage differentials create problems and lead to claims on the part of two trade unions, CGT (Spectacle) and CFDT.

The general staff regulations of CNDP allow eight weeks annual leave, including four weeks in the summer. The Centre is closed for three weeks, from the last week in July to mid-August.

ANNEX CONCERNING THE STATUS OF CNDP STAFF

Decree No. 57-589 of 16 May 1957 defined in its initial version the status of the "professional grades of administrative, educational and scientific staff of the Institut National de Documentation Pédagogique et de Perfectionnement et Distribution des Moyens d'Enseignement (Institut Pédagogique National)" whose mantle CNDP has largely taken over via the Institut National de Recherche sur la Documentation Pédagogique (INRDP) and the Office Français des Techniques Modernes de l'Education (OFRATEME).

Nevertheless, staff working in university administration and management, executive staff, and documentation staff employed by the Ministry of National Education have since been granted a status which represents a radical amendment of the terms of the Decree.

(Cf. Recueil des Lois de la République, Section 62 : Non-teaching staff, and particularly sub-sections :

622 : administrative staff working in external services and establishments
623.0 : executive staff
625.1 : documentation staff employed by the Ministry of National Education
628.0 : staff employed by the Centre National de Documentation Pédagogique.)

Staff employed in the decentralized services of CNDP may be classified in six categories :

1. Administrative, managerial and executive staff, who are to be found in all services but who are engaged more particularly in administrative and financial work.

2. Educational staff : seconded teachers, working chiefly in the services responsible for organizing educational schemes but also in the documentation and information services.

3. Documentation staff, who are responsible for seeking out, assembling, classifying, storing, preparing, processing and disseminating the documentation required for the Centres' tasks.

It should be noted that the term "documentalist" may give rise to misunderstanding, such staff being confused with the teaching assistants, documentalist-librarians, employed in school establishments (CDI).

4. Technical staff and manual workers employed under contract and assimilated to :

- manual workers employed in the maintenance and book production services of the Ministry of National Defence ; or

- employees of public establishments set up to supersede the old Radio-Télévision Française.

Staff assimilated to manual workers employed by the Ministry of National Defence are classed in three categories :

- supervisory staff (workshop managers and foremen) ;

- skilled workers (photo-engravers, offset machine minders, varitypists, sales staff, book-binders, etc.) ;

- semi-skilled workers and labourers.

Staff assimilated to technicians employed by the State Boardcasting Corporation comprise two professional groups - "Sound and Picture" and "Set Design" - each divided into three categories (A, B and C). Such staff include sound engineers, set designers and assistant set designers, specialist cameramen, specialist photo reporters, and specialist film producers and editors.

5. Staff accorded the status of technical and administrative contract staff employed by the Centre National de Recherche Scientifique (Recueil des Lois de la République, Chapter 713.2 : Decree 59-1405 of 9 December 1959).

6. Lastly, temporary staff recruited on the basis of individual contracts and paid according to a scale approved by the Comptroller either to replace staff on leave or to perform specialized duties (translation, press work, etc.).

APPENDIX E

UNITED NATIONS EDUCATIONAL, SCIENTIFIC AND CULTURAL ORGANIZATION

Case Studies on Staff Problems in
Educational Institutions Using
Modern Educational Techniques

DESCRIPTION OF PROJECT AND
METHODOLOGICAL TOOL FOR CASE STUDIES

ED/SCM
ED/HEP
ED/SCM/792/7478

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I. INTRODUCTION

1. The evolution, reform and modernization of educational systems with, in many cases, the introduction of new techniques, imply changes in the rôles of the old-established categories of educational staff (teachers, principals, educational advisers and inspectors) but also the creation of an increasingly wide variety of specialist jobs in curriculum planning, the production and use of teaching aids, evaluation, educational guidance and group techniques. A common characteristic at the level of systems organization is the increasing diversity of tasks, itself the result of a new division of labour in the educational field. This trend is particularly apparent in the introduction of new techniques such as television or radio which widen still further the range of specialists needed. Educational institutions making large-scale use of modern communications media have had to contend with staff problems, the solution to which has been found, in many cases, only after a period of trial and error which has wasted both time and money. Their experience, therefore, could well benefit both formal and non-formal educational systems now in process of modernizing their methods and techniques.

2. The fact is that, in many cases, changing educational staff policy (training, recruitment and career conditions) in Member States to suite the new situation is impeded by many obstacles and in particular :

- the lack of precise job descriptions ;
- the lack of adequate training programmes ;
- the rigidity of public service regulations ;
- the unsuitability of prevailing rules in the profession for these new occupations.

3. The purpose of these case studies is, therefore, to collect information about these problems and to produce an international overview of the situation. The survey is directed primarily at educational institutions that have made large-scale use of new techniques such as television, radio and programmed self-learning aids because that is where the problems are most keenly felt.

II. IDENTIFICATION OF TASKS AND STAFF CATEGORIES

4. The various tasks assumed by the personnel of an educational system using television (and/or radio) can be analysed on the basis of the sequence : design - production - technical execution - diffusion -

utilisation and feedback. The analysis starts with the preparation of programmes and goes as far as the "field"workers whose job is to use the programmes for teaching purposes, in other words the teachers and other staff (animators, documentalists, and so on) who collaborate with them at the level of the establishment, class or any other target population (group of adults, for example).

5. It would be useful here to make a distinction between changes in the functions of conventional staff categories (teachers, inspectors and educational advisers) and the advent of new full-time jobs done by specialists in producing, evaluating or managing educational media systems whose work is no longer measurable in hours of teaching.

6. Lastly, because of the difficulties that seem to arise more particularly at these links in the chain, it would be useful to lay special stress on certain decisive rôles - administrators of multimedia systems, producers, inspectors and educational advisers - whose work is concerned with controlling the systems and is essential for their coherent operation. The point is that these functions often provide vital support to teachers in the reception and utilization of broadcast programmes and as regards feedback to the producers.

7. It would also be necessary, of course, to consider not only jobs linked with the use of radio and television but also those involved in the use of other media and teaching aids such as the press, printed materials and so on, some of which may be produced at the level of the individual establishment or training group or used in multimedia centres. For each of these functions it will be necessary to identify duties implying or likely to imply new full-time or part-time jobs.

8. Apart from teaching jobs there are others of a technical or technical/artistic nature at the level of the execution, production and broadcasting or distribution of visual, sound or printed messages and the maintenance of the equipment used. Here it will be necessary to identify any new occupations emerging at the level of the centres where these messages are produced and put out, the various functions being classified according to the various stages in the sequence referred to earlier.

9. A two-dimensional model in which fields of activity may be cross-tabulated with the functions could make this identification easier. Wherever possible, an indication should be given of which groups of duties lead to the creation of new jobs.

The fields of activity are as follows :

I. Management and administration : these are the control, coordination, management and planning activities necessary

for the systems to function satisfactorily.

II. Educational research and conceptual design : this covers the definition of objectives and the design of educational media, their utilization in educational settings and their evaluation.

III. Artistic and technical/artistic activities : this covers everything directly related to the production of educational media - directors, graphic artists, layout artists, model makers, photographers, etc.

IV. Technical activities : this covers all those activities involved in the physical manufacture and distribution or broadcasting of educational media and the maintenance of equipment.

III. DESCRIPTION OF JOB PROFILES FOR ADMINISTRATIVE, EDUCATIONAL, TECHNICAL/ARTISTIC AND TECHNICAL STAFF

10. Here it is a question of describing the skills needed to carry out each task in the various jobs or occupational functions. In this analysis of job profiles, special attention should be given to those which correspond to new specializations, but it is equally important to include those of the teaching body itself, whose rôle in the use of television or radio braodcasts and of the associated printed aids calls for different skills from those of the contentional teacher in class. The same applies to the profile of principals and educational inspectors and advisers whose function is to supervise the educational process in school classes and to ensure or help in the feedback to the producers. If other people in the system are also involved, their job profiles should be described as well.

11. For each job identified, a description should be given of the duties and qualifications required ; length and level of general education, specialized training and any earlier experience. Care should be taken to distinguish between the present situation and what is envisaged for the future.

IV. TRAINING POLICIES

12. The insertion of modern communications media into educational systems has, in a general way, presented the national authorities with training policy problems.

Highly differing strategies have been introduced and it

MODEL FOR IDENTIFYING OCCUPATIONAL CATEGORIES

FIELD OF ACTIVITY	FUNCTIONS						
	A planning, conceptu-alization	B production	C technical execution	D distribution/ diffusion	E maintenance, technical services	F utilization	G evaluation feedback
I. Management and administration							
II. educational research, conceptual design							
III. technical/artistic activities							
IV. technical							

Examples : I.A Director of an Institution
I.B Head of production department
I.F Inspector or educational adviser
II.A Media designers
II.B Media producers (directors)
II.F Teacher, animator, etc.

Some boxes may have nothing entered in them

would be very useful to compare their pros and cons. The main strategies used are : organizing the necessary training in the country itself, either by using existing institutions or by setting up special training centres, sending students and trainees abroad, organizing systematic further training (e.g. for teachers and inspectors to be prepared for jobs in television or for the staff of television production centres to be specialized in educational television), and the institution of a system of continuous further training. In some cases there has been no training at all. The kinds of training that exist for each occupational category should be shown together with the numbers being trained, the number of specialists it is planned to train between 1978 and 1985 and the training strategies that experience has shown to be the best.

V. TRAINING CURRICULA, CONTENT AND ORGANIZATION

13. For each occupational category identified, a list should be given of existing occupational training institutions showing their level with details of curricula, content and duration of the various training courses.

VI. STAFF CONDITIONS OR RULES (STATUS)

14. It has been found that the new specialists often encounter difficulties because of the fact that their jobs and training do not correspond with the professional conditions recognized by the regulations in force in the institutions where they work and that, for example, teachers seconded to television production centres as directors or producers are still treated, from the standpoint of remuneration and promotion, in the same way as their colleagues in academic establishments.

15. It would, therefore, be useful to provide particulars, for these new categories, about the conditions in which recognition is given for their training and career conditions in the framework of the rules applicable to the public service or employment in the private sector, and on salary levels and career ladders. Information regarding the rights that may accrue to certain staff for the fruit of their occupational activity (author's rights) should also be taken into account.

16. A list should also be given of the professional associations or trade unions to which the various categories of personnel belong.

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In order to make it easier for the specialized institutions to analyse these problems and to enable an international comparison to be made, a guide for organizing these case studies has been drawn up. It is not a questionnaire, but a methodological tool. Wherever applicable, replies should be illustrated by comments related to the various problems set out above.

SUGGESTED METHODOLOGICAL TOOL FOR THE ORGANIZATION OF CASE STUDIES

I. Identification of institutional framework

1.1. Name and address of institution or service to which the case study relates ;

1.2. What is its administrative status ?

1.3. What are its functions and rôles ?

1.4. What types of teaching aid are produced and what is the annual output ?

1.5. Number of full-time employees :

- management and administrative grades ;
- educational staff : specialist researchers and teachers ;
- technical/artistic staff ;
- technicians ;
- general services : secretaries, drivers, janitors ;
- manual workers.

1.6. Total number of part-timers (same categories) ;

1.7. Other useful information.

II. Identification of each of the functions of the staff categories - to be given for those categories recognized at present (cf. model in paragraph 9)

2.1. Official title ;

2.2. Summary description of job and its product ;

2.3. Working conditions (place, hours per week, whether part of a team, conditions of supervision) ;

2.4. Job of immediate superior.

III. Job profiles, to be given for each category

3.1. Desirable abilities : intellectual, artistic, manual, aptitude for human relations, activity leadership, administration etc., or new skills required in the case of existing categories ;

3.2. Level of responsibility ;

3.3. Qualifications required on recruitment (differentiating between the present situation and what would be desirable)

- general education ;
- level of education and diplomas ;
- specialized training (level and length) ;
- earlier experience (nature and length) ;

3.4. To what extent are these functions mutually exclusive and what degree of versatility or, on the contrary, specialization is required ?

3.5. What degree of occupational mobility is necessary ?

IV. Training policies

For each category :

4.1. Give present number of specialists in the national education system and the training they have received - as indicated in the table. Indicate categories by key letters (cf. paragraph 9) in the appropriate box followed by the number of staff in that category.

FIELD OF ACTIVITY	On the job		In specialized centres over 3 months training	
	No training	Courses of under 3 months	in own country	abroad
I				
II				
III				
IV				

4.2. Any additional training schemes organized to allow mobility between related or associated jobs ;

4.3. Forecast requirements to 1985 and type of training recommended (same type of table) ;

4.4. Problems encountered and measures to be taken.

V. Training curricula, content and organization

5.1. What training institutions are there ? (type, status, number of students) ;

5.2. Entry level and length of course for each category ;

5.3. Educational content as a percentage of the total course length :

General education
Special studies
Practical work
Total length

5.4. Main subjects studied (if possible, attach curricula) ;

5.5. Certificate or diploma awarded ;

5.6. What specialization or further training courses are organized :

- length, frequency, content ;
- for whom are they arranged ?

5.7. Other ;

5.8. Problems encountered, e.g. extent to which training matches job profiles.

VI. Staff conditions and rules (status)

1) What is the status of these categories of personnel and what are their different levels ?

2) What recognition is given to their new specialization and diplomas (public sector, semi-public sector and private sector) ?

3) What are the advantages, if any, in terms of promotion and career ?

4) What is the leave system for these various categories compared with that for a teacher in an academic establishment ?

5) What is their salary index (index 100 representing the basic salary of an elementary school teacher with normal qualifications in his or her first job ?

6) What professional associations are there and, if applicable, trade union branches ?

7) Describe any regulations and legislation on property rights and the rights applying to the use of teaching aids produced by specialists.

8) Any difficulties encountered in this field, and suggestions.

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LIST OF ACRONYMS USED IN THE STUDY

AECD	Association for Educational Communication and Development (United States)
AECT	Association for Educational Communications and Technology (United States)
ALER	Asociación latino-americana de educación radiofónica (Argentina) - Latin American Association for Education by Radio
APEID	The Asian Programme of Educational Innovation for Development (UNESCO-Rangoon)
AVA	Audio-visual aids
BBC	British Broadcasting Corporation (United Kingdom)
CAFOP	Centre d'animation et de formation pédagogiques (Ivory Coast)
CAV	Centre audio-visuel (Saint-Cloud, France)
CDDP	Centre départemental de documentation pédagogique (France)
CECAL	Centre de capacitación de lideres (Argentina) - Training Centre for Local Leaders
CEPE	Certificat d'études primaires élémentaires
CERAV	Centre d'enseignement et de recherches audio-visuels (Ivory Coast)
CET	Council for Educational Technology (United Kingdom)
CETV	Complexe d'éducation télévisuelle (Ivory Coast)
CNDP	Centre national de documentation pédagogique (France)
CNFP	Centre national de formation permanente (Ivory Coast)
CNRS	Centre national de la recherche scientifique (France)

CRDP	Centre régional de documentation pédagogique (France)
CSTE	Centre de spécialisation en technologie éducative (Ivory Coast)
DAM	Département de la documentation des maîtres et des actions multi-media (CNDP-France)
DEPAV	Département des productions audio-visuelles (CNDP-France)
EMS	Educational Media Service (Malaysia)
ENI	Ecole normale d'instituteurs (Primary Teachers' Training College)
INCUPO	Instituto de cultura popular (Argentina) - Institute for Popular Culture
MCA	Mauritius College of the Air (Mauritius)
OOK	Országos Oktatastechnikae Központ (Hungary) - National Centre of Educational Technology
PEGC	Professeur d'enseignement général des collèges (France)
PETV	Programme d'éducation télévisuelle (Ivory Coast)
RTI	Radio télévision ivoirienne (Ivory Coast Broadcasting Corporation)
SERTI	Studio école de la radio télévision ivoirienne
TU	Training Unit
WCOTP	World Confederation of Organizations of the Teaching Profession

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