

New Media in Education in the Commonwealth



New Media in Education in the Commonwealth

*A study conducted by the Centre for Educational
Development Overseas and the Commonwealth Secretariat*

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FOREWORD

Many countries have discovered that the 'chalk and talk' method of education has often failed to produce the desired results. With increasing population and with the need to bring education to all, many governments have come to accept that the teacher must be innovative in his methods and that the use of the media could assist the teacher to make his teaching effective.

At the Fifth Commonwealth Education Conference held in Canberra in 1971, the Committee which dealt with Curriculum Development and Educational Media observed that as there had been a substantial increase in the varieties and number of new media available for use in schools and colleges, educational authorities would soon be forced to formulate policies about the introduction of such media, and underlined the need to extend Commonwealth cooperation in this area, especially in view of the high cost of introducing the use of the media. It was necessary therefore to avoid ad hoc decisions not based on adequate information, as these might result in unnecessarily high expenditure and duplication of efforts. The Committee therefore recommended that the Commonwealth Secretariat, in cooperation with CEDO, should conduct periodical surveys in Commonwealth countries, to obtain and widely disseminate information about their needs, and facilities available for the use of educational media.

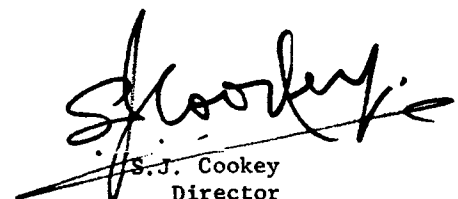
Soon after Canberra, there followed in London a series of meetings between the Commonwealth Secretariat and CEDO, which resulted in a programme for the proposed

survey. Details of the methodology employed in conducting the survey are given elsewhere in this Report. It would be sufficient to mention in this foreword that in addition to gathering information through questionnaires, nineteen case studies were carried out in eleven Commonwealth countries.

A preliminary report of the survey based on questionnaires and country fact sheets was published in March 1973. It is hoped that this final Report, which incorporates the results of the case studies, will be found useful by all Commonwealth countries which now use the media in their educational systems or intend to do so.

Much work has gone into the preparation of this Report which is in many ways unique. The Commonwealth Secretariat expresses its thanks to all who have contributed to the success of the survey. The contribution of CEDO has been immense. Its Governing Board gave a consistently warm support for the project and provided much of the necessary funds, as well as personnel whose expertise and enthusiasm have led to the satisfactory completion of the project.

Thanks are also due to the Commonwealth Governments who have cooperated in this exercise by replying to the questionnaire, amending the fact sheets and welcoming the survey teams. The teams were high in their praise of the hospitality and full cooperation which they received in the countries visited. This has indeed been an excellent example of Commonwealth cooperation in education.



S.J. Cooley
Director
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29 March 1974

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INTRODUCTION

This study was requested by the Fifth Commonwealth Education Conference. In discussions between CEDO and the Commonwealth Secretariat it was established that there was a dual requirement: to provide a comprehensive factual survey of projects using the new media throughout the Commonwealth, and to carry out more detailed studies of selected projects. The approach was to be as wide as possible and was to include formal and informal education and also what is defined as 'training'. The new media were taken to mean (a) the use of television for educational purposes; (b) the use of radio for educational purposes; (c) the use of correspondence education; and (d) the use of any combination of audio-visual media designed for teaching or learning.

The first phase was a Commonwealth-wide survey of all relevant projects by questionnaire (Appendix III) and supported by country-based educational fact sheets (Appendix II) compiled by CEDO from existing published sources and then verified by each member country. A digest of this information is contained within Part One.

The second phase consisted of a series of nineteen case studies selected from the projects listed in Part One. These are reported in Part Two.

In the original planning it was agreed that a major contribution of the Commonwealth Secretariat would be 'to obtain the support of Commonwealth governments for the research study'. CEDO, in addition to its own resources, was able to call on the support of British Council personnel, both in London and overseas. Further assistance with the planning came from members of the CEDO Board of Governors who gave generously of their time and experience.

Prototype questionnaires were designed and copies were distributed for comment to a wide circle of people with experience of these problems throughout the world (March 1972). From an analysis of their criticism the final form of the enquiry documents emerged (June 1972).

The country fact sheets, which were originally compiled by CEDO in London contained the most up-to-date information from the most reliable sources. In the main these were UNESCO and UNO statistics. The ass-

istance of UNESCO's Statistical Office in Paris was greatly appreciated and ensured access to the most up-to-date data available. To a limited extent it was possible to use published annual reports, but there were relatively few up-to-date annual reports from government departments of many Commonwealth countries available for inspection and study in London.

In this form, country fact sheets were passed to the Commonwealth Secretariat in August and September 1972 for transmission to High Commissions in London for completion and verification. Many High Commissions were able to verify or correct the data and return the papers quickly. Others felt it necessary to refer the matter to their home base. This took time. Nevertheless it was possible to publish a useful amount of this data in an Interim Report for a Conference on Teacher Training held in Nairobi in May 1973. This, in turn, proved a useful method of encouraging more responses.

In compiling the project questionnaire it was felt that simple questions stood a better chance of being answered and would give an adequate first level appraisal of each project. It was realized that educational planners (in looking for models and sources of reference) would need to know much more than these answers would provide. It was to help meet their needs that the detailed studies were undertaken in the second phase.

The questionnaire design was agreed and copies distributed by the Commonwealth Secretariat in June 1972. Multiple copies were sent, with an explanatory personal letter, by the Director of the Commonwealth Secretariat Education Division to Ministries of Education with a request that a questionnaire should be completed for each separate project making a significant use of new media in the furtherance of educational objectives, and returned by 21st August 1972. To avoid long and explanatory notes, each questionnaire was accompanied by a brief note and a specimen completed for an imaginary but, hopefully, typical project.

In practice, the collection of this information proved difficult and whilst some countries were quick to respond (by early September 1972 we had reports on 23 pro-

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jects), a series of reminders, applied in many different ways, resulted in a slow, continuing trickle of responses. These totalled 56 from 24 countries for the Interim Report. The final report contains information on 134 projects from 42 countries.

All requests for assistance and information issued as from the Commonwealth Secretariat, through the usual formal channels. These included direct correspondence with the respondents, as well as with, and through, the London offices of each High Commission and through the members of the Commonwealth Education Liaison Committee.

Officers of the Education Division of the Secretariat on tour were asked to make suitable enquiries about the progress in answering questionnaires to appropriate officials. Similarly, all CEDO staff travelling overseas during the period of the study were briefed to make enquiries, and similar assistance was offered by the Educational Advisers to the Overseas Development Administration. Through their Educational Technology Office in London, all Representatives of the British Council in Commonwealth countries were kept informed of progress and in many cases they were able to offer assistance to local officials which speeded the flow of replies and has been greatly appreciated. Considerable assistance was also obtained from former trainees of CEDO and its predecessor organizations. Frequently direct appeal to personal friends succeeded in ensuring that a particular entry appeared in the Report.

The nineteen case studies, in the second phase of the survey, were chosen with a view to providing a valuable cross-section of ideas and experiences to the Ministers and their advisers. To be of real value it was felt that each example chosen had to be one of 'successful' operation - the difficulties encountered in defining this term are outlined in the introduction to Part Two. It was also clear that these case studies should, ideally, be from a variety of countries and continents and should illustrate the uses made of different media at primary, secondary and tertiary levels of education as well as in adult/informal education situations. Advice was taken

from many sources (CEDO had the advantage of many overseas contacts and a succession of overseas visitors to its Centre in London, and was thus able to tap sources of advice on a world-wide scale) and the first list of case studies was drawn up and approved. The Commonwealth Secretariat also obtained the necessary permission and collaboration for the member states to be contacted. It was agreed that to obtain uniformity of reporting each case study should be conducted by one of two members of the CEDO staff. The individual responsible for each case study would be teamed with a nominee of the project being studied. Their joint report was, in each case, discussed with and approved by the authority responsible for the project. Restrictions caused by the rising cost of printing have meant that considerable editing has had to be done to reduce the material to an amount which could be collected within one volume.

The experience gained in this survey confirms that postal questionnaires as a means of gathering information are, generally, extremely disappointing, especially in collecting data from a wide range of situations. By and large the more developed countries are able to respond satisfactorily to this approach. But in many developing countries requests of this nature have given officials, who are already hard-pressed, additional problems. It is also clear that many of the original questionnaires went astray. No clearly identifiable cause is apparent, except that some were eventually discovered deep in a filing system and unseen by the individual who was in a position to supply the responses. Certainly personal mediation, in one form or another, greatly increases the overall efficiency of this type of exercise.

One other observation is perhaps relevant. Time and again the investigating officials were astonished to find that information just does not circulate. Hard-pressed officials and educators were unaware very often whether work being done by their colleagues both in their own country and outside was directly relevant to their own problems. As has been observed elsewhere 'there are too many people engaged in the process of rediscovering the wheel'.

PART ONE

A survey by questionnaire in which Governments were invited to describe significant projects using new media for educational purposes.

Supported by brief background fact sheets for each Commonwealth country outlining the general situation against which new media usages have to be considered.

AUSTRALIA

GENERAL INFORMATION

AREA 2,967,909 sq.miles POPULATION 12,908,000 (1971) PER CAPITA INCOME \$A 1,822 (1971)

EDUCATIONAL PROFILE

Statistics

Public expenditure on education (1972/73) = \$A1,864 million = 4.7% of GDP
(Currency: dollar; \$A1.57 = f1 sterling 4.12.73)

No schooling	Age 25+ = 1.0%
Completed primary	Age 25+ = 37.1%
Entered secondary	Age 25+ = 57.2%
Entered tertiary	Age 25+ = 4.7%

Teacher training (1971) Students 20,459
Students at university (1971) 119,085

Structure

Each of the six States of Australia is responsible for providing education within its boundaries. A common set of aims emerges from the statements which each State publishes from time to time;

'There should be a variety of courses of study. These should be designed to meet the differing abilities and needs of children on the one hand, and on the other to fit young people for the developing requirements of a society rapidly changing in its economic, industrial and scientific structure. It should give, therefore, a sound, diversified and flexible general education, combined with adequate opportunities for vocational preparation.'

Most children start school at about five years of age, when they enter primary schools. A small proportion attends pre-primary classes for up to two years. These classes are mostly conducted by voluntary organizations, some of which receive government grants. There are also a few pre-primary centres conducted by Departments of Education, and one group financed by the Australian Government.

Children remain in primary schools for a period of six to eight years, depending on the State and the organization of the school attended; then they pass on to secondary school. Up to 25% attend private schools at the primary level and a slightly higher proportion at the secondary level. Attendance at secondary school is possible for a period of up to five or six years.

In all States technical education is available following secondary education; in some it is also conducted parallel

with secondary education. In the first case the work has vocational aims, in the second it has a pre-vocational bias.

Teachers' colleges are conducted by the respective State Departments of Education. There are also non-government institutions.

There are fifteen universities and three university colleges in Australia, and seventy-nine colleges of advanced education.

Adult education of a non-vocational character is provided by various organizations, usually with some government assistance, including universities, colleges of advanced education, technical colleges, Education Departments or adult education councils and associations.

BROADCAST COMMUNICATIONS FACILITIES

Radio (1971)

The programmes of the Australian National Broadcasting Service are the responsibility of the Australian Broadcasting Commission (ABC), which is responsible to Parliament through the Postmaster-General. There is full domestic coverage by ABC on medium and short wave through eight transmitting stations. There are also 116 commercial stations, associated in the Federation of Australian Commercial Broadcasters. There are 2,698,939 sets - 209 per 1,000 of population (1971 figures).

Television (1971)

There are forty-eight national television stations, controlled by ABC, and forty-six commercial stations, associated in the Federation of Australian Commercial Television Stations. In 1971, there were

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138 transmitters, including fifty-four auxiliary transmitters, serving 2,845,168 television sets (224 sets per 1,000 of population).

PROVISION FOR EDUCATIONAL INNOVATION

The Australian Department of Education has a Planning and Development Unit which has been in operation for twenty years. The six States also have such Units.

There is a National Curriculum Development Centre, still in the formative stage, which will become the national resource centre for the collection and dissemination of information. Each State Department of Education has its own Curriculum and Research Unit. There is also a National Committee on Social Science Teaching.

Each State has its own Audio-Visual Centre for the production and distribution of audio-visual teaching aids.

Research facilities are to be found within the eight university faculties/schools of education. In addition there are several bodies specifically concerned with research: Australian Council of Educational Research; Australian Advisory Committee on Research and Development in Education; the Teachers' Unions Research facilities; State Institutes for Educational Research.

The Australian Chapter of the World Education Fellowship and the Australian College of Education also contribute to educational innovation.

EDUCATIONAL BROADCASTING SERVICE

Purposes and Structure

The service provides educational radio and television programmes for schools in the six states of Australia and Papua New Guinea. The Australian Broadcasting Commission is responsible for the service, although advice about programme areas of content is provided by committees representing all forms of organized education within Australia, notably the Australian Department of Education, the State Education Departments and the independent schools.

The Schools Broadcasting Service is organized by the ABC's education department which is self-contained within the Programme Division. It is under the control of the Director of Education who has a section in each of the six states and another in Papua New Guinea. Policy is formulated by an advisory committee under the chairmanship of the ABC's Director of Education. This federal committee consists of the six Directors-General of Education in Australia, the Director of Education in Papua New Guinea and the

representative of the Australian Department of Education. In each state there is a similar advisory committee to deal with state policy and programmes. Various advisory committees, with subject specialists from schools and curriculum research branches, help with the formation of each separate series.

Educational radio programmes were transmitted as soon as the service began in 1932. Schools television programmes were first transmitted in pilot form in 1958 and established officially with the education departments in 1963. Radio and television services are now available for schools in all states, with a radio service only in Papua New Guinea.

Users

Radio: the most recent survey shows that of 10,708 schools, about 96% are equipped with radio sets and make some use of the ABC's programmes.

Television: similarly, of 8,299 schools, about 74% are equipped with television sets.

The numbers of radio and television programmes used by individual schools, the number of classes using them and the actual numbers of children listening and viewing have never been assessed with scientific accuracy.

Output

There are thirty-six weeks of broadcasting during the school year which runs in three terms from the beginning of February till mid-December. Radio and television programmes are transmitted for both primary and secondary schools. Of particular interest in educational radio is a daily 'Kindergarten of the Air' from Monday to Friday, and one session per week related to a primary correspondence school. Other programmes cover social studies, health, contemporary geography and music. Secondary radio programmes cover social studies, history, English, German, French, literature and fine arts, ancient history and the theatre and the history of Australian painting.

Television programmes for primary schools include a daily 'play school' session for younger children, science and maths, social studies, music and current affairs. There are special programmes twice a week for infants. Secondary television programmes cover history, science, Indonesian culture, careers, mathematics, German, French, English, current affairs, and special programmes to support the Physical Science Study Committee.

Staff and Training Provision

The Education Department, as part of the Australian Broadcasting Commission, can call upon its other service areas such as

radio and television studio facilities, film, technical services, transcriptions and records, to assist in making and transmitting programmes.

Within the Education Department itself there is a Director, and an Assistant Director of Education, with a head office staff of ten professional officers and fourteen clerical staff. In each of the six states there are branches with a total staff of six supervisors and two assistant supervisors, forty-two professional officers and fifty clerical staff. Papua New Guinea has a separate office with one supervisor, three professional officers, four clerical staff and three indigenous trainee officers.

Staff for the department are recruited by public advertisement. Basic prerequisites are a university degree, evidence of adequate teacher training by a recognized institution and a minimum of two years' practical classroom experience.

For many years officers of the Education Department of the Australian Broadcasting Commission have given practical assistance to other Commonwealth countries, setting up similar educational broadcasting services. The radio broadcasting services in Malawi and Malaysia are recent examples. Help has also been given to Malaysia to establish a schools television service. Surveys have been conducted to help determine educational broadcasting service requirements in the New Hebrides and the Gilbert and Ellice Islands. Advice has also been given to the South Pacific Commission on educational broadcasting services.

The Australian Broadcasting Commission, with the co-operation of the Department of Foreign Affairs, also conducts training courses in educational broadcasting for overseas broadcasters. Separate courses, open to all developing countries, are held for radio and television producers, although about half are usually from Commonwealth countries. All expenses, including travel to and from the home country, living allowances, travel within Australia and tuition are met by the Australian Government. Full information can be obtained from the Australian High Commissions throughout the Commonwealth.

On request the Australian Broadcasting Commission releases officers to assist other Commonwealth countries when this can be done without adversely affecting the output of the educational broadcast programmes within Australia.

Expenditure

As the Educational Service is part of the overall ABC operation, it is not possible to break down the capital expenditure involved in school broadcasting alone. However, the ABC operates eighty medium

wave radio transmitters, eight domestic short wave transmitters, fifty-two television transmitters and thirty-eight television translator stations, all of which are available to and used by its school broadcasting services. The annual recurrent expenditure for educational broadcasting is estimated at \$A1,489,540. This breaks down as follows:

Salaries	\$A773,520
Radio programme costs	\$A247,030
Television programme costs	\$A138,350
Administration (including local and overseas travel not involved with actual programme making)	\$A 19,340
Publications	\$A311,300

Plans for Development

One clearly defined area of development at present is the installation of audio and videotape recorders in schools to allow a more flexible use of radio and television programmes, which are increasingly used as source material in the teaching process.

Further Information

At all times the Australian Broadcasting Commission has been willing to co-operate with organizations of a similar nature in other countries of the Commonwealth. It is a founder member of the Commonwealth Broadcasting Conference and has been represented on all sub-committees set up by the Conference to promote educational broadcasting.

Address for Correspondence

Director of Education
Australian Broadcasting Commission
PO Box 487
145 Elizabeth Street
Sydney 2001
New South Wales
AUSTRALIA

New South Wales

SECONDARY SCHOOLS VIDEOTAPE RECORDING/ REPLAY INSTALLATION

Purposes and Structure

The service provides facilities in New South Wales Government secondary schools for recording educational television programmes broadcast by the Australian Broadcasting Commission for replay as required by the school timetable. It is the responsibility of the New South Wales Department of Education, which completed installations in December 1972. The items and installations were provided under Government contract after technical tests

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by the Government's Radio and Motion Picture Branch. The Audio-Visual Committee of the Education Department, under the chairmanship of the Director of Services, was responsible for reviewing tenders.

The use of the equipment is controlled by the school principal with operations generally undertaken by a library attendant or teacher-librarian. The school principal may augment the installation from local funds. Repairs and maintenance are conducted by the Government Radio and Motion Picture Branch.

A recording/distribution service is being arranged for schools unable to receive programmes directly.

Users

Equipment has been installed in 430 schools during 1972 and consists of a reel-to-reel videotape recorder, a television receiver, and blank videotapes totalling fifteen hours of playing time per school. The number of students thus served totals 280,000.

Output

All programmes broadcast in the ABC's educational television programmes may be recorded - totalling seven hours of original programming a week and covering current affairs, science, mathematics, geography, history, French, German, English and music.

Staff and Training Provision

The secondary school library staff normally comprises one teacher-librarian and one library attendant. The Government's In-Service Training Branch provided operational instruction courses for attendants in various centres and this has been backed up by instructional bulletins and detailed operation booklets with the equipment. A demonstration film is being broadcast for recording and replay by schools for training additional staff.

The teacher-librarians are qualified teachers who have undertaken various formal training courses in librarianship.

The Director of Services and the officer in charge of the Teaching Resources Centre would be pleased to make the benefit of their advice available to other Commonwealth countries. Their bulletins and films could be made available for copying.

Expenditure

The capital expenditure invested in the purchase of equipment is \$A500,000. The recurrent expenditure, which includes replacements, repairs and provision of additional tapes, will be absorbed in the normal departmental requisitions.

Plans for Development

This will depend on experience with the

present venture.

Further Information

The officer in charge of the Teaching Resources Centre mounted an exhibition on educational technology and wrote a handbook for the Fifth Commonwealth Conference on Education held in Canberra in 1971.

Address for Correspondence

The Officer-In-Charge
Teaching Resources Centre
N S W Department of Education
5 Conder Street
Burwood
Sydney
New South Wales 2134
AUSTRALIA

TEACHING RESOURCES CENTRE

Purposes and Structure

The Division of Professional Services of the Department of Education of New South Wales is responsible for the Centre which was set up in its present form in 1969, although a small film library and film-strip development section had been in existence since 1946. The Centre provides integrated development of teaching aid materials for bulk reproduction, demonstrations of available aids and equipment and a circulating film library for the use of teachers in primary and secondary schools in New South Wales. Liaison is maintained with similar agencies in other States and with the Australian Broadcasting Commission, particularly for providing master materials to be copied.

New teaching aids are developed under the guidance of specialist committees of senior teachers nominated by the Directors of Primary and Secondary Education, which advise on needs and priorities and oversee development. Expert teachers are commissioned to provide designs and technical development is provided by the staff of the Centre. Other supporting units include a Distribution Unit for reproduction and sale of aids, a Demonstration Unit for the examination of equipment and aids by teachers and a 16mm film library. A Liaison Unit provides communication between the schools, the Centre and the ABC.

Users

The Centre serves 1,500 primary schools and 430 secondary schools and departments, which include about 36,000 teachers and 993,000 students.

Output

The Centre covers infant, primary and secondary schools and deals with all kinds of equipment for reproducing pictures and sound since all are generally available in

schools. The format of aids to be developed is chosen according to educational desirability and includes still and motion pictures (8mm, 16mm, with videotape under development), audio-tapes, models and printed material including notes for teachers and students. About fifty new projects are developed each year. Regular newsletters regarding developments and information sheets about projects are available on request. The film library possesses some 33,000 reels of commercially produced film and issues 186,000 units on loan per year.

Staff and Training Provision

A Staff Inspector is the Officer in Charge and is responsible to the Director of Services of the Department of Education. The Aids Development Unit of the Centre has eighteen members of staff: seven teacher-editors, a reference librarian, four artists, three photographers, two typists and one clerk. The Liaison Unit has three teacher-advisers. The Display Unit, Film Library and Distribution Unit together employ twenty-two members of staff, fourteen of whom are engaged in packing, despatch and film rewinding. It also employs a teacher-librarian, two clerks, one typist and four booking office assistants. Total number of staff: forty-four.

Staff are selected by application and interview. The professional staff are recruited from the teaching service and technical staff by public advertisement. Further in-service training is given within the Teaching Resources Centre and individual members undertake university and other courses as appropriate.

The Officer in Charge would be pleased to give advice to other Commonwealth countries.

Expenditure

Capital expenditure is estimated as:

Buildings (assuming certain old buildings are replaced)	\$A600,000
Equipment	\$A4,500,000

Annual recurrent expenditure:

Salaries	\$A200,000
Materials and services	\$A200,000

Plans for Development

It is planned to integrate progressively all sections of the Division of Professional Services. This will become fully effective when a projected new building to accommodate the whole Division can be constructed.

It is also planned to set up Professional Services Centres in various administrative areas throughout the State. These

small branch units, to be accommodated in selected schools or similar buildings, will provide centralized displays, branch film libraries and other services appropriate to the Division.

Further Information

The Officer in Charge supervised the Exhibition of Teaching Technology and wrote its Handbook for the Fifth Commonwealth Education Conference, Canberra 1971. He also participated in an ASPAC Seminar on Audio-Visual Education Materials, Tokyo, 1972.

Address for Correspondence

Officer in Charge
Teaching Resources Centre
PO Box 439
North Sydney 2060
New South Wales
AUSTRALIA

Northern Territory

LANGUAGE LABORATORIES - NORTHERN TERRITORY

Purposes and Structure

The project has been in operation for about two years and is the responsibility of the Office of Aboriginal Affairs through UNISEARCH Pty Ltd of the Institute of Languages of the University of New South Wales. The project is carried out by the Director of the Institute. The purpose of the project is to install four language laboratories at Elcho Island, Maningrida, Yuendumu and Kormilda College, Darwin, for use by the local schools and to introduce the teaching staff to the methodology involved.

Equipment was installed at the chosen locations after consultations. Seminars were held at each location to introduce teachers to the techniques involved in the operation of a language laboratory. Methods of tape and script preparation based on the existing syllabus were also introduced. Emphasis was placed, for instance, on the drilling and exercise situations of English language patterns as presented in the classroom.

AWA Pty Ltd co-operated with the Institute of Languages on the design and construction of the equipment.

Users

Twenty booths were provided at each location for use by all classes at the schools.

Output

The laboratories were to be used as much as possible during the school day. Teachers in charge of the laboratory would interact with class teachers for preparation of

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programmes and timetables.

Staff and Training Provision

At each of the three schools and at Kormilda College one teacher was made responsible for the Language Laboratory, through the headmaster. The Director of the Institute of Languages is responsible for the project. The teachers responsible were trained on the spot through seminars. The Institute of Languages is available at any time for advice, training courses, design and installation of specialized equipment, etc. to other Commonwealth countries as well.

Expenditure

Capital expenditure is estimated as follows:

Buildings - no cost (existing rooms used)
Booths - approximately \$A100
 for twenty booths - built
 by Manual Class pupils \$A 400.00
Equipment - approximately \$A1,000.00

Recurrent annual expenditure is approximately \$A250 per location for repair and maintenance on tape recorders, etc.

Plans for Development

Due to vast changes in the organization of the educational system in the Northern Territory indicated by the Federal Government, the future of the project is an unknown factor. The local language will in future be used as a medium of instruction. This would seem to indicate a greater need for some sort of electronic facility in Northern Territory schools. More language laboratories had been planned and some suggestions made about the making of tape scripts and tapes but have not been implemented.

Further Information

The laboratories at Maningrida and Yuendumu had little success probably due to the resistance and apathy of staff. Kormilda College have many problems of space although the laboratory seems to be fairly well used. The laboratory at Elcho Island has been very successful and has been used as planned.

Address for Correspondence

Director
Institute of Languages
The University of New South Wales
PO Box 1
Kensington
New South Wales 2033
AUSTRALIA

Queensland

RADIO AND TELEVISION SERVICE

Purposes and Structure

The Service provides educational radio and television programmes for primary and secondary schools, and seeks to extend the use of radio and television programmes to remote schools, outside reception areas, by the use of other media, such as high quality cassette copies of school radio programmes. The Service is controlled by a Co-ordinator of Radio and Television Services who is responsible to the Director General of Education. The Australian Broadcasting Commission co-operates in this work, as does the Film Centre of the Department of Education.

Decisions on programme content are made by planning and appraisal committees with representatives of the various subject areas together with inspectors, research and curriculum branch officers and radio and television service officers. Radio and television programmes are produced by the ABC. Teachers' notes and wall-sheet timetables are organized by Radio and Television Services.

Programmes are recorded on videotape by the Film Centre. Multiple copies are made and distributed by rail and air to the twenty-six schools in the 'Remote School System'. When the circuits have been completed, videotapes are returned to the Film Centre where they are erased ready for re-use.

A cassette duplication system has recently been installed. Selected ABC school radio broadcasts have been recorded for use by teachers and students of the secondary Correspondence School.

The radio and television services began in 1967, the 'Remote School System' in 1969 and the cassette duplication service in 1972.

Users

Radio and television broadcasts are used by primary schools: 1,069; secondary schools: 110; Remote School Systems are used by three primary schools, twenty primary schools with secondary classes and three secondary schools.

Output

A full timetable of radio and television programmes for primary and secondary schools is broadcast with supporting notes for teachers.

On the Remote Schools System six circuits are employed involving approximately twenty-five tapes per week.

In the 'cassette duplication service' 156 half-hour programmes have been recorded for the Secondary Correspondence

School. In 1973 it is thought that these will be used by seventeen primary schools and seven primary and secondary schools in the Torres Strait Islands, by forty-five primary and five secondary schools lying outside the area of radio reception, and by lighthouse keepers.

Staff and Training Provision

Apart from the production staff provided by the ABC, and serving educationalists who assist on planning and appraisal committees, the service is managed by a Co-ordinator of radio and television services and his assistant with four seconded teachers, three office staff and a staff of two responsible for duplicating. The seconded staff are trained by experienced officers from the radio and television services.

Expenditure

Capital expenditure is indicated by:

Buildings - leasing of office space (annually)	\$A 1,000
Equipment - offset printing	\$A 5,000
Typesetting equipment, typewriters, etc.	\$A 3,000

Annual recurrent expenditure includes:

Salaries	\$A58,058
Other charges	\$A 5,000

Plans for Development

These include video cassette recording of educational television programmes and colour, ITFS television distribution in conjunction with satellites, high quality FM educational radio recordings distributed to all schools and the development of individual skill media centres.

Further Information

The Co-ordinator of Radio and Television Services has frequently served as an adviser and has given assistance to educators from Singapore, Malaysia, Fiji, Africa, and India.

Address for Correspondence

The Co-ordinator of Radio and Television Services
Department of Education
Brisbane
Queensland 4000
AUSTRALIA

South Australia

AUDIO VISUAL EDUCATION CENTRE

Purposes and Structure

The Centre provides information on Educational Media, both hardware and

software, as well as equipment evaluation and an Educational Technology Consultant and Advisory Service for primary and secondary schools in South Australia.

The Audio Visual Education Centre is a branch of the Education Department's Division of Educational Services and Resources, under the control of a Supervisor, who is directly responsible to the Director of the Division.

The Centre has a team of educational technologists headed by the Supervisor and in addition to advisory and consultant services it undertakes a preparation and distribution service of various types of educational media, such as programmed multi-media kits and filmstrips, as well as overhead projector transparencies. In addition it provides a videotape and audiotape duplicating service of school broadcasts.

The Centre was established in 1947.

Users

The Centre provides a direct service to the Heads and staffs of 800 schools with 250,000 students, as well as a service to other Divisions of the Education Department and other Government departments.

Output

The services of the Centre are provided throughout the school year at all levels and cover the entire curriculum.

Staff and Training Provision

There are forty-two members of staff including nine teachers seconded on a full-time basis and eight on a half-time basis. The Centre trains its own staff and also holds a number of in-service conferences each year to which members of the teaching service are invited. Key personnel could be available for advice and to assist in training courses overseas.

Expenditure

The Centre represents approximately \$A200,000 invested in buildings, with a further \$A85,000 worth of equipment. The annual recurrent expenditure totals \$A303,000 which breaks down as:

Salaries (including seconded staff)	\$A220,000
Equipment and materials	\$A 63,000
Sundry expenditure (rents, rates, postage, telephone, etc.)	\$A 20,000
	<u>\$A303,000</u>

Plans for Development

It is anticipated that the demand for media information and equipment evaluation and advice on the planning and organization of resource centres and the use of audio-visual media and application will become greater. More in-service

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conferences will be required and visits to schools by consultant teachers will greatly increase.

Further Information

The Director comments 'like so many other sections of education today, the number of specialist consultant and advisory teachers is far below that required to cope with the demand from schools. Shortage of staff for this purpose is a major obstacle which can be overcome only by a greater allocation of manpower and finance.'

Address for Correspondence

The Supervisor
Audio Visual Education Centre
Education Department of South Australia
221 Wakefield Street
Adelaide 5000
SOUTH AUSTRALIA

SOUTH AUSTRALIAN CORRESPONDENCE SCHOOL, EDUCATION DEPARTMENT

Purposes and Structure

The service provides correspondence education to primary and secondary school children in South Australia and the Northern Territory. This is supplemented by 'Schools of the Air' and audio-visual materials. The correspondence school also assists governesses and parent supervisors with advisory services. It is operated by the Ministry of Education and controlled by a Director. Day-to-day administration is under the control of the headmaster who is directly responsible to an Assistant Superintendent of primary education. Preparation of lessons, illustrations and notes to supervisors, various types of audio-visual materials such as tapes, slides and other reproductions are undertaken by the teaching staff. The South Australian Correspondence School was first established in 1920, but it is only in the last two years that tapes have been used on such a large scale as a supplement to the written word of the primary section of the school.

Users

The service provides approximately 1,900 students - 1,400 primary; 500 secondary - in any year, with audio-visual material. It also supplies advisory services to 300 supervisors of children's work (parents and governesses).

Output

Throughout the year correspondence lessons are despatched and marked and tapes are exchanged between teachers and correspondence students. These tapes are used for a variety of purposes - for establishing a link beyond the written word, for asking

questions and giving help with difficult aspects of the work, for giving advice to supervisors and for providing supplementary materials - eg. music, songs - mainly in the primary section. In the secondary section, tapes of plays and poems are used and 35mm slides help with secondary art and biology.

Staff and Training Provision

Of a total staff of seventy-eight, sixty-one are on the teaching side and sixteen on the production and despatch side. Teachers appointed to the school have had classroom experience and are then trained internally by senior staff. Subject to the approval of the Director-General of Education the staff of this project would be able to assist other Commonwealth countries in similar enterprises.

Expenditure

The capital invested in this project is represented by \$A80,000 for the buildings and \$A27,000 for other equipment, including furniture. The annual recurrent expenditure total is slightly in excess of \$A410,000 and includes the following:

Salaries	\$A374,000
Equipment and materials	\$A 21,000
Postage, carriage and telephone charges	\$A 11,000

Plans for Development

These are concerned with raising the quality of correspondence education.

Further Information

Factors which help to improve the service include an increase in the quality of audio-visual materials and equipment, more assistance to supervisors through conferences, the provision of more modern printing and photographic equipment, and increased opportunities for face-to-face tuition.

Address for Correspondence

The Director
South Australian Correspondence School
Education Department of South Australia
55 Pennington Terrace
North Adelaide
SOUTH AUSTRALIA

Tasmania

TEACHING AIDS CENTRE

Purposes and Structure

The Centre produces integrated teaching materials for the State's school needs and designs learning facilities to meet instructional needs. It selects and

maintains audio-visual equipment. It operates directly under the Tasmanian Education Department and operates with the Australian Broadcasting Commission in so far as radio and television programmes for schools are concerned. Policy is determined by a committee meeting monthly under the chairmanship of the Deputy Director-General of Education. The service has been operating for twenty years.

Users

All schools (291) are issued with a wide range of equipment as follows (assuming each class group contains thirty pupils); one television receiver for every five classes, one 16mm projector for eight classes, one radio per class, one tape recorder for three classes, one 35mm projector for four classes, one record player for five classes, and one overhead projector for twenty classes.

Output

Apart from offering a state-wide maintenance service for all audio-visual equipment, the Centre distributes 1,000 films, 1,000 audio and videotapes each week and designs, develops and produces support materials for curriculum and broadcasting needs.

Staff and Training Provision

Of a total staff of forty-eight, ten are concerned with administration, eleven with electronics and maintenance, nine with library services, five with graphic design, two with photography, six with printing, three with tape duplicating and two with broadcasting. All staff have had specialist training in their professional areas before appointment.

Expenditure

The capital investment is estimated at:

Buildings	\$A 200,000
Equipment (at the Centre)	\$A 250,000
Equipment in schools (centralized radio systems, videotape installations, television receivers, film projectors, tape recorders, etc.)	\$A1,750,000

Against this the annual recurrent expenditure is indicated by salaries \$A200,000, materials \$A100,000.

Plans for Development

The Centre intends to produce integrated teaching materials, to extend the central audio-taping services to include videotapes and to develop a continuing teacher education programme to build up media competencies as well as extension of mobile services.

Further Information

The Supervisor has acted as a consultant to overseas governments on matters such as the extension of educational television to primary and secondary schools and the development of radio services for schools.

Address for Correspondence

The Supervisor
Teaching Aids Centre
57 Brisbane Street
Hobart
Tasmania
AUSTRALIA

Victoria

AUDIO-VISUAL EDUCATION CENTRE

Purposes and Structure

This Centre provides audio-visual materials in the form of 16mm films, 35mm film strips, colour slides, audio and videotapes, charts, classroom pictures, study prints, overhead projector transparencies and study guides related to these materials to support the teachers at primary, secondary and technical levels. The service is operated by the Education Department of Victoria, which acknowledges the help of the Commonwealth Film Unit in making 16mm film and the Australian Broadcasting Commission for audio-tapes.

The Audio-Visual Committee, under the chairmanship of the Assistant Director-General of Education and advised by the Supervisor of the Audio-Visual Education Centre, is responsible for policy. Represented on the committee are representatives from each of the three divisions of education. Materials production is controlled by scripting staff working with special subject committees consisting of practising teachers, curriculum officers and representatives from subject associations. Similar personnel from appraisal committees preview, evaluate and recommend the acquisition of library materials.

Users

The materials are designed to assist 1,853 primary, 250 secondary and 106 technical schools. Apart from producing and acquiring materials, the Centre carries out research and assists teachers in the effective usage of audio-visual support materials. It also helps to establish and maintain chart, picture and film libraries for the use of state departmental schools.

Output

The Centre loans approximately 150,000 films a year from its library, to schools. Charts, colour slides and film strips

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are distributed widely and there is also considerable demand for study print sets, colour slide sets and a range of audio-cassettes.

Apart from the distribution of materials, the Centre has a vigorous production schedule ranging from charts to slide sets and overhead projector transparencies. Multi-media kits are produced and there is a considerable demand for information sheets and teaching notes published by the Centre.

Staff and Training Provision

The Centre employs 132 staff who are concerned with in-service training, testing equipment, maintenance and repair, maintaining libraries for film and other visual material, producing catalogues and guides, despatch, and operating a videotape production unit. There is also a production section.

Expenditure

An indication of the capital expenditure investment is given by these figures:

Buildings	\$A1,000,000
Equipment	\$A 250,000
Materials	\$A1,600,000

The annual recurrent expenditure totals \$A249,000, divided between production, maintenance, training, and travel.

Plans for Development

Experimental work is being carried out on the provision of film, tapes and loops for individual learning, which will become part of the resource centre within the school library. The Centre also plans to help schools and colleges develop a closed-circuit capacity through training, the establishment of a videotape library, and the provision of technical support.

Further Information

The Director states 'in time, the school audio-visual co-ordinator or media specialist will become an essential member of staff, especially in coping with the increasing range of sophisticated electronic equipment and in software...' The first full-time teachers' training course for media specialists begins in 1973.

Address for Correspondence

The Supervisor
Audio-Visual Education Centre
Education Department of Victoria
234 Queensberry Street
Canton 3070
Victoria
AUSTRALIA

CORRESPONDENCE SCHOOL

Purposes and Structure

The service provides correspondence tuition for pupils in isolated areas, in hospitals or in other situations where no regular teacher is available. It is run by the State Education Department and has been in operation for more than thirty years. It links in with radio and television broadcasts from the Australian Broadcasting Commission and radio broadcasts from the Royal Melbourne Institute of Technology. The Principal of the school organizes the preparation, despatch, collection and correction of assignments and is responsible to the Director-General of Education.

Users

Subject enrolments total approximately 8,000. This figure represents several thousand students, most are at secondary level, but some are primary pupils.

Output

Subjects cover the usual range of primary and secondary schools.

Staff and Training Provision

The staff comprises ninety-eight trained teachers. Selection is carried out in the usual way, except that a teacher with a physical handicap may be offered a post at the correspondence school.

Expenditure

Details not available.

Plans for Development

These include provision for the normal extension and improvement of services.

Further Information

Overseas visitors have been to the school and have had discussions with the Principal and staff.

Address for Correspondence

The Principal
Correspondence School
262 Queen Street
Melbourne
Victoria
AUSTRALIA

PAPUA NEW GUINEA

GENERAL INFORMATION

AREA 178,260 sq. miles POPULATION 2,466,986 (1971)

EDUCATIONAL PROFILE

Statistics

Public expenditure on education = \$A25,853,000 (estimate 1972/73)
(Currency: Australian dollar; \$A1.57 = £1 sterling 4.12.73)

Less than primary	Age 24	88.2%
Completed primary		11.0%
Completed secondary		0.5%
Completed tertiary		0.3%

Teacher training (1973) all levels students 1,878 staff 221

Students at university in 1973 = 1,280 (estimated full-time places)

Structure

The Department of Education administers educational policy and is responsible for staffing and control. Non-government schools are run by missionary societies, though close liaison is maintained with the Department of Education.

At the district level there are primary, secondary and technical schools. At the national level there are technical colleges, teachers' colleges, agricultural colleges, the University of Papua and New Guinea and the University of Technology.

At present, education is not compulsory but if children do not attend school regularly they are excluded. Less than 50% of the population are able to get into primary schools. Fees are charged at all levels of education.

Children enter primary school at the age of seven years. The primary course lasts six years. Expatriate children attend schools which use the New South Wales syllabus but all Papua New Guinean children now attend schools using a Papua New Guinea syllabus designed for pupils for whom English is a second language.

Approximately one-third of the pupils who complete primary education are selected to go on to high school. A further 15% of pupils enter vocational centres and 'skulankas', which were started in 1973 and are para-secondary classes held at the primary schools to give selected students two more years of education to prepare them for life in the community.

High schools follow a specially designed syllabus in three two-year stages. About 40% leave after two years or enter technical schools and colleges. School

Certificate is awarded after the fourth year and selected students proceed to another two-year course, designed mainly to prepare students for entry to tertiary institutions. Most high schools are co-educational boarding schools although the policy is to increase, where possible, the number of day students. Multi-racial high schools follow the New South Wales syllabus and enrol Australian children and selected Papua New Guinean children on scholarships.

Technical education is provided at vocational training centres for students who have completed primary education and in technical schools and colleges and agricultural colleges for those with some secondary education.

Primary teacher training courses (two years) are offered at nine government and church institutions. Most colleges also run six- or twelve-month in-service courses.

The University of Papua New Guinea was started in 1966. By 1973 it provided degree and post-graduate degree courses in arts, law, science, education, economics and medicine as well as various diploma courses. The University of Technology, established in 1967, offers degrees in engineering, accountancy and business studies.

Specialized institutions such as the Dental College, Forestry College, Vudal Agricultural College, cater mainly for the needs of the public services.

Adult education is provided through correspondence courses in secondary school subjects.

BROADCAST COMMUNICATIONS FACILITIES

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Radio (1973)

The Australian Broadcasting Commission operates four medium wave and five short wave stations and the Administration Broadcasting Service, which is part of the Department of Information and Extension Services, operates eleven short wave stations throughout the country. Programmes are broadcast in vernacular languages, Pidgin and English.

The Papua New Guinea National Broadcasting Authority was to be set up before the end of 1973 along the same lines as the Australian Broadcasting Commission, to assume responsibility for all the broadcast services previously operated by ABC and by the local administration.

SCHOOL PAPERS SERVICE

Purposes and Structure

The Ministry of Education, in co-operation with the Government Printing Office runs the service to provide supplementary and support reading materials for children in primary schools in the fields of general reading and social studies. Upper and Lower Primary School Papers were first published in 1964 and 'Our World' was first published in 1968. The School Papers were renamed when the style and format was changed in January 1973. The School Papers Section of the Publications and Broadcasts Branch is part of the Education Services Division of the Department of Education. Policy is largely determined by the Principal Publications Officer in consultation with the heads of other divisions and the Director of Education. Assistance and guidance is also given by officers of the Curriculum Branch of the Education Services Division.

Users

1,800 primary schools with a total of 152,000 pupils receive the materials.

Output

'Kundu' and 'Garamut' are produced as support reading material for lower and upper primary schools respectively, and 'Our World' provides social studies material for upper primary schools. All three are published nine times a year.

Staff and Training Provision

The total number of staff is twenty-three, headed by the Principal Publications Officer. The staff includes editors, writers, illustrators, production assistants, photographer. There is no formal training for staff.

Expenditure

Details of capital expenditure are not available but annual recurrent expenditure is estimated as follows:

Salaries	\$A29,000
Printing, materials, etc.	\$A36,000

Plans for Development

Most of the eight writers and illustrators are expatriates and there is an urgent need to train more Papua New Guineans to take eventual control of the section. Training would be needed in the fields of controlled writing, general illustration, layout and design, editing and publishing in general.

Further Information

In 1970 advice was given to a school for deaf and dumb children in England. Copies of all magazines are sent to Nauru and the Northern Territory of Australia. The Principal and Senior Publications Officer would be available to assist other countries, specially where English is taught as a second language.

Address for Correspondence

Senior Publications Officer
Publications and Broadcasts Branch
Department of Education
Konedobu
PAPUA NEW GUINEA

BAHAMAS

GENERAL INFORMATION

AREA 5,380 sq.miles POPULATION 168,838 (1970) PER CAPITA INCOME \$US1880

EDUCATIONAL PROFILE

Statistics

Public expenditure on education = \$B14,838,000 = 16.2% of national revenue
(Currency: dollar; \$B2.35 = £1 sterling 4.12.73)

No schooling)
Completed primary) No figures available
Entered secondary)
Entered tertiary)

Teacher training (1969) primary level students 166 staff 18
secondary level students 157 staff 17

Students at university in 1969 = 95

% Illiteracy = 4% of total population aged 10 years and over (1963)

Structure

The aims of education as stated in the Education Act 1962, are to promote the progressive development, in so far as the resources of the Minister permit, of schools and other educational establishments so as to enable the children of the Bahama Islands to understand their privileges and responsibilities as members of the community, to contribute to the progress and well being of the nation by the full development of their natural abilities and to earn an adequate livelihood as adults.

The central education authority is the Ministry for Education and Culture.

The statutory educational system is organized in three progressive stages - primary, secondary and further education.

In urban areas, the national system at present (1971) includes two-year infant schools, four-year junior schools, and three-year secondary schools (with provision for pupils to stay on beyond the age of fourteen). In rural areas, all-age schools offer a ten-year course with infant-junior and junior-senior sections in the larger schools; provision is made for pupils to stay on beyond the age of fourteen, though compulsory education is from 5 to 14. High school education comprises five-year courses to GCE 'O' level.

The teachers' college provides one-year and two-year courses of basic training for non-graduates and in-service training. Graduate and post-graduate studies are arranged at the University of the West Indies, to which the Bahamas is a contributing country. In respect of adult

education, evening institutions offer tuition for local examinations and GCE 'O' and 'A' levels.

BROADCAST COMMUNICATIONS FACILITIES

Radio (1969)

The Bahamas Broadcasting and Television Commission controls two stations using six transmitters. It is government-owned. In 1969 there were 125,000 sets in use, or 641 per 1000 inhabitants.

Television (1970)

There is no direct television in the country, but there is a rediffusion service from the USA operated by Greater Freeport Services Limited, Grand Bahama Island. There are 27,000 TV sets in the island.

PROVISION FOR EDUCATIONAL INNOVATION

The Audio Visual Department of the Ministry of Education and Culture is responsible for educational radio programmes and provides a film library. It also provides a lending service for audio-visual materials.

EDUCATIONAL RADIO SERVICE

Purposes and Structure

The service is run by the Audio Visual Department of the Ministry of Education and Culture. Radio programmes are broadcast for pre-school children as well as children at school. Emphasis is on students taking the Bahamas Junior

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Certificate or GCE Ordinary Level Examinations. The Bahamas Broadcasting Corporation and the Ministry of Tourism cooperate with the Ministry of Education in providing the Service. Content of the programmes is determined in part by the Curriculum Division of the Ministry and the needs of other government departments. The programmes are all taped at the Bahamas Broadcasting Corporation and the Audio Visual Department provides a service whereby tapes are copied and sent to schools for re-play.

Users

There are 178 government-run schools in New Providence and the Family Islands and a number of private schools. The audience for pre-school and public information programmes is very difficult to estimate but the potential listening audience in the Bahamas lies between 75,000 and 90,000.

Output

The Ministry of Education and Culture is allowed about three-and-a-half hours per week for educational broadcasting. Two twenty-minute programmes for pre-school children are broadcast per week and one half-hour programme of public information is broadcast per week in prime evening time. The programmes for schools include

social studies and Bahamas Junior Certificate literature and music and movement.

Staff and Training Provision

Script writers and participants for the various programmes are drawn mainly from Ministry staff, teachers, amateur theatrical groups and radio station staff. The Audio Visual Department trains selected teachers in the use of audio-visual materials.

Expenditure

No details given.

Further Information

The Audio Visual Department is also responsible for a Film Library containing about 250 educational films on a variety of topics. It provides a lending service for films, projectors, film strips, slides, recordings and tapes, posters and pre-recorded cassettes. It holds periodic workshops and seminars at the Department, in schools, or at the teacher training colleges.

Address for Correspondence

Audio Visual Department
Ministry of Education and Culture
Nassau
BAHAMAS

BANGLADESH

GENERAL INFORMATION

AREA 55,126 sq. miles POPULATION 75,000,000 (1972)

EDUCATIONAL PROFILE

Statistics

Public expenditure on education = T437,200,000 = 5% of total government expenditure
(Currency: Taka; T18.69 = £1 sterling, 4.12.73)

Structure

Education was given top priority in Bangladesh's first full budget, 1972/73.

The present educational structure in Bangladesh is under examination by the National Commission of Education. A preliminary report has been submitted to the Government and the final report is expected in the middle of 1974.

Four aims of education, as indicated by the Education Minister are that: education should be people-orientated; it must be in accordance with the socialistic pattern of Bangladesh society; greater stress should be laid on vocational, professional and technical education; there should be equality of educational opportunity.

There are about 30,000 primary schools with six million pupils. All primary teachers are now employed by the government. Primary education is free and is controlled in each district by a District Inspector of Schools assisted by Education Officers. There is an Assistant Director of Public Instruction for primary education in the Education Directorate.

Only a few of the 6,000 junior secondary and high schools are controlled by the government. Non-government secondary schools are controlled in each district, and there is an Assistant Director for Secondary Education in the Education Directorate.

There are two levels of collegiate education in Bangladesh; the Higher Secondary Certificate level and the degree level. Pass degree courses last two years and honours degree courses three years. There are about 400 degree and intermediate colleges, about 10% being government controlled. The colleges are under the academic control of universities and managed administratively by the Director of Public Instruction.

There are four general universities and one Technological and Engineering University and one Agricultural University. They are autonomous but ultimate control rests with the Chancellor and the Ministry

of Education.

Polytechnics and engineering colleges are controlled by the Directorate for Technical Education. Medical education comes under the Minister of Health - there are six medical colleges and one post-graduate medical institution.

BROADCAST COMMUNICATIONS FACILITIES

Radio (1972)

Radio Bangladesh is controlled by the government. The main station is in Dacca, and there are four smaller radio stations.

Television (1972)

Bangladesh Television Corporation, also government-controlled, broadcasts from Dacca.

PROVISION FOR EDUCATIONAL INNOVATION

There is a Planning and Development Unit in the Education Directorate and one in the Ministry of Education.

The Audio-Visual Education Centre is part of the Education Directorate. It produces radio and television programmes and support materials for schools.

The Education Directorate also has a division devoted to research and evaluation.

AUDIO-VISUAL FILM PROJECT, BANGLADESH BATER (RADIO), BANGLADESH TELEVISION (EDUCATIONAL RADIO AND TELEVISION SERVICE)

Purposes and Structure

The project is the responsibility of the Ministry of Education and is run with the co-operation of Bangladesh Bater (Radio) and Bangladesh Television. It supports the teachers in higher secondary, secondary and primary schools with audio-visual materials, to assist teachers particularly in introducing new and improved techniques. It also provides radio and television programmes for

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secondary schools.

The Audio-Visual Education Centre was established in 1956 and became independent in 1968. Bangladesh Bater has been broadcasting to schools for several years. The Educational Media and Audio-Visual Aids Service is a division of the Directorate of Education. The Deputy Director of Public Instruction (Planning and Development) controls the policy of the service. Within the service there are four sections: Mass Media and Audio Aids; Training and Technical Services; Visual and Graphic Aids; Utilization and Library Section. A number of advisers and subject specialists help with the production of materials.

Users

Few schools have television receivers. At present students use their home television sets for educational programmes. The audience is estimated at 10,000 children. 1,200 schools have radio receivers supplied by the Ministry of Education. Most secondary schools have their own radios. The total potential listening audience is estimated at 1,000,000.

Output

Television programmes for secondary school children are produced from the Dacca Television station and cover mainly science and mathematics. Arrangements for the production of ETV is now in the hands of the Ministry of Education.

Bangladesh Bater, Dacca station, produces programmes for school children especially to support language teaching and social studies. One broadcast is given each day.

Support materials for classroom teaching in most of the major subjects from primary to higher secondary levels are produced. These include films, filmstrips, wall-charts, audio tapes and explanatory notes for pupils and teachers.

Staff and Training Provision

The total number of staff employed at the Audio-Visual Education Centre is eighteen. The Director, Deputy Director and the Audio-Visual Education Officer have responsibilities covering all four sections. Each section has a head of section and the following additional staff: Training and Technical Services - three technicians and two assistants; Graphic and Visual Aids - one graphic designer and one graphic assistant; Mass Media and Visual Aids - one mechanic and one assistant; Utilization and Library - one photographer and one photographer's assistant.

The Audio-Visual Education Centre undertakes its own technical training. The Centre organizes courses and workshops in the preparation, presentation and classroom utilization of materials and radio programmes. Some senior members of staff

have been trained in the United Kingdom in audio-visual media but none have received training in the production of radio and television programmes. It is hoped to have staff trained in radio and television production by bi-lateral aid arrangements. Staff are recruited by the Public Services Commission in consultation with the Director of Public Instruction. Staff are nominated for training by the Director on the basis of qualifications and experience.

The Head of the Media Services (Audio-Visual Film Project) would be available to advise other Commonwealth countries and to take part in training courses.

Expenditure

Capital expenditure is estimated as follows:

Buildings	T 160,000
Equipment	T1,000,000
Vehicles	T 70,000
Miscellaneous	T 100,000

Annual recurrent expenditure is estimated at T153,568 which is broken down as follows:

Salaries	T 101,568
Materials	T 50,000
Travel, etc.	T 2,000

Plans for Development

The coverage of the school broadcasts is to be increased and this will call for a further 1,000 transistor radio sets per year over the next four years. It is hoped to increase work in teacher training and evaluation. The schools will also be supplied with programmes and back-up materials. In order to increase the coverage of the ETV service a further 100 television sets a year for the next five years will be needed. For all these activities training courses are badly needed to train staff to handle radio and TV programmes.

Further Information

The Government of Bangladesh has taken steps to increase the number of primary, secondary and higher secondary schools in the country. Therefore, the introduction of new curricula and techniques of teaching, particularly in science and mathematics, created considerable difficulties due to the shortage of trained staff. Assistance from any Commonwealth country would be appreciated.

Address for Correspondence

Director of Public Instruction
Education Directorate
Government of Bangladesh
Dacca
BANGLADESH

BARBADOS

GENERAL INFORMATION

AREA 166 sq.miles POPULATION 243,757 (1971) PER CAPITA INCOME \$EC1,224

EDUCATIONAL PROFILE

Statistics

Public expenditure on education = (1971-72) \$EC26,125,849 = 8.9% of GDP
(Currency: East Caribbean dollar; \$EC4.80 = £1 sterling 4.12.73)

No schooling	Age 15 and over	0.7%	(1970)
Completed primary	11 and over	86%	
Completed secondary	15 and over	67%	
Completed tertiary	25 and over	0.4%	

Teacher training (1970) primary level students 199 staff 16
secondary level students 25

Students at Cave Hill Campus U.W.I. (1970) = 459

% Illiteracy (1946 - no recent data available) 10-14 = 0.9%; 15-19 = 1.8%; 20-24 = 2.5%

Structure

The legal school age is from 5 - 14 years but attendance is not compulsory except in five parishes where pilot projects were started in 1966 because of concern over declining attendances. Education is free to Barbadian nationals at government institutions but fees are charged by the private schools. The school system consists of infant schools (5 - 7 years), junior schools (7 - 11 years) and all-age primary schools (5 - 14 years). There are ten government grammar schools and nine comprehensive schools. Entry to the grammar schools is based on an examination. A bursary scheme exists by which part of the fees are paid for children going to approved independent secondary schools who did well in the entry examination but failed to get a place in a grammar school.

Higher education is provided at the Cave Hill campus of the University of the West Indies and at Codrington College for theological studies which is affiliated to the University of the West Indies and to Durham University.

Erdiston College has a two-year teacher training course for primary and non-graduate secondary school teachers. The Barbados Community College provides academic, commercial and technical courses. Technical and vocational courses are provided at the Samuel Jackson Prescod Polytechnic, the Housecraft Centre, the Hotel School, the Evening Institute and in the industrial arts wings of the secondary schools. Further education is also available through the Extra-Mural Department of the University.

BROADCAST COMMUNICATIONS FACILITIES

Radio (1971)

The Caribbean Broadcasting Corporation is run jointly by the government and a commercial interest. There are 79,000 radio sets on the island, including car radios. Barbados Rediffusion Service Limited is a public company serving 26,272 rented speakers.

Television (1972)

The Caribbean Broadcasting Corporation also runs a television station, with one transmitter serving 26,500 black and white television sets and 660 colour sets. A booster transmitter serves St. Lucia.

PROVISION FOR EDUCATIONAL INNOVATION

There is collaboration in regional educational development projects in which the University of the West Indies coordinates activities and is assisted by agencies such as Unesco and CEDO.

Educational television was started in 1970, with programmes produced by the Education Department and transmitted by the Caribbean Broadcasting Corporation.

AUDIO-VISUAL AIDS DEPARTMENT

Purpose and Structure

The Ministry of Education is responsible for this Department which has been in operation since 1970. The Department develops the use of audio-visual aids in all primary and comprehensive schools. It

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develops the use of educational television as an aid to formal education and advises the Minister of Education on matters concerning audio-visual aids in education. The Barbados Telephone Company and the Barbados Rediffusion Service co-operate with the Department. The service is organised within the Department by the Chief Audio-Visual Aids Officer. Policy is controlled by the Minister of Education through the Chief Education Officer. The Educational Television Committee works closely with the Division of Planning and Research (Education) Curriculum Development and the Education Officers of the Ministry.

Users

Nine schools participate in the ETV service, eight having two television sets each and the ninth, one only. Other centres in the project are the Community College and the Teachers' Training College. Home listeners may also participate by tuning to commercial Channel 3.

Output

For the period 1st September 1970 - 31st August 1971:

Science - year 1	33 programmes, 48 telecasts
Science - year 2	32 programmes, 44 telecasts
Spanish - year 1	23 programmes, 36 telecasts
Spanish - year 2	20 programmes, 28 telecasts
Mathematics - year 3	10 programmes, 24 telecasts
Science enrichment	12 programmes, 12 telecasts
Mathematics enrichment	4 programmes, 4 telecasts
Spanish enrichment	9 programmes, 7 telecasts

Audio-visual material used in classrooms during this period included filmstrips, film, silkscreen charts, audiotapes and teachers' and pupils' notes to be used with broadcasts.

Staff and Training Provision

There are thirty-one members of staff. The Chief Audio-Visual Aids Officer heads three units: Educational Television, other Audio-Visual Services, and Schools Broadcasting. Staff in the Audio-Visual Aids unit receive overseas training while staff in the ETV and radio sections are trained on the job.

Nominations for training are made by the Chief Audio-Visual Aids Officer and approved by the Permanent Secretary, Education. They are processed by the Training Unit.

So far, no personnel from the present service have been involved in assisting other Commonwealth countries in similar enterprises. However, the audio-visual aids officers would be capable of assisting in the training of staff from other countries.

Expenditure

No figures are available for capital expenditure. Annual recurrent expenditure (1971-1972) was \$EC102,777.

Plans for Development

In September 1972 the project had just come to the end of a two-year pilot period. Plans were then made to separate the technical and professional services. A local commercial station will provide the technical services. The Ministry of Education through the A.V.A. Department will continue to provide the programme content. It is also planned to extend the service to include primary schools and student teachers. These developments can only be accomplished with adequate training of producer-directors and technical staff. It will also be necessary to provide maintenance facilities for television receivers in the schools.

Address for Correspondence

Chief Audio-Visual Aids Officer
Audio-Visual Aids Department
Ministry of Education
Jemmotts Lane
Bridgetown
BARBADOS

BOTSWANA

GENERAL INFORMATION

AREA 220,000 sq. miles POPULATION 629,000 (1969)

EDUCATIONAL PROFILE

Statistics

Public expenditure on education = 2,199,000 Rand (1968) = 13.4% of GDP
(Currency: South Africa Rand; R1.57 = £1 sterling 4.12.73)

No schooling	Age 15 - 24 = 51.3%	Age 25+ = 72.7%
Completed primary	Age 15 - 24 = 45.0%	Age 25+ = 24.6%
Entered secondary	Age 15 - 24 = 1.75%	Age 25+ = 0.7%
Entered tertiary	Age 15 - 24 = 0.0%	Age 25+ = 0.2%

Teacher training (1970) primary level students 303 staff 32

Students abroad at university in 1968 = 39

Structure

'The aim of the Botswana Government is to reduce the school entrance age to seven years by 1980 and to provide primary education free of charge to all schoolchildren in order to ensure mastery of the basic skills of reading, writing and arithmetic in line with national needs and aspirations.'

Responsibility for primary, secondary and vocational education lies with the Ministry of Education, Health and Labour. Agricultural education is the responsibility of the Ministry of Agriculture, and the Ministry of Local Government sponsors literacy campaigns and self-help projects of different kinds.

Primary education is compulsory within the limits of the places available in the schools. The course lasts seven years and minimal fees are charged. Standard I age of entry is eight years, but at present children up to ten and eleven are also being admitted. Secondary education is selective and fees are charged at both government and private schools.

The Botswana Training Centre has three-year courses for craftsmen. There are four agricultural training centres, and three government training colleges for primary teachers, one of which (Francistown) concentrates on in-service training of teachers, while the others are pre-service.

The Gaborone campus of the University of Botswana, Lesotho and Swaziland opened in July 1971 with fifty-eight full-time students and fourteen teachers.

BROADCAST COMMUNICATIONS FACILITIES

Radio (1971)

Radio Botswana, is government controlled. There are four transmitters, two short-wave, one medium wave and one VHF for the Gaborone area. There is one station, situated in Gaborone, serving some 20,000 radio sets throughout the country for which there are no radio licence fees. There are approximately thirty-two sets per 1,000 of population. The service is broadcast in English and Setswana and includes school programmes.

AGRICULTURAL INFORMATION SERVICE

Purposes and Structure

The Agricultural Information Service is part of the Division of Agricultural Extension of the Department of Agriculture and has been in existence since 1967 although it was not developed until 1970/71. It designs, produces and distributes extension aids and conducts agricultural extension campaigns. The Agricultural Officer (Information) heads the service which assists all divisions of the Ministry of Agriculture, particularly those in contact with farmers. It receives the co-operation of all other divisions of the Ministry and of Radio Botswana, the Government Information Service and the Government printer.

Users

The potential target is 50,000 farming families to be reached both directly through radio, publications, posters and campaigns and indirectly through Agricultural Extension field staff.

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Output

Seven twenty-minute programmes plus one repeat are broadcast per week.

A monthly English newsletter is published (2,700 copies). Eight or ten leaflets are produced per year, 1,000 copies of each in Setswana and 5,000 in English. English staff bulletins are also produced eight to ten times a year.

Five or six posters are produced per year by the Graphics Department as well as flip-charts, etc.

Five or six campaigns are mounted each year. Four teams each visit about twenty-five sites per campaign and attract an audience of fifty to eighty people at each daytime meeting with 100 - 200 for the evening film show.

In addition, photographs, slides, models, etc., are produced and the Service provides visual aids training courses.

Staff and Training Provision

The total number of staff employed is thirty-seven. Apart from the Agricultural Officer, fourteen other members of the staff have agricultural or veterinary training including the photographer and the four broadcasters. In addition there is a graphic artist and a trainee artist, seven drivers and thirteen staff of various types such as clerks, messengers, carpenters, painters, etc.

Training is mainly on the job for field staff after transfer to the Agricultural Information Service. Broadcasting and audio-visual aids staff take courses when available overseas, (Australia, Holland, Ghana, Germany and the UK). However training is not fully planned and co-ordinated and many more training courses are needed. Staff are selected for training on merit prior to transfer to the Service and also after they have gained experience on the job.

Expenditure

Capital expenditure is estimated as follows:

Buildings	R25,000
Equipment (including office furniture, audio-visual equipment)	R50,000
Vehicles	R12,000

Annual recurrent expenditure:

Staff	R25,000
Transport	R12,000
Materials, etc.	R10,000

However the present budget is not sufficient to sustain the present scale of operations.

Plans for Development

The following are priorities for both development and assistance: strengthening of administration, especially at lower levels; improvement of supervision and in-

service training on the job; provision of full-time training courses; expansion of output to meet demand.

The last three items should include an evaluation element.

The Service has expanded rapidly during 1970-73 and demand for its services has continued to increase, but the above weaknesses must be corrected before undertaking any further major development. Field Extension Service is being reorganized and developed and it is felt that this must take precedence over Agricultural Information.

Further Information

The present Agricultural Officer (Information) spent some nine years in charge of the Lesotho Agricultural Information Service. At present the staff could not undertake visits to other Commonwealth countries for assistance but would welcome requests for examples of materials and are very willing to correspond on the subject.

The Division of Agricultural Extension also operates three Rural Training Centres offering short residential courses for adults on various aspects of agriculture. At one of these Centres single concept lecture notes are being prepared which could have a far wider application. Agricultural extension films which are locally produced and relevant to the agricultural conditions of Botswana, are being considered.

Address for Correspondence

Agricultural Officer (Information)
Agricultural Information Service
Ministry of Agriculture
Private Bag 3
Gaborone
BOTSWANA

SCHOOLS BROADCASTING SERVICE

Purposes and Structure

The Ministry of Education is responsible for this service, which has been in operation since 1967. The service provides radio lessons to schools throughout the country, with emphasis on primary education. Radio Botswana co-operates in this service, allowing the unit use of part of its buildings. Policy is controlled by the Ministry of Education. Internal organization and programme production is the responsibility of the Education Officer (Broadcasting) who decides on programme content, using the Ministry's syllabus as the basis.

Users

Approximately 300 schools listen to the service, and there are about 500

transistor radio sets in use. Fifteen secondary schools use tape-recorded lessons as required.

Output

In September 1972, weekly broadcast time totalled 13 hours 20 minutes (including repeats) in the following subjects: English story (infants); health, gardening, religious knowledge, animal husbandry (primary); English (standards 2 - 7), science (standards 6 - 7), history (standard 7); current affairs, Setswana, English literature and language, quiz programme, careers (secondary) and news bulletin (all levels).

Teachers' pamphlets and lesson notes are also produced.

Staff and Training Provision

The staff consists of the Education Officer (Broadcasting) who is deputized by the Assistant Education Officer (Broadcasting) and one clerical assistant/announcer. The Education Officer is recruited from the United Kingdom under contract. The Assistant has undergone a short course in Australia on basic broadcasting techniques. Staff selected for training come from the ranks of Botswana teachers. It will be necessary to increase staff numbers in future, and this increase must be found from within the country itself.

So far, the staff have not been involved in assisting other Commonwealth countries in similar enterprises. However, the Education Officer would be available for advice and a certain amount of training.

Expenditure

As the service operates at present from Radio Botswana studios, capital expenditure on buildings cannot be estimated. Capital expenditure on equipment was approximately R2,000. Recurrent annual expenditure is approximately R2,000 which is divided between replacement of equipment, tapes, stationery and fees.

Plans for Development

The establishment of the Unit's own studio is planned during the next five years, and some increase in staff is envisaged. It is also hoped to strengthen the broadcast signal so that improved reception may be available in outlying districts.

Address for Correspondence

Schools Broadcasting
Ministry of Education
PO Box 52
Gaborone
BOTSWANA

NATIONAL EDUCATION CAMPAIGN ON THE NATIONAL DEVELOPMENT PLAN 1973-78

Purposes and Structure

In April 1972 the Government of Botswana requested the Division of Extra Mural Services of the University of Botswana, Lesotho and Swaziland to act as their agents in informing the nation of the contents of the National Development Plan for 1973-78. The Division had organized radio learning groups and broadcast programmes on the 1970-75 National Development Plan as a pilot project.

There are four main purposes of the project: to provide, within an organized framework, oral, written and visual materials which enable people to learn about the major policies and projects contained in the National Development Plan; to provide, for the Government and other interested bodies, a reliable indication of popular understanding of and reaction to the major policies and projects in the Plan; to establish radio learning groups in every district as a basis for the organization of future campaigns; to assist in the effort of development itself by directing people towards action which can be taken at the local level to improve living conditions.

The Director of Community Development has agreed that all field staff should be official organizers for the project. They will be known as 'District Organizers' and will co-ordinate fieldwork at district level. They will work through their own staff of Community Development Assistants supplemented by representatives of a range of organizations, known as 'Sub-Organizers'. The Director of Agricultural Extension has agreed that Agricultural Officers and Demonstrators may act as Sub-Organizers, particularly in areas not covered by Community Development staff. The Division of Extra Mural Studies of the UBLS provides information and publicity, field work, support for radio learning groups and training for the group leaders, production of educational materials including radio programmes and a full evaluative report on the campaign. Many other national organizations will also co-operate.

Users

The project is on a national scale. 1,000 radio learning groups are to be formed in villages throughout the country.

Output

The project consists of a popular version of the National Development Plan; a series of ten radio programmes in Setswana on the Plan; a study guide with chapters on each of the ten programmes; a series

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of illustrations to the programmes mounted on flip charts; the organization of up to 1,000 radio learning groups in every district who will use the above materials; 1,000 radios purchased by the Government and loaned to every group.

Daily radio spots from April to September 1973, were broadcast lasting one to five minutes. For five weeks in the period August/September two twenty-minute programmes a week, each repeated, were broadcast on the Plan. For the same period a thirty-minute answer programme was broadcast once a week.

Staff and Training Provision

No detailed analysis of the staff employed is available.

Each radio learning group will elect its own leader who will attend a training course on how to conduct group meetings, how to tune and look after the radio and the arrangements necessary for group meetings.

Expenditure

The Swedish International Development

Authority, through the Ministry of Finance and Development Planning, has financed the project. The Government purchased 1,000 radios. No payment will be made to any of the participants or organizers of the campaign. Group leaders will have their travel expenses reimbursed to and from the training centres where free accommodation will be provided.

Further Information

The importance of the campaign relates not only to its scale and the nature of the subject matter, but to the introduction and testing of a method of learning which can be used on future campaigns with different material, e.g. health.

Address for Correspondence

The University of Botswana, Lesotho and Swaziland
Office of the Division of Extra Mural Services
Private Bag 22
Gaborone
BOTSWANA

BRITAIN

GENERAL INFORMATION

AREA 94,217 sq. miles POPULATION 55,788,000 (1972 estimate) PER CAPITA INCOME £865 (1971)

EDUCATIONAL PROFILE (England, Northern Ireland, Scotland and Wales)

Statistics

Public expenditure on education = £2,646,800,000 (1970/71)
(Currency: sterling pound)

Teacher training (1970) students 130,679 staff 11,889
Students at university in 1970/71 = 192,436

Structure

In England and Wales, the Secretary of State for Education and Science is responsible to the UK Parliament for educational policy. Scotland has her own Secretary of State for Education and in Northern Ireland the final authority is the Minister of Education for that country. In all areas, responsibility for primary and secondary education is largely delegated to local authorities, within the state system. Education is compulsory and is free in state schools. Independent, fee-paying schools are subject to state inspection.

Nursery education is available on a limited scale, but the majority of children start school at five and enter the infant department of a primary or junior school. In the past, the type of secondary school which a child entered (between the ages of 10½ and 12) was often decided on the grounds of his academic ability in a written test. It is now the policy of the state system to abolish selective entry and to educate all children from a given area in one secondary school. Such schools are called comprehensives. The policy is not implemented in every area and different types of state secondary schools remain: grammar schools, which provide an academic education on a selective entry basis; 'modern' schools, which give a general education at least up to the minimum leaving age (16); technical schools of various kinds, and a number of 'sixth-form colleges' - a fairly recent innovation. Besides these, there are special schools for those children who differ widely from the educational norm.

Independent schools also cover the whole range. Fees are charged, though in the case of the 'direct-grant' grammar schools, which receive state assistance, the local authority sometimes pays the

fees for those who cannot otherwise pay.

There is a wide range of provision in the UK for further and higher education. Further education colleges, varying in size and level of courses, are administered by local authorities. They cater for both full- and part-time students and beside technical and commercial courses, they may continue the school syllabus and to some extent can be an alternative to the sixth form.

There are specialist colleges running advanced level courses in such subjects as art, music, agriculture, drama, domestic science. Colleges of education at present train teachers for both primary and secondary schools in three-year courses and a graduate can obtain a teaching qualification on completion of a year's course at a university institute of education. The whole teacher training system is currently under review.

The 'binary' system, as applied to higher education, refers to the two main types of institution where degree level courses are run: universities and polytechnics. There are over forty universities in the UK and twenty-nine polytechnics. Some of the latter have been made by the expansion and amalgamation of further education colleges and a concentration on advanced level (i.e. degree and sub-degree courses) and study can be full-time, sandwich or part-time. Universities are independent institutions, although their considerable financial dependence on the state restricts this freedom to some extent. Polytechnics are academically independent but they are run by local authorities.

Financial assistance is available to all students studying for a first degree and to considerable numbers of other students, according to their parents' means. Fees for those under eighteen years are often waived entirely.

The Open University provides degree

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courses through correspondence and radio and television programmes and caters mainly for students older than the normal school leaver. Adult education is also available at evening institutes run by local authorities and other independent institutions and extra-mural departments of universities. Educational radio and television programmes are also provided for adult education.

BROADCAST COMMUNICATIONS FACILITIES

Radio

In 1972 there were 375 transmitters and over thirty million sets, over 500 per thousand of population. The British Broadcasting Corporation serves the whole of the UK. The BBC is an independent body but the government has ultimate control. There is a service to schools. Local radio was started in 1967 and now serves twenty towns. Commercial radio was introduced in 1973 with two stations serving the London area and further stations are to be opened in the future in other areas. Commercial radio is under the control of the Independent Broadcasting Authority.

Television

There were 256 transmitters and about seventeen million sets in 1972: approximately 300 per thousand of population. The BBC runs two channels and the IBA controls several independent television companies serving the regions. Both the BBC and the independent companies produce schools programmes.

PROVISION FOR EDUCATIONAL INNOVATION

Professional associations of specialist teachers, colleges and university institutes of education, local education authorities and their teachers' centres, and the Council for Educational Technology are among the more obvious elements responsible for educational innovation. In all of this work the Schools Council for Curriculum and Examinations plays a central role. It is an independent body with a majority of teacher members, whose purpose is to co-ordinate the work of the examination boards and to act as an advisory body on curricula. It is financed by equal contributions from local education authorities and the Department of Education and Science.

The Educational Foundation for Visual Aids maintains an audio-visual aids library and a centre for display. The National Committee for Audio-Visual Aids in Education co-ordinates the work being done and develops the effective use of audio-visual material in schools and colleges in England and Wales.

BBC EDUCATIONAL BROADCASTING

Purposes and Structure

School Radio was started in 1924, and School Television began in 1957. The present Department was established in 1962. Further education television was officially inaugurated in October 1963 after an experimental series in 1961.

The British Broadcasting Corporation provides radio and television programmes for use as support material in schools and technical colleges and in institutions of higher and further education and provides for adult listeners and viewers at home series of programmes arranged to offer a progressive mastery of some skill or learning, either vocational or recreational.

The BBC is helped and guided in school broadcasting by the School Broadcasting Council, an autonomous body with representatives from professional associations of teachers, local educational authorities, the Department of Education and Science and other educational organizations. The Further Educational Advisory Council, which is representative of all branches of further and adult education assists in the further education field.

School Radio, School Television, Further Education Radio and Further Education Television are an integral part of the radio and television directorates of the BBC under the operational control of Controller, Educational Broadcasting.

Users

The potential audience is the pupils in the 37,485 schools in the United Kingdom, almost all of which are equipped to receive radio broadcasts and 85% of which are equipped to receive television. Also students in technical colleges, colleges of further education, colleges of education, evening institutes and other institutions of further education and adults in their own homes, use the programmes.

Output

School Broadcasting (1972/73): Radio - sixty-one series (thirty-five three-term, nine two-term, seventeen one-term): 468 hours in the year. Television - thirty series (fifteen three-term, eleven two-term, four one-term): 370 hours in the year.

Nearly all radio series and the majority of television series are broadcast weekly during the term, the rest fortnightly. Series are provided for all levels of primary and secondary education. The subjects range through special series for infants, English and drama, geography, history, mathematics, modern languages, music, religion, science, careers and humanities.

Special series for the national regions:

Scotland - eight radio, three television;
Wales - nine radio, four television;
Northern Ireland - four radio, one television.

Nearly all school broadcasts are accompanied by publications: teachers' notes, pupils' pamphlets, folders of resource material, filmstrips, books, wall pictures, etc.

Further Education (1972/73): radio - fifty series, (365 hours of broadcasting); television - fifty series, (300 hours of broadcasting).

The series (of from three to thirty programmes) covered the fields of music, the arts, social affairs, history, science and technology, lessons in French, German, Spanish, Italian and Arabic, world affairs, the family and the community, special series for teachers, vocational and professional education and training and special courses for colleges of further education.

Many series are supported by publications.

Staff and Training Provision

The total number of staff employed in Educational Broadcasting is approximately 268. These are divided into four departments. The Controller's Unit dealing with management and administration has four staff and four supporting staff. School Radio, School Television, Further Education Radio and Further Education Television each have between three and seven staff concerned with administration, production and support. In addition staff are based in the national regions; Scotland twenty-four, Wales nineteen, and Northern Ireland six.

All production departments draw on the BBC's wide range of staff and facilities: engineering staff, television studio crews, film cameramen, wardrobe and make-up, gramophone and reference libraries, copyright, contract and publications departments, etc.

Staff are invariably recruited with educational or professional skills. Their media training is partly undertaken by Staff Training Department and partly under the guidance of departmental heads and senior production staff. School Radio staff are usually experienced teachers with specialized knowledge, School Television staff often have teaching experience but may also come from the fields of journalism or film making or from other departments of the BBC. Further Education Radio and Television staff are drawn from other BBC departments, from the educational world, from journalism and from the professions. They are normally specialists in a particular subject.

Expenditure

The Educational Broadcasting operations of the BBC are an integrated part of the whole and it is not possible to give separate information on capital expenditure. Annual recurrent expenditure is estimated as follows:

School Radio	£ 900,000
School Television	£1,600,000
Further Education, Radio	£ 350,000
Further Education, Television	£1,600,000

Plans for Development

Future developments in Educational Broadcasting await the availability of added resources of air-time and programme monies. Of the two, the former is likely to prove the most difficult to obtain.

Further Information

At present more than twenty senior BBC staff are assisting the broadcasting services of developing countries and this level of concern has been maintained for many years past.

Address for Correspondence

Controller
Educational Broadcasting
British Broadcasting Corporation
Broadcasting House
London W1A 1AA
ENGLAND

BBC LOCAL RADIO

Purposes and Structure

BBC Local Radio is a department of the British Broadcasting Corporation. There are twenty stations operating from different parts of England and central policy is that each station should use the powers of broadcasting to promote a sense of community and identity in its operating area. The oldest station has just completed its sixth year and the youngest its third. Locally, programme policy is determined in accordance with the recommendations of a Radio Council made up of local people and an Educational Advisory Panel broadly representative of education in the area. This latter body receives its authority from the School Broadcasting Council of the United Kingdom. Final editorial control rests with the BBC.

Educational programmes are produced for children and adults as part of the local radio service, on a partnership basis with local educational organizations and with the community itself.

Countless local bodies concerned with education and other aspects of community awareness take an interest in, and co-operate with, the BBC local radio stations.

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Users

The twenty stations broadcast to local audiences, both institutional and home-based, with programmes ranging from those for the very young through all school age ranges to programmes for the elderly and retired.

Output

Many programmes are broadcast to the widest possible age range - from very young children and playgroups to programmes for the elderly and retired. In many of the programmes for school children and adults emphasis is placed on local history, events and personalities. There are general children's magazine programmes consisting of interviews, serials (often written by the children themselves) music, etc., often with the participation of children in the studio, as well as programmes on literature, drama, music, local history, language, etc. Programmes for adults cover a wide range of subjects and include programmes on subjects like bridge as well as literature, music, matters of community concern, local news, etc. There are also special programmes for immigrant communities in many areas and programmes on careers for school leavers.

Staff and Training Provision

Each station has a Station Manager and a Programme Organizer. In addition, there are a number of producers, one of whom is an education producer. The producers are supported by station assistants, and, of course, there are also engineers, secretaries and administrative staff. The average size of staff for a station is thirty and the total number employed in BBC Local Radio is 650. In 1973/74 it has been arranged that 134 teachers will be seconded by their employers for a period of time to work with their local station's education producer. Behind these formal secondments stands an army of other associates in local radio education.

BBC Local Radio has its own training section which looks after the requirements of new staff. Each station trains its own associates (teachers, etc.) and the Local Radio Education Organizer (based at Local Radio Headquarters in London) takes a part in this. Staff are selected in response to advertisements which appear in the press.

Staff would be available to assist other Commonwealth countries by arrangement.

Expenditure

Expenditure is difficult to assess as the educational aspect of the work is not separately funded. In general terms, since work is based on partnership with other educationists, the concept is more

important than large sums of money. Human connexions rather than financial ones have been sought. Standard recurrent items of expenditure are the salary of the producer and his secretary. Materials, etc. come from the general pool of material for a station's use. Staff are employed on the same basis as BBC network radio producers.

Further Information

It must be borne in mind that each station has its own local variations and it is very difficult to generalize about BBC Local Radio.

Address for Correspondence

British Broadcasting Corporation
Local Radio
Broadcasting House
London W1A 1AA
ENGLAND

COUNCIL FOR EDUCATIONAL TECHNOLOGY FOR THE UNITED KINGDOM

Purposes and Structure

The Department of Education and Science, together with the Scottish Education Department and the Ministry of Education for Northern Ireland, are responsible for the Council which acts as the central organization for promoting the application and development of educational technology at all stages of education and training throughout the United Kingdom.

The present Council, established on 1 October, 1973, replaces and takes over the work of the former National Council for Educational Technology (NCET) which was formed in April 1967. The Council was set up by the Government in response to the recommendations of an official working party representing a wide range of educational and training interests. The Council is an autonomous body, deriving most of its financial resources from government departments. Most of the members of the Council are appointed as representatives of organizations, associations and authorities concerned with education or occupational and vocational training. Assessors are appointed to the Council by government departments with a similar interest in education and training, such as the Department of Employment, the Department of Trade and Industry, University Grants Committee, Schools Council and Civil Service Department.

Users

The whole of the educational and training community in the United Kingdom.

Output

The Council sets out to advise on co-ordinating and facilitating the work of

organizations providing specialist or regional services in educational technology; to act as a focal point for the collection and dissemination of information and advice; to assist in identifying the requirements of various sectors of education and training for services and materials in educational technology and to arrange for the satisfaction of those requirements; to initiate development programmes and studies of educational innovations; and to participate as may be necessary in the work of appropriate international organizations. The Council has taken over the working programme of the former National Council for Educational Technology. Amongst the projects currently in operation are: Primary Extension Programme; Continuing Mathematics; Colleges of Education Learning Programmes Project; Computer Service for Media Cataloguing Agencies; Working Group on Rights; Innovative Methods in Industrial Training; Innovation Development Project.

Staff and Training Provision

The staff consists of a Director, two Assistant Directors, an office manager, eight administrative assistants, and eight secretaries and junior staff. In addition some twenty more staff are employed on specific projects inaugurated by the Council. The Council is not involved in direct training of staff.

Expenditure

In the year 1973/74 estimated expenditure on administration will be £100,000 and on specified projects, £126,000.

Plans for Development

Future work of the Council is currently under discussion and details are not available.

Further Information

The Council has a small permanent staff, who are not available for extended visits overseas. However, the Council receives visitors from overseas countries (usually by arrangement with the British Council or Unesco) for discussions on the development of educational technology. The Council does not maintain any permanent displays at its offices.

Address for Correspondence

The Director,
Council for Educational Technology for
the United Kingdom
160 Great Portland Street,
London W1N 5TB
ENGLAND

GLASGOW EDUCATIONAL TELEVISION SERVICE

Purposes and Structure

The Glasgow Corporation Education Department has run this service since August 1965 and provides television programme material geared to the schools curricula to complement the day-to-day work in the classroom and also to provide some form of in-service training for teachers in the new methods and new ideas being introduced in many subjects.

The Glasgow ETV Service is a section of the Corporation Education Department through which policy is controlled. The scripting and presentation of programmes are in the hands of teachers and the technical requirements are handled by the ETV staff. The producers, who are all teachers and the Education Department advisers form panels which produce the scripts for programme series.

Users

A two channel 625-line standard underground cable system links the production and transmission centre to 352 primary and secondary schools and further education colleges. Two universities and two teacher training colleges are also linked into the system. Primary schools have an average of three receivers each and secondary schools an average of six receivers. All schools also have off-air receiving facilities for BBC and ITV.

Output

Infants' classes: one ten-minute programme, three times per week. Primary schools: fifteen-minute programmes in French and history and a twenty-minute programme in geography, each repeated four times a week. Secondary schools: twenty-minute programmes in history, statistics, geography, French, German, religious education, business studies and modern studies which are repeated between two and six times per week.

Teachers' notes are prepared by the producer and issued to the schools prior to the first transmission of each series. In the language programmes readers and workbooks are also supplied.

Staff and Training Provision

About thirty-eight members of staff are employed. The Director of Television heads the service and the rest of the staff consists of administrative and clerical assistants, engineers, graphic designers and artists, studio staff, production assistants, four teacher/producers and three teacher/administrators (for primary French courses).

Engineering and graphics staff are recruited by public advertisement from applicants with suitable qualifications

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are trained at the Centre. TV camera assistants are also recruited by advertisement from young men with some experience in photography, either still or cine. Training on television cameras is given at the Centre. Producers are recruited from the teaching profession also by public advertisement.

Expenditure

Capital expenditure consists of £129,417 for buildings. Expenditure for the rental/maintenance of studio equipment and cable network is of the order of £61,000 and £57,500 per annum respectively. Other equipment purchased has cost approximately £40,000.

Annual recurrent expenditure is estimated as follows:

Equipment (including rental charges)	£188,000
Salaries of staff	£ 70,500
Rates, rents, insurance	£ 9,000
Repairs and maintenance	£ 7,000
Heat, light and cleaning	£ 3,800
Minor direct expenses	£ 1,100
	<u>£279,400</u>

Plans for Development

The future of the service will be decided when the new regional development comes into being. At the present time the service is developing the use of video cassette recorders in secondary schools in an attempt to overcome the difficulties of timetabling and to give the teachers in the schools more control of play-back at their end. It is unlikely that there will be any extension of the cable network outside the existing municipal boundary because of the expense involved.

Further Information

In the past eight years the service has been visited by representatives from over eight overseas countries through the British Council, Scottish Information Office, CEDO, etc. The senior engineer spent one month in Jamaica as an adviser in 1972.

The Director and the specialists on the staff are available to give information and advice to overseas representatives seeking knowledge of the setting up and running of a local educational television service.

Address for Correspondence

Director of Television
Educational Television Service
Corporation of Glasgow Education Department
155 Bath Street
Glasgow C2
SCOTLAND

INNER LONDON EDUCATION AUTHORITY EDUCATIONAL TELEVISION SERVICE (ILEA-TV)

Purposes and Structure

The Service has been operating since 1966 and provides educational television programmes for schools, colleges and other establishments maintained or aided by the Authority. The Inner London Education Authority, which is a special and fairly autonomous committee of the Greater London Council, is responsible for the service, which forms a branch of the Education Officer's Department and is headed by the Director of Television.

Users

Almost one million full- or part-time pupils and students and their teachers in about 1,400 establishments ranging from infant schools to polytechnics, use this service. 4,000 television receivers on a cable network are in use. In addition ½" videotape recorders are increasingly being used in schools and colleges.

Output

About 300 new programmes are produced each year. Programmes are carried by cable to primary and secondary schools, further education colleges, teachers and special schools for handicapped children within the ILEA area. Subjects covered include the usual school subjects and general and local studies, careers, film making and film appreciation, and programmes on engineering, business studies and general subjects such as housing, money matters, etc. for adults and further education students.

The programmes are planned to complement those of the national broadcasts and two channels are reserved to carry the simultaneous re-transmission of BBC and ITV programmes, while three channels carry the ILEA-TV broadcasts. In addition a channel is provided for the dissemination of material in higher education produced in the participating universities, polytechnics and colleges. It operates to a 1" videotape standard (unlike the other three 2" videotape channels, at present transmitting ILEA-TV's own productions)

Teachers' support materials related to the television programmes are increasingly being produced by the ILEA Media Resources Centre which co-operates closely with the Television Service.

Staff and Training Provision

In October 1973 there were 116 permanent staff (administrative, production, engineering and operational, ancillary services, manual) together with sixty-four ILEA teachers seconded on both full- and part-time basis, from their schools and colleges to research/script/present/

direct/evaluate the programmes.

Operational staff are trained either internally or by secondment to external courses and are selected on the advice of the Chief Engineer of the Television Service. Seconded teachers (production) are trained internally through a variety of in-service courses or by ad hoc training arrangements, which are available only to ILEA teachers. They are selected jointly by the Television Service and the Inspectorate.

Expenditure

Capital expenditure in the period 1966/73 has been a little over one million pounds. The 1973/74 estimate for annual recurrent expenditure is £950,000 which covers accommodation, equipment, staff, production, internal wiring, miscellaneous charges and rental of the post office cables which distribute the programmes to all receivers (£260,000 per annum in June 1973). This figure includes £65,000 income.

Plans for Development

Programmes are at present produced in black and white, but a working party is investigating the possible introduction of colour.

Further Information

Staff have assisted other Commonwealth countries through visits and secondments arranged by the British Council, CEDO and the COI. The Deputy Director was attached to CEDO in Spring 1972 to visit Ethiopia and a teacher/programme director has organized a short course in Singapore through the British Council. In principle staff are able to assist other countries subject to availability.

Address for Correspondence

Director of Television
Education and Television Service
ILEA Educational Television Centre
Tennyson Street
London SW8 3TB
ENGLAND

INNER LONDON EDUCATION AUTHORITY MEDIA RESOURCES CENTRE

Purposes and Structure

The purpose of the Media Resources Centre is two-fold: firstly, to provide Inner London Education Authority (ILEA) teachers with information about the growing range of non-book learning materials available for use in schools; secondly, to provide new learning materials to support curriculum development in ILEA schools and colleges. The Information Service started in September 1971 and the Production

Service opened with its first range of materials ready in September 1972.

The Media Resources Centre is part of the ILEA. It is run by a Director who is responsible to the Assistant Education Officer in charge of the Development and Equipment Branch of the Authority, and through him to the Chief Education Officer. Other central resources provided by the ILEA and the ETV Centre, the Education Equipment Centre, the Education Library (books) are a large number of Teachers' Centres, part of whose concern is with resources for learning. The Centre receives requests for its services from the Authority's Inspectorate, the various Advisory Committees, and from individual teachers. There is close co-operation between the MRC and the ETV Centre.

Users

Approximately 1,200 ILEA schools and other institutions, which include primary and secondary schools, further education colleges and adult institutes, use the Centre.

Output

The Information Service is based on a large reference library of non-book learning materials which at present contains some 10,000 items. The output of the Information Service can be seen mainly from the number of visitors to the reference library and the number of requests for information in the form of lists of materials. During the summer of 1973 there were more than 1,500 individual visits, in addition to official visitors and groups from outside the Authority. The library has also serviced about 1,000 written and telephoned requests for information.

The Production Service operates as a small publisher producing a variety of packs of materials in quantities so that they are available to any of the ILEA schools who wish to have them. These packs may include a range of printed materials, colour slides, audio tapes, overhead projector transparencies, microscope slides, electronic components, and may possibly extend later to film loops and other forms of material. A number of the packs are intended to accompany series of programmes on the ILEA-ETV Service. Subjects covered at present include language, environmental and nature studies, mathematics, world history, home economics, social studies, poetry, music, film. There are also materials for adults and teachers, for example, on English for immigrants to accompany an ILEA television series and on resources in the classroom for teachers.

Staff and Training Provision

The Media Resources Centre is still in the stage of initial development and the final staffing has not yet been fixed. The

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present staff includes about forty people. They are organized into four main teams: editorial; design and production; library and information; administrative and clerical. The Director is in overall control of the Centre. The editorial section is headed by an Assistant Director and includes a senior editor, six seconded teacher/editors and a research assistant. The design and production section has a head of department, four designers, a printer, a photographer and three graphics assistants. The library and information section is headed by the Resources Librarian with a publicity/information officer, four librarians, a library assistant, two clerical officers and a typist. An administrative officer is in charge of the administrative section, assisted by a deputy, two production co-ordinators, five clerical officers, two typists and a storekeeper.

There is no formal procedure for training staff. The editorial staff are seconded teachers and are trained by the Director on the job. Design and library staff have had appropriate professional training before they are appointed. The seconded posts are advertised and candidates selected by the Director, with the help of the appropriate Inspectors.

Expenditure

Capital expenditure is difficult to estimate but about £20,000 has been spent on equipment. Approximate annual recurrent expenditure is estimated at £140,000 broken down as follows:

Salaries	£80,000
Library and information running costs	£20,000
Production service running costs	£30,000
General administrative running costs	£10,000

Plans for Development

The Centre is at an early stage of its development and the possibilities are numerous. The library and information service hopes to extend outwards from the reference library and to take displays and information about materials around the ILEA schools and teachers' centres. Later it may be possible to provide central support to school libraries in the form of processing centrally ordered material and providing catalogue cards, etc. It may be possible to integrate the Media Resources Centre for non-book materials with services already available for books.

Further Information

Many overseas visitors have been received at the Centre. The Director and the Assistant Director (new post) and possibly some of the seconded teachers could be

available to offer their advice to other Commonwealth countries and to take part in training courses.

Address for Correspondence

Director
ILEA Media Resources Centre
Highbury Station Road
Islington
London N1 1SB
ENGLAND

KENT MATHEMATICS PROJECT

Purposes and Structure

The Kent Education Authority is responsible for the Project which aims to design a mathematical material-bank from which teachers can extract individualized courses for children of all abilities from 9 to 16 years. The system offers a Mode 3 CSE examination assessment at 16 years and plans a similar 'O' level procedure in the near future.

The Project is in its eighth year, but its third as an official Kent-sponsored project. It started from one teacher's classroom research, extended to more teachers and classrooms in the same school for a year, and then was taken up by nine other schools. At this point the nucleus of an enthusiastic team of teachers was formed, which has developed and enlarged to its present state. The KMP was conceived in a classroom and is now essentially a teacher-developed and teacher-controlled Project under the guidance of the original teacher, who is now director of the Project.

Users

A total of fifty-nine Kent schools (two comprehensive, four medical, one grammar, eight high, eight secondary modern and thirty-six primary, take part in the Project. 14,000 students, 300 teachers and 200 workshops are involved.

Output

All material is mathematical. The material-bank comprised work sheets, programmed booklets and tapes. The target is a minimum of 1,500 separate tasks, of which just over 1,000 have been completed.

Students use the scheme for 33% to 100% of their mathematics time and the overall average is about 85%.

Programmed booklets and tapes occupy about a quarter of the total material.

Staff and Training Provision

The staff consists of a Director, a full-time administrator, a full-time material writer, a part-time teacher/adviser, and a part-time primary school co-ordinator. There are also three

part-time secretaries. Permission has been given for an additional full-time material writer. The Project trains its own staff - a chain reaction from the Director. Staff are selected by invitation to teachers of known ability. Classroom organization skills are learnt through one-day and two-day courses. Any of the existing staff would be able to assist other Commonwealth countries in similar enterprises through consultancy.

Expenditure

Expenditure involves about £12,000 spent per year for equipment over three years. Project staff are accommodated in teachers' centres. Annual expenditure on salaries amounts to about £11,000.

Plans for Development

The completion of the material-bank is the first priority, and should be accomplished in two or three years. A KMP package should then be made available to any one outside Kent who wishes to use the scheme.

The success of the system in mathematics suggests the feasibility of extension into other subject areas and the development of the integrated day in secondary schools, using a new concept of student assessment believed to be more objective than our present system of formal examinations.

Address for Correspondence

Director, Kent Mathematics Project
Kent Education Authority
Springfield
Maidstone, Kent
ENGLAND

MILLFIELD SCHOOL EDUCATIONAL RESOURCES FACULTY

Purposes and Structure

The Educational Resources Faculty of Millfield School which is a private fee-paying school outside the state system, has two main aims: to improve the quality of teaching throughout the school by the provision of educational technology equipment within each classroom, including overhead projector, slide/strip projection, tape and CCTV; to make learning more individual through the provision of learning systems within departments and in the Resources Centre.

The project was started seven years ago as a result of the report of a committee investigating modern teaching methods. It has been a planned investment over that period in response to the demands of teaching staff.

The Educational Resources Faculty is one of eight faculties within the school. It is controlled by a Director who decides policy, after consultation with the

Headmaster and Director of Studies. The Faculty is responsible for CCTV, audio-visual aids, learning systems, the resources centre, in-service training of staff, the library and photographic unit. There are two deputy directors - one for the resources centre and programmed learning and one for the library.

Production work is undertaken, after consultation with academic faculty directors/heads of departments, in conjunction with subject specialists.

Every term each member of the teaching staff receives three catalogues: the Television Library; Resources in the Resources Centre; Resources held by Departments. It is policy that only resources for individual learning should be held in the centre, those for teaching are held by departments.

Users

The Director is in charge of the entire Faculty. A Deputy Director (Resources Centre) and a Deputy Director (Library) assisted by a library committee, are responsible for two sections. In addition there are a media resources assistant/secretary, part-time library assistants, a senior engineer and two engineers.

The support service is provided for 200 teaching staff and 1,000 pupils. Twenty channel CCTV distribution from a central control room and the resources centre equipped with a variety of non-print media provide individual learning for thirty pupils.

Output

An 'on demand' service of television videotape replays is provided throughout the school. The only subject not taking advantage of the service is classics. A total of 170 replays are made each week, but because of the nature of the service, it is impossible to give a breakdown by level or subject. About twenty educational broadcast programmes are recorded each week and about eight new educational programmes are made within the school each week.

Individual study material is available in the Resources Centre in the following subjects: history; geography; business studies; engineering; drawing; physics; biology; mathematics; languages. Access to TV library is available on two channels to individual study monitors.

Audio-visual programmed learning material is produced for the following subjects: metalwork; woodwork; biology; history; remedial English and mathematics. The production of material for physics, engineering drawing and geography is under consideration.

The individual learning system in the metalwork department is based upon five non-print sources of skills teaching, (two

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television channels and three programmed audio-visual channels) in addition to the teacher. This pattern is being repeated in woodwork, art and, with modification, in music. It is also under consideration for physics. Subsidiary resource centres for individual learning are being developed in history, remedial English, modern languages and biology.

Supporting material for classrooms is obtained or produced on audio tape (including radio recordings), overhead projector, film, filmstrip, slide, etc.

Staff and Training Provision

Courses are held during the holiday period to teach television techniques to the teaching staff. Each course is five days in duration. Once a member of staff has attended a basic course he may be accepted for advanced training. This involves attending a further one-week course plus practical work as required.

One-day courses on the overhead projector and transparency production are also held for teaching staff. A photography course is held after school on one evening per week. Other short courses are arranged as required. Arrangements are also made for staff to attend courses outside the school. Staff are selected for training by direct application following publication of details to all staff.

Expenditure

At present the Faculty is housed in temporary wooden buildings, which cost about £7,000 but a new centre is planned at a likely cost of about £70,000. Capital expenditure on equipment (including classroom equipment) has been approximately £50,000 over seven years.

Annual recurrent expenditure is estimated as follows:

Maintenance	£2,000
Videotape	£1,500
Audio tape	£ 450
Film	£ 505
Rentals	£ 400
Materials	£ 80

Plans for Development

Building: the plans for the new Library/Resources Centre are being prepared and building should start in late 1974.

Production: the development of self-instructional material for science is planned and it is hoped to install learning systems based upon the metalwork system in each of the science areas.

Production of audio-visual programmed learning material for engineering drawing is planned and this will be published when completed.

The television distribution system is being converted to colour starting with

biology, chemistry, metalwork, English and geography. It is hoped to acquire at least one colour television camera. At present production is done in 16mm film and transferred to videotape.

Further Information

There have been many visitors to the Faculty from overseas and staff could be freed to provide advice to Commonwealth countries if required. It would also be possible to arrange for Commonwealth visitors to work with the Millfield unit for short periods.

Address for Correspondence

Director
Educational Resources Faculty
Millfield School
Street
Somerset
ENGLAND

THE NATIONAL ORGANIZATION FOR AUDIO-VISUAL AIDS

Purposes and Structure

The National Committee for Audio-Visual Aids in Education (NCAVAE), established by the local authority associations in 1946, is responsible for determining audio-visual aids policy at national level, promoting the use of audio-visual methods and providing an information service on audio-visual matters.

The Educational Foundation for Visual Aids (EFVA), set up in 1948 by the Ministry of Education in consultation with the local education authorities, has responsibilities for the production and distribution of audio-visual aids.

The two organizations are complementary, they work closely together and constitute the National Organization providing a comprehensive service to education in the field of audio-visual aids.

The National Committee consists of representatives of the local authority, of teachers' organizations and of the Department of Education and Science. It has, in addition, the Central Committee of Teachers' Visual Aids Groups which represents the many voluntary groups and societies of teachers throughout the country, and the Central Council of Advisers in Audio-Visual Education, on which local authorities are represented by their permanent audio-visual advisers.

The Educational Foundation has a small Council of Management - half appointed by the local authority associations and half by the National Committee.

The National Organization is financed by contributions from the local education authorities based on the number of pupils in the area.

The National Audio-Visual Aids Centre was established jointly by the National Committee and the Educational Foundation in 1964. It has become the focal point for educationists who wish to examine equipment, obtain technical advice and undertake specialized training. Early in 1969 the National Audio-Visual Aids Centre moved to new and larger premises. The National Audio-Visual Aids Library is the Library of the Educational Foundation.

The main departments and the services provided by the National Organization are:-

Secretariat - This is responsible for servicing the various committees, including the Central Committee of Teachers' Visual Aids Groups (and liaison with the 130 Teachers' Groups) and the Central Council of Advisers in Audio-Visual Education. It is also responsible for co-operation with overseas countries.

National Audio-Visual Aids Centre (see separate report) - This deals with a) information; b) training; c) testing and evaluation of equipment; d) repair and servicing of equipment.

National Audio-Visual Aids Library (see separate report) - The National Audio-Visual Aids Library is a comprehensive Library of teaching films and filmstrips (and other materials) providing (with the national catalogue) a library for reference and hire.

In 1972/73 a library for colleges and departments of education was established. This is the first of its kind and by the end of the year had over 100 colleges in membership.

Production - Produces films and other visual media specifically made for teaching purposes. All material is made with teacher advisers appointed by the National Committee.

Address for Correspondence

National Organization for Audio-Visual Aids
33 Queen Anne Street
London W1M 0AC
ENGLAND

NATIONAL AUDIO-VISUAL AIDS CENTRE

Purposes and Structure

The Centre provides educationalists with a centralized and authoritative source of information and advice on all practical problems associated with audio-visual methods in education. It was opened in South London in May 1964 and moved to its present premises in 1969.

The National Organization for Audio-Visual Aids is responsible for the Centre.

The National Audio-Visual Aids Centre consists of the following departments: The Technical and Equipment Department, which undertakes the supply of equipment with educational discount and provides a maintenance and technical advisory service; the Information Department which provides an extensive permanent display of all types of audio-visual equipment and materials and includes facilities for personal evaluation of materials; the Experimental Development Unit which tests audio-visual equipment and prepares technical reports, (items are often tested at the prototype stage and produces modifications in design by manufacturers); the Training Department which organizes a wide variety of short courses on the integration of audio-visual media into teaching and training.

Users

The services of the Centre are available to anybody with interests in the field.

Output

The Information Department: Demonstration Centre - 3,779 visitors 1972/73; Cataloguing and Materials Section - is concerned with building up a comprehensive stock of software and continual updating of the materials catalogue. (The work is closely related to that of the film library and EFVA/ NCAVAE publications department which produces numerous booklets); Book Library - large collection of books covering all aspects of educational technology.

The Training Department: held sixty-five courses in 1972/73, with a total of 1,133 students.

Experimental Development Unit: produced various reports including forty technical reports on visual aid equipment.

Staff and Training Provision

The total number of staff at the Centre is twenty. The Information Department employs six people, the Training Department seven, the Experimental Development Unit three, and the Technical Department four.

Some in-service training is given where necessary. Staff are selected on the basis of their previous experience in the education and audio-visual field.

Staff have shown many overseas visitors round the Centre and offered advice.

Expenditure

Details of expenditure are not available.

Plans for Development

The equipment display will continue to expand, especially on the video side, although the Centre is dependent on the manufacturers loaning or giving their latest models. It is hoped to let more teachers know of the Centre's existence and

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the services offered, possibly by more publicity in magazines and, ideally, the mass media.

Address for Correspondence

National Audio-Visual Aids Centre
254-6 Belsize Road
London NW6
ENGLAND

NATIONAL AUDIO-VISUAL AIDS LIBRARY

Purposes and Structure

The Educational Foundation for Visual Aids is responsible for the Library which was set up in 1948. The Library provides schools within the United Kingdom with a film loan service and acts as a central clearing establishment for the sale of films and filmstrips. The Association of Education Committees for England and Wales co-operates with the Library.

Policy is decided by a board of management, teaching representatives and the National Committee for Audio-Visual Aids in Education.

Users

All schools that possess a 16mm projector and a 35mm filmstrip projector can use the service.

Output

Films loaned per year	120,000
Films sold per year	600
Filmstrips sold per year	25,000

Staff and Training Provision

The Library Manager is in overall charge of the Library and there are thirty-four other members of staff. Dealing with the film library, there is a film librarian, seven film booking clerks, a typist, eight film examiners and six packers. For film sales there is a film sales clerk, a short-hand typist, an invoice clerk, and a typist/receptionist. Filmstrips are dealt with by a filmstrip librarian, three filmstrip clerks, a typist and two packers.

On-the-job training is given and staff are selected for training by individual aptitude and nomination by heads of departments.

Expenditure

Capital expenditure is estimated as follows:

Buildings	£25,000
Equipment	£ 8,000
New film and filmstrip stock	£160,000

Annual recurrent expenditure is estimated as £21,000 on salaries and £59,000 on new film and filmstrip stock.

Plans for Development

It is anticipated that over the next two or three years all services will be considerably expanded. A film library has recently been established, devoted entirely to teacher education. In the future activities will include the distribution of tapes, records, wallcharts, cassettes and transparencies in larger volume than at present.

Further Information

Over the years many Commonwealth counterparts have visited the Library for information as have many students attending British Council courses. Advice and information could be given to any country establishing a similar enterprise.

Address for Correspondence

Library Manager
National Audio-Visual Aids Library
Paxton Place
Gipsy Road
London SE27 9SR
ENGLAND

THE OPEN UNIVERSITY

Purposes and Structure

The Open University provides degree and post-experience courses for working adults to graduate and post-graduate levels through teaching at a distance by means of a combination of correspondence teaching, broadcasting and face-to-face tuition. It was set up as a full university by Royal Charter in 1969 and receives funds from the Department of Education and Science. The BBC co-operates.

The Governing Board of the University is a Council, consisting of an eminent lay membership drawn from other universities, industry and the public sector, with elected representatives from the Senate and the student body. Academic responsibility lies with the Senate, consisting of all full-time central and regional academic staff, and elected representatives of the BBC, part-time regional staff and students. The University is organized into six faculties, a regional tutorial service (with thirteen regions) and an Institute of Educational Technology.

Users

There were 45,000 registered students in 1973.

Output

The faculties are Arts, Science, Social Studies, Mathematics, Technology and Educational Studies. Courses are based on a credit system, each course being worth one credit or half a credit; six credits are needed for a BA General degree and

eight credits for a BA Honours degree. Thirty-two units of work make one credit and one unit of work is approximately ten hours' study a week. Each unit consists of a correspondence text and usually a radio and/or television programme, set book reading, supplementary material and, for science and technology courses, home experiments. In 1973 twenty-seven full credit equivalents were provided.

By the end of 1973, 1,236 correspondence texts had been specially written and published by the University and 800 television programmes and 800 radio programmes had been broadcast.

Staff and Training Provision

Full-time staff as at 1st January 1973:

	<u>Central</u>	<u>Regions</u>
Academic (including staff tutors)	224	85
Non-Academic	197	121
Technicians	85	-
Clerical/Secretarial	362	196
Auxiliary	81	5
Research/Course Assistants	101	1
Total	<u>1,050</u>	<u>408</u>

Part-time staff:

Counsellors	1,688
Course tutors (provisional)	4,231

BBC staff:

Production staff	90
Administration	31
Servicing staff (graphics, film, props, scene-hands, etc.)	66
Others (engineering, housemen, etc.) approximately	100

Academics are recruited from conventional universities, etc. The BBC train their own producers who are assigned to Open University production. There is no special training.

Expenditure

Capital expenditure up to the end of 1973 is estimated at £6m. A further £4.5m has been allocated for a broadcasting complex on site for 1977.

Annual expenses for 1973 are estimated at £11m, broken down as follows:

BBC	£2.0m
Faculties and Institute of Educational Technology	£2.2m
Tuition and Counselling	£2.5m
Administration (Central)	£1.6m
Administration (Regional Services)	£1.7m

Plans for Development

The Open University aims eventually to offer an undergraduate programme of

approximately 110 full credits. It is also able to offer post-experience courses, which must however, be self-financing, either through sponsorship, or through student fees. The University is also anxious to enter into joint course production with other universities or similar institutions. The most urgent need for assistance from outside is for funds to support research activities, particularly into the effectiveness of its own methods for teaching at a distance. Major areas in urgent need of support are research into the effectiveness of broadcasting, and textual communication, and support for an in-service training programme.

Further Information

Many people from the Commonwealth have visited the Open University and overseas consultancy work and British Council tours have been undertaken by members of staff of the University. A British Council seminar was held in November 1973 on the Open University.

The Open University is setting up a consultancy service, which will enable members of the University to travel and advise on Open University methods. Staff also have the opportunity to take sabbatical or study leave for such purposes. In addition, there are films, videotapes and papers available on many aspects of the Open University.

Address for Correspondence

The Open University
Walton Hall
Milton Keynes
Bucks.
ENGLAND

THE ASSOCIATION FOR PROGRAMMED LEARNING AND EDUCATIONAL TECHNOLOGY (APLET)

Purposes and Structure

APLET has been in existence for fourteen years and provides a service of information and experiment in the fields of programmed learning and educational technology. APLET is an independent body controlled by a Council, with an inner executive and a network of centres. Members subscribe both financially and directly by running courses.

Users

Members and anyone interested in problems of educational technology and programmed learning from the United Kingdom and overseas, including educationists, training officers and industrialists.

Output

A yearly international conference is held. Frequent regional courses and conferences

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are arranged. Instructional sessions are held at centres. A yearbook with a list of advisory officers and locations is published and a journal is produced six times a year covering new activities and experiments.

Staff and Training Provision

All offices are honorary. A team of some six executive officers and three publication officers function co-operatively. Staff are usually selected from professional teacher or training bodies. Training is given by courses in member institutions.

Expenditure

Accommodation is rented or loaned by universities, polytechnics or colleges. Capital expenditure on equipment depends on the course or project undertaken. Normally members are influentially placed to provide a full and advanced level of equipment. Annual expenditure is about £11,000 divided between courses and conferences (£7,000) and editorial and administrative work (£4,000).

Plans for Development

An Institute of Educational Technologists is to be set up with relevant awards.

Further Information

Many members have served overseas and about four were on secondment overseas in 1973. The availability of members to assist other Commonwealth countries would depend upon the requests and the availability of financial support.

Address for Correspondence

The Chairman
Association for Programmed Learning
and Educational Technology
33 Queen Anne Street
London W1M 0AL
ENGLAND

PROJECT ISITME (INVESTIGATION INTO SELF-INSTRUCTIONAL TECHNIQUES IN MEDICAL EDUCATION)

Purposes and Structure

The aim of Project ISITME (Investigation into Self-Instructional Techniques in Medical Education), which is the responsibility of the University Department of Medicine of the Western Infirmary in Glasgow, is to develop self-instructional materials for undergraduate medical students. The original project ran from 1968 to March 1973. The work is continuing, although without the previous financial assistance from the Department of Education and Science, the Carnegie Corporation and commercial firms.

The Department of Education of the University of Glasgow, the Department of Medical Illustration of the Western Infirmary and the University Television Service of the University of Glasgow, all assist the project. The Director of the Project is a professor of the Department of Medicine. The self-instructional materials are prepared by a lecturer in the Department of Medicine, known as a medical editor. A lecturer from the Department of Education and the Director of the Department of Medical Illustration (both in an advisory capacity) complete the team. Policy is decided by the team.

Users

The intended audience is the undergraduate medical students from their fourth year onwards - that is, the clinical part of the course.

Output

The team chose to use tape/slide presentations for the self-instructional materials, incorporating programmed learning techniques. The materials are updated as necessary. The output so far has been:

Endocrinology:

Diabetes Mellitus	- nine programmes
Thyroid Disease	- five programmes
Pituitary/Adrenal Disease	- eleven programmes

These twenty-five programmes total about twelve hours.

In addition eighteen programmes, totalling about nine hours, have been produced on Medical Renal Disease.

Staff and Training Provision

The full-time staff consists of one lecturer from the Department of Medicine, known as a medical editor. This post is, in fact, shared by two part-time women graduates. There is also a full-time graphic artist and a photographer, who is shared with a similar project in biology.

A lecturer from the Department of Education, the Director of the Department of Medical Illustration and various subject specialists are employed part time in an advisory capacity.

Training is informal. The medical editors have attended evening classes at the Department of Education in programmed learning and have tried to become familiar with educational theory etc. by reading and contact with members of the Department of Education. To date there has been no real selection procedure for staff - posts have been offered part-time to graduates who are interested in this type of work.

Expenditure

Expenditure on the Project cannot be estimated with any degree of accuracy.

Plans for Development

It is hoped to continue the development of self-instructional materials, although not necessarily in the form of tape/slide presentations and to continue work on the assessment of the materials and other aspects of the undergraduate curriculum. Assessment might be attempted with the help of a computer bank of questions and in this case the assistance of a statistician/computer programmer would be welcome.

Further Information

Materials have been sent to New Zealand and could, subject to arrangement, be sent to other interested Commonwealth countries.

Address for Correspondence

Project ISITME
Department of Medicine
Gardiner Institute
Western Infirmary
Glasgow G11 6NT
SCOTLAND

QUEEN ELIZABETH SCHOOL OF NURSING,
BIRMINGHAMPurposes and Structure

New media have been used for three years at the School of Nursing to provide a selection of material for use in training nurses. Television programmes and a variety of new media aids to learning are produced which are related to nursing skills and medical topics. The Birmingham Regional Hospital Board is responsible for the service.

Nurse tutors organize the materials through a Visual Aids Committee.

Users

Both student nurses and qualified nurses use the service.

Output

Two television programmes are given each week on medicine and related subjects and one on nursing skills. All are twenty minutes in length.

Other support materials in the form of wall charts, models, filmstrips and cine loops and tape/slide sequences are produced.

Staff and Training Provision

The staff concerned with this training are four nurse tutors and three nurse clinical teachers. All staff have the opportunity of appropriate training.

Expenditure

Capital expenditure is estimated at £2,000 on equipment and annual recurrent expenditure is estimated at £600 on materials.

Plans for Development

It is proposed to increase the material related to practical nursing and social skills.

Address for Correspondence

Principal Nursing Tutor
Queen Elizabeth Hospital
Hospitals Centre
Birmingham 15
ENGLAND

REGIONAL RESOURCES CENTREPurposes and Structure

Exeter University School of Education is responsible for the Regional Resources Centre which was set up to produce and make available 'software' educational material for schools in the region. By evaluating its successes and failures it is investigating the viability of such a project.

The initial project started in 1970 with a grant from the Calouste Gulbenkian Foundation and another grant was received in 1973 from a commercial firm which has extended the life of the project into a second experimental three-year phase.

The Centre is controlled by two co-directors. One is a senior lecturer in education and the other a librarian in charge of the School of Education library. Their roles are complementary in the experimental pilot project which seeks to determine the optimum way in which resources centres can be developed to serve the requirements of schools covering the 5 to 18 age range. The co-directors are guided by an Advisory Committee chaired by the Professor of the School of Education. The other twenty-three members are senior teachers, educational administrators, librarians, visual aids advisers, wardens of teachers' centres, etc., from the counties involved. Priorities are thus established and the work is executed by a small permanent staff assisted by practising teachers and art students. A number of fellowships are available to enable selected senior teachers to deal with 'editorial' and research problems. The local education authorities in the areas concerned, the libraries, museums, city archives office, the Council for Educational Technology, teacher training colleges, and the College of Art, all co-operate with the project.

Users

The twenty-four schools from six neighbouring local education authority areas, taking part at the start of the project, grew to about sixty which were using the materials at the end of the initial period (1973). A cross-section of schools

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involved in the 5 to 18 age range has been chosen.

Output

The Centre aims to respond to requests from schools within its catchment area. In the first two years of operation 661 separate requests were received, of which 479 were met. The others were either fulfilled later or proved impractical in operational terms. Some of the requests asked for materials, others for information on all aspects of education - not only hardware and software. Materials were either provided from the library, specially made or purchased from commercial sources. Consultancy work, in-service education and research are also undertaken.

Staff and Training Provision

The two co-directors are assisted by an administrative officer and a secretary. The rest of the staff fall into two categories: Design and Photography, with a senior designer and two designers; Technical and Printing Service with a chief technician, a printer and a technician.

Executive staff are selected by the usual advertisement and recruitment procedure. Editorial staff are selected by the co-directors and by the recommendation of the Advisory Committee.

Staff could give advice and assistance to other Commonwealth countries, subject to request and negotiation.

Expenditure

The buildings are provided by the University but other capital expenditure is estimated as follows:

Equipment (over three years of the initial project):	
Reprographic	£1,270
Office	£ 586
Vehicle	£1,000

Annual recurrent expenditure is estimated as follows:

Materials	£1,000
Vehicle running costs	£ 150
Travel	£ 300
Salaries	£3,500

Plans for Development

The second phase of development is limited to four administrative counties. The aim is to explore relationships with teachers' centres and the possibility of a resources network. Also it is intended to look at the problems of creating relatively cheap hardware.

Address for Correspondence

The Director
Regional Resources Centre

University of Exeter School of Education
Gandy Street
Exeter EX4 3LZ
ENGLAND

ROYAL NAVAL SCHOOL OF EDUCATIONAL AND TRAINING TECHNOLOGY (RNSETT)

Purposes and Structure

The project has been operating since January 1971 and aims to promote the application of the most cost-effective techniques in the management and methods of training and education within the Royal Navy, the Royal Marines and the Women's Royal Navy Service.

The Commander-in-Chief, Naval Home Command, is responsible for the project, which is implemented through the Commodore of the Royal Naval Barracks in Portsmouth and the Officer-in-Charge of RNSETT. The Officer-in-Charge deals with Ministry of Defence (N), Commands, Establishments and non-service authorities directly on technical matters. The ultimate control lies with the Ministry of Defence (Navy).

Users

Service personnel from all RN, RM and WRNS training establishments.

Output

Five-day courses for junior officers/senior ratings are provided as follows: Instructional Technique (weekly); Training Analysis (monthly); CCTV Production Techniques (termly). There is a three-day course in Training Management given each term for senior officers and a monthly five-day course for junior officers in Course Management.

Advice and assistance are given in the areas of training management, analysis, design, assessment, methods and media.

Staff and Training Provision

Fourteen officers, twelve senior ratings and three junior ratings are employed on RNSETT. Heads of Groups are given a one-year postgraduate course in educational technology and advisory Staff Officers receive a one-term postgraduate course. Selection is by normal Service procedure.

Expenditure

This cannot be assessed.

Plans for Development

Any future developments will be dictated by Service requirements.

Address for Correspondence

Officer-in-Charge
RNSETT, Royal Naval Barracks
Portsmouth
ENGLAND

SECONDARY SCHOOLS CONSORTIUMPurposes and Structure

Chorley College, which is a Lancashire County Council college, is responsible for the Consortium which has now been operating for about a year and a half. It provides educational television programmes to support teachers in the secondary schools in the district, especially in relation to environmental studies, but also includes science.

Teachers from participating schools are trained in television production techniques. The teachers then plan, organize and produce their own programmes for use in the schools.

Users

About fifteen schools with their own video-tape recorders and television receivers use the service at present but an increasing number of schools are anxious to join. The schools are also equipped to record their own off-air broadcasts.

Output

One programme is produced per week. Each programme is produced in three hours of studio time which includes stagger-through, dry-run and final recording. Environmental programmes make up 40% of the output, science programmes 30%, language programmes 15% and other subjects 15%.

Staff and Training Provision

The staff employed are all concerned with production. They consist of: one film/graphics assistant; two engineering/technical assistants; one producer/script-writer; one secretary. Training in production consists of one session per week over a period of ten weeks totalling forty-five hours. Apart from studio training, work is done by participants in their own time and they also have access to studio equipment at prescribed times. Staff are selected by the head teacher of the school in consultation with the appropriate head of department.

Expenditure

Capital expenditure is very difficult to estimate as much of the work has been done within existing budgets, but in terms of replacement costs, approximately £25,000 is spent on buildings, £100,000 on equipment and £10,000 on miscellaneous materials. Annual recurrent expenditure cannot be estimated, as materials are supplied by participating schools or on a shared basis for such items as cannot come from schools.

Plans for Development

It is hoped that the studio will become a production centre in television, film and

programmed learning for all types of educational establishments in the area. Finance difficulties and the need for additional trained staff are the inhibiting factors.

Further Information

Many Commonwealth visitors have been to see the centre. If the occasion presents itself, it is likely that appropriate staff could be made available to assist other Commonwealth countries in similar enterprises. At present one member is on a two-year secondment to Kenya.

Address for Correspondence

The Principal
Chorley College of Education
Union Street
Chorley
Lancashire
ENGLAND

UNIVERSITY OF GLASGOW TELEVISION SERVICEPurposes and Structure

The Television Service has been run by the University of Glasgow since March 1965 and provides closed-circuit television as a central service available to all teaching departments within the University, on request. On a small scale it also provides film facilities and sound recording on the same basis. It also gives a general service of advice and assistance in the field of audio-visual aids in teaching. There is a close link with a similar service in the University of Strathclyde. Although the two services are separately staffed and financed, they work under the supervision of one Director of Audio-Visual Services, who ensures that their development is related and complementary.

Policy decisions are controlled by the Television Committee - a joint committee of the Senate (which supervises teaching and research) and of the Court (the governing and administrative body of the University). The Director of Audio-Visual Services, with head-of-department status, is responsible through the Television Committee to the Court. Requests for service are raised by teaching departments direct with the Television Service (usually through the Director of A-V Services, or his immediate deputy, Director of Television). On the operational side, the service has three elements: a central pool of cameras, etc. for simple visual aid work in laboratories and lecture theatres; a four-camera mobile unit to record material outside the University, e.g. in hospitals, schools, clinics, etc.; a studio with eight-channel radio frequency distribution system throughout the University.

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Users

Audiences involved are almost exclusively classes of undergraduates, but within that category they are very varied - for example, 600 students for relay/recording of a conventional lecture; eight or ten students watching explanatory videotape on monitor at the end of a laboratory bench; small medical groups watching bed-side teaching or recordings of specialized techniques; students and staff using recorded performances for self-assessment, etc.

Output

A wide variety of subjects are covered. There are more than fifty regular user departments in the University, approximately one-third of these in the Medical Faculty. The remainder include archaeology, biochemistry, chemistry, computing, drama, English, engineering, physics, psychology, social studies, town planning, zoology.

Most of the programmes are at undergraduate level, but the postgraduate level is also included, especially in education and medicine. The service is also used in specific research projects.

Output is mainly within the academic year of twenty-six to thirty weeks. Frequency in individual subjects varies a great deal, from daily to two or three times per term. There are no readily available statistics on live TV use (e.g. in many science-type laboratories) but approximately 1,000/1,100 pre-recorded programmes are transmitted in each academic year.

Staff and Training Provision

The total number of staff is twenty-six, although the Director of Audio-Visual Services, the administrative head, is shared with the University of Strathclyde. The rest of the staff is as follows: three producers, including the Director of Television; a technical supervisor; an operations assistant, who is responsible for scheduling, allocation of staff, equipment, etc.; three secretaries; eleven television technicians of various grades; one artist; one photographer; four manual staff.

Senior staff, both production and engineering, have usually been appointed after professional broadcasting experience. Most engineering staff, originally from manufacturing or TV-service background, have attended intensive BBC training courses. Junior technicians (three of the present eleven) attend day-release classes and receive on-the-job training from senior colleagues.

There is no selection or special training for academic staff. Where it is essential that they learn certain tech-

niques for studio performance, it is the responsibility of Television Service production staff to provide the necessary instruction.

The Director of Audio-Visual Services has made advisory visits to the University of the West Indies and to University Kenangaan, Malaysia. Advisory visits of staff to other Commonwealth countries for periods of three/four weeks are normally quite easy to arrange.

Address for Correspondence

Director
Audio-Visual Service
University of Glasgow
Television Centre
Southpark House
The University
Glasgow G12 8CB
SCOTLAND

INDEPENDENT BROADCASTING AUTHORITY (IBA) EDUCATIONAL PROGRAMMES

Purposes and Structure

The Independent Broadcasting Authority controls all independent television and radio broadcasting in the United Kingdom. Its educational television services consist of school programmes, which are intended to establish or motivate learning in the classroom and adult educational programmes, which help viewers towards a mastery of a skill or understanding of a body of knowledge.

The IBA is the controlling authority but programmes are provided by fifteen programme companies, which are appointed by the IBA under contract. Programme plans for education must be recommended by IBA's Schools Committee and Adult Education Committee which are responsible to the Authority's Educational Advisory Council. There are also a number of committees advising the producing companies. The company plans are co-ordinated by a network of educational sub-committees which, with the IBA, liaises with the BBC to avoid overlaps or clashes of schedules.

Formal and informal contact is maintained with the Department of Education and Science, the Schools Council, the Council for Educational Technology and the National Committee for Audio-Visual Aids in Education.

Users

Programmes cover the whole range of school-children including further education. About 24,000 schools view some television (72% of all primary schools and 73% of all secondary schools). Adult education programmes are intended mainly for use by families at home, specialist or minority groups and classes or groups at residential

or week-end centres. About forty-nine million people, aged four and over, living in seventeen million homes, have sets able to receive ITV.

Output

Pre-school programmes are now made by four companies and this is an area which is developing rapidly.

Nine hours of programmes a week are broadcast to schools in term-time including about twenty-six networked series a year for schools and colleges, with local and partly networked series produced by the regional companies. Subjects include English, French, drama, music, visual arts, mass media, primary mathematics and science, history and geography. Important problems and issues in contemporary society are introduced as subjects for classroom discussion. Programmes last fifteen to twenty minutes.

Adult educational programmes have about three hours a week of broadcasts and about fourteen new series are produced a year, as well as many programmes in the general output, which have educational value.

Subjects have ranged widely from science, history, farming, even television itself, to personal health, cookery, leisure sports and hobbies. There have been programmes for teachers, farmers, gardeners, anglers, golfers, motorists, amateur astronomers, the consumer generally, the retailer in particular, and their own programme for the retired.

Publications to accompany programmes include wall charts, books and booklets.

Staff and Training Division

The IBA has an Educational Programmes Services Department, and the separate programme companies employ educational officers, who also liaise with schools in their areas.

The programmes are produced by teams combining teaching and television experts.

Expenditure

It is not possible to estimate expenditure on educational programmes as a separate item from the entire budget. The budgets of the fifteen programme companies differ greatly and the expenditure on educational programmes of the larger companies which make most of the networked programmes, would be considerable.

Plans for Development

Pre-school education is an expanding area and is likely to continue developing.

Further Information

Under the School Teacher Fellowship Scheme teachers and lecturers with some experience in the use of television or CCTV are eligible for fellowship of up to a year at a British university to increase the number of teachers with a knowledge of television, to help schools and to help the IBA assess its own services.

Address for Correspondence

Educational Programmes Services
Independent Broadcasting Authority
70 Brompton Road
London SW3 1EY
ENGLAND

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BELIZE

GENERAL INFORMATION

AREA 8,867 sq.miles POPULATION 130,000 (Est. 1973)

EDUCATIONAL PROFILE

Statistics

Public expenditure on education = \$B3,203,700 (1972) Recurrent
(Currency: dollar; \$B4.0 = £1 sterling 4.12.73)

Less than primary	Age 15 - 24 = 17.6%	Age 25+ = 28.7%	(1960)
Completed primary	Age 15 - 24 = 63.9%	Age 25+ = 60.9%	
Entered Secondary	Age 15 - 24 = 18.6%	Age 25+ = 9.2%	

Teacher training (1973) primary level students 118 staff 17
Students at university and other institutions abroad in 1972-73 = 220

% Illiteracy = 10 - 14 years 3.4%; 15 - 19 years 5.4%; 20 - 24 years 8.1% (1960)

Structure

School is compulsory from 6 to 14 years. Responsibility for education lies with the Ministry of Education. All but nine of the 171 primary schools are managed by the Churches, but most are grant-aided. Of the twenty-two secondary schools four are Government institutions, sixteen are Church schools and the remaining two are run by private individuals.

Primary education is free in all grant-aided and government schools. Secondary education is available.

The Unesco educational planning mission, after a visit in 1964, recommended the following reorganization: at the primary level a six- or seven-year course for children aged 5 to 12. Secondary education from 12 to 15 or 16, comprising a course of general studies including practical subjects, with the possibility of taking RSA and 'O' level examinations, with a two-year extension for 'A' level candidates. Unesco also recommended the setting up of an agricultural and engineering institute in the new capital.

Teacher training has been reorganized, following Unesco's recommendations, and now aims at accelerating the supply of trained teachers by in-service courses and two-year courses at Belize Training College.

Adult education is provided by various government and voluntary agencies.

BROADCAST COMMUNICATIONS FACILITIES

Radio (1971)

Radio Belize is a government-owned station but it does some commercial broadcasting. There are 43,000 radio sets, or 302 per thousand of the population. Broadcasts

include regular programmes for schools.

PROVISION FOR EDUCATIONAL INNOVATION

There are two teachers' centres which have been functioning for five years and have developed courses of extra-mural studies for teachers in co-operation with the Belize Teachers' College. Other bodies responsible for educational innovation are the various professional associations, the National Council for Education and the University of the West Indies which concerns itself with regional development of education.

SCHOOLS BROADCASTING SERVICE

Purposes and Structure

The Schools Broadcasting Service, which is the responsibility of the Ministry of Broadcasting, has been in operation for eight years. Its purpose is to provide educational programmes in infant and primary schools to supplement the work of teachers, to combat the shortage of trained teachers and text-books, and also to point the way to new developments. The service is a unit within the broadcasting section, and is headed by the Schools Broadcast Officer with supporting clerical staff, but also draws on the expertise and experience of teachers.

Users

The service is used by all 171 primary schools in the country, which have a total of 31,116 pupils and 1,200 teachers.

Output

Every subject in the primary curriculum is covered. In addition, there is some broadcasting to secondary schools and teachers. Teachers' notes and support material for the pupils are produced.

Staff and Training Provision

The two members of staff are the Schools Broadcasting Officer and the Secretary, who are appointed by a committee and provided with opportunities to pursue courses in educational broadcasting.

There has been no involvement in assisting other Commonwealth countries in similar enterprises, and this is still not possible at present.

Expenditure

The actual expenditure of the service is estimated at \$B11,250 for buildings, and \$B3,500 for equipment. The annual recurrent expenditure is \$B5,200 on salaries, and \$B3,000 for other expenses.

Plans for Development

The Service at this stage requires an evaluation to produce recommendations on how it might best be developed and expanded.

Address for Correspondence

Schools Broadcasting Service
Albert Cattouse Building
Regent Street
Belize City
BELIZE

FARM RADIO PROGRAMMEPurposes and Structure

The Ministry of Agriculture, Lands and Co-operatives runs the programme, with the co-operation of Radio Belize, to keep farmers and rural housewives informed of current developments in agriculture, to dispense advisory notices and to encourage greater production. The programme has been broadcast since about 1964. The Agricultural Education Officer is directly responsible for the programme though policy is controlled by the Permanent Secretary through the Chief Agricultural Officer. Extension Officers and Specialist Staff contribute regularly and the AEO organises farmers' participation in the programme.

Users

The programme is aimed mainly at rural listeners but is also heard by many urban listeners. The estimated listening audience is 75,000, although there is a potential listening audience of about 250,000 at peak periods including listeners in neighbouring Republics.

Output

'Farming for Progress' - one broadcast per week of twenty or thirty minutes.

Staff and Training Provision

The Agricultural Education Officer produces the programme, writes and edits the scripts, interviews farmers etc. He is assisted in dubbing and recording the programme by technicians of Radio Belize. Extension Officers help the AEO to make contact with farmers. One member of the Department has attended a Seminar Workshop on Farm Radio Broadcasting but apart from this there has been no formal training. The officer in charge of the programme was recruited by the Chief Agricultural Officer in consultation with Heads of Divisions. Aptitude for the work is taken into consideration.

Expenditure

Capital expenditure is limited to a couple of tape recorders - \$B500 since the service does not have a separate building. Recurrent expenditure is about \$B2,900 per annum, with \$B1,200 on salaries (proportionate), \$B200 for materials and \$B1,500 for travel.

Plans for Development

It is hoped to increase the programme to two broadcasts per week. To make this possible it would be necessary to train at least one other member of staff apart from the AEO, who himself requires training in script-writing, presentation etc. Overseas training would be necessary for these two members of staff. The AEO with the help of technicians from Radio Belize could then train District Agricultural Officers in interviewing, script writing and recording so that he would not need to travel so much.

Address for Correspondence

Agricultural Education Officer
Ministry of Agriculture,
Lands and Co-operatives
Belize City
BELIZE

BERMUDA

GENERAL INFORMATION

AREA 20.59 sq.miles POPULATION 54,590 (1972) Estimated

EDUCATIONAL PROFILE

Statistics

Public expenditure on education = \$B9,845,700 = 22.5% of total GDP (1972-73)
(Currency: dollar; \$B2.34 = £1 sterling 4.12.73)

Pre-primary	1,441
Primary	7,541
Secondary	4,483
Secondary vocational	387

Students at university abroad in 1972-73 = 218

% Illiteracy = 10 - 14 = 0.5%; 15 - 19 = 1.0%; 20 - 29 = 1.0%

Structure

The government aim is to provide first-rate primary and secondary education with a system of further education (academic and vocational training) specifically suited to the needs of the country.

The system of education is basically English with adaptations motivated by geographical proximity to the American continent. Schooling is compulsory and free between the ages of 5 and 16, and free Government nursery schools admit children at the age of 4. Primary education is seven years from age 5 to 12, while secondary education is normally four years with further education courses lasting another two years.

The further education complex (The Bermuda College) is a tripartite institution preparing students for higher education vocational and commercial education, and the hotel industry. The Department of Education operates university extension courses in conjunction with Queen's University, Canada, and the US Air Force offers islanders similar courses under the auspices of the University of Maryland, USA.

In 1972, sixty-five students were studying abroad on Bermuda Government Scholarships and University Awards, and \$B100,000 was appropriated for interest-free Student Loans to assist other students. Total amount of grants in aid disbursed during the year was \$B362,000. Although there is no teacher training institution in Bermuda, scholarships are provided annually to enable prospective teachers to study abroad. Fifty-three students were training as teachers on such scholarships in 1972-73.

BROADCAST COMMUNICATIONS FACILITIES

Radio (1971)

The Bermuda Broadcasting Company runs three of the Island's four commercial radio stations, the fourth being run by the Capital Broadcasting Co. Ltd. Bermuda has five transmitters (four medium wave, one short wave) for 29,000 radio sets: i.e., 558 sets per thousand head of population.

Television (1971-72)

The Bermuda Radio and Television Company Ltd., and the Capital Broadcasting Co. run one TV station each for 18,500 TV sets - 1,600 of these are colour sets. About one-fifth of the TV programmes are locally produced, the rest are imported from the USA or Britain.

PROVISION FOR EDUCATIONAL INNOVATION

There is collaboration in regional educational development projects in which the University of the West Indies coordinates activities and is assisted by agencies such as Unesco and CEDO.

SCHOOLS EDUCATIONAL TELEVISION

Purposes and Structure

The service provides educational television to nursery and primary schools and to children at the pre-school level. The Department of Education is responsible for the service and the Bermuda Broadcasting Company Ltd. facilitates. Programmes are ordered from the Children's Television Workshop by the television station, and the Department of Education organizes the

utilization and evaluation within schools. Television receivers are rented from local firms and these carry out maintenance when required.

Users

Forty-three schools under Government control have television receivers. There are, in addition, a further nineteen sets in private schools. It is estimated that 1,750 children benefit from the service.

Output

Two series of programmes, both obtained from the Children's Television Workshop, are broadcast - 'Sesame Street' for one hour each day, Monday to Friday, and repeated on Saturday morning; and 'The Electric Company' for half an hour each day, Monday to Friday, with a late afternoon repeat on school days.

Staff and Training Provision

There are no separate ETV staff in the Department of Education. There is, however, one Education Officer within the Department of Education with special responsibilities for Audio Visual Communication. Among his duties is the prepar-

ation and production of graphics when local productions are planned. Such productions are limited and have been commercially sponsored with the approval from the Ministry of Education.

Expenditure

The rental of television receivers costs \$B5,805 per year, and the cost of buying programmes for transmission amounts to \$B30,000 per year. The proportion of salaries amounts to \$B10,000 per year (approximately).

Further Information

In 1971, the service produced a programme called 'Growth of a Nation', based on early American history. This, and an earlier programme series entitled, 'History at Home', prepared students for London University 'O' level exams.

Address for Correspondence

The Permanent Secretary
Ministry of Education
PO Box 1185
Hamilton 5
BERMUDA

BRITISH INDIAN OCEAN TERRITORY

GENERAL INFORMATION

AREA 87½ sq.miles POPULATION Diego Garcia and Solomon now have no civilian population, and Peros Banhos is to be evacuated

EDUCATIONAL PROFILE

Statistics

Public expenditure on education = Nil (Responsibility of plantation owners)
(Currency: Seychelles Rupee; R13.37 = £1 sterling 4.12.73)

No further details available

Structure

In January 1969 there was one small school (30 to 40 pupils) on each of the islands of Diego Garcia, Solomon and Peros Banhos.

BROADCAST COMMUNICATIONS FACILITIES

Nil

PROVISION FOR EDUCATIONAL INNOVATION

No details available

BRITISH SOLOMON ISLANDS

GENERAL INFORMATION

AREA 11,500 sq.miles POPULATION 161,000 (1970) PER CAPITA INCOME Approximately £75

EDUCATIONAL PROFILE

Statistics

Public expenditure on education (1969) = \$A1,496,493 = 12.2% of total government expenditure (Currency: Australian dollar; \$A1.57 = £1 sterling 4.12.73)

No schooling	Age 25+	=	91.7%
Junior primary	Age 5 - 18	=	31.1%
Senior primary	Age 5 - 18	=	11.3%

Teacher training (1973) primary level students 90 staff 19

Structure

The principle is now accepted that education is a national responsibility. The educational framework consists of: Junior primary standards 1 to 4; senior primary standards 5 to 7; secondary forms 1 to 5. In addition, there is a small amount of adult education in the main government centres, some of which may be termed general, while some prepare for specific examinations. There are many boarding schools.

There is one teacher training college, the British Solomons Training College, which is government administered and trains primary teachers for all controlling authorities. A large part of the College's role is the in-service re-training of teachers in up-to-date methods. The College has places for about forty in-service teachers, as well as its full-time students. The dependence on expatriate teachers is steadily decreasing as localization proceeds through the training of school leavers and in-service training. At the primary level localization is very nearly complete.

Honiara Technical Institute provides a variety of training courses on a regional or sub-regional basis. The courses offered include marine, deck training and engine training, surveying, draughtsmanship, book-keeping, typewriting, carpentry, plumbing and electrical training. There is also a pre-technical class to help young people decide what form of training would suit them best. Block release and apprentice training, as well as full-time courses, are carried on with the help of the Institute. Tertiary education at degree and diploma level is provided in Fiji and in Papua New Guinea under funds made available by the Overseas Development Administration.

BROADCAST COMMUNICATIONS FACILITIES

Radio

The Solomon Islands Broadcasting Service in Honiara is run by the government. There is one station in Honiara which broadcasts on three frequencies. The total output is seventy-one hours of broadcasting per week excluding some twenty hours per week of schools broadcasts. Number of sets is 6,000 (or forty per 1,000 population).

PROVISION FOR EDUCATIONAL INNOVATION

The British Solomons Training College is closely concerned with curriculum development.

SCHOOLS BROADCASTING SECTION

Purposes and Structure

The Department of Education, with the co-operation of the Solomon Islands' Department of Information and Broadcasting, is responsible for the Service which provides educational radio programmes to support the teachers in primary schools, especially in English teaching, mathematics and social studies. The Service was set up in its present form in January 1968. Before that only one programme per week was broadcast. The schools broadcasting service is part of the British Solomons Training College for Teachers but has its office in the Solomon Islands Broadcasting Service and has the part-time use of one of the studios.

Users

The target audience is all 400 (approximately) primary schools in the Protectorate. However poor reception and shortage

of funds for purchase of radios and batteries means that the effective audience at the last survey taken in 1971 was some 350 schools.

Output

There are approximately ten hours of broadcasts per week covering programmes in English (standards 1 to 5), social studies (standards 3 to 5) and a weekly singing and current affairs programme. There are also three daily evening programmes for primary school teachers of mathematics and a weekly programme on constitutional development for teachers to pass on to adults in the village. Most of the programmes run for fifteen minutes. A daily thirty-minute record request programme is broadcast for teachers and children during the morning break period, when messages from the Department of Education are transmitted and messages from teachers are passed on to each other.

Six weeks before the start of term each school receives duplicated notes for the teachers with details of each programme and synopses, words for the blackboard, etc.

Staff and Training Provision

Two permanent staff are employed: an expatriate Schools Broadcasting Officer and an Assistant Schools Broadcasting Officer. Sometimes, as at present, a VSO or UNA Volunteer is attached to the service leaving the other two officers free to tour. The present Schools Broadcasting Officer is a former BBC educational producer. His Assistant holds a teacher's certificate from the local training college and has been trained at CEDO and has spent three months on attachment to the BBC. Most of his training is on the job and it is hoped that he will be able to take over as SBO when the post is localized in accordance with government policy.

Expenditure

There is no capital expenditure as the office, equipment and servicing of the equipment is provided by arrangement with the Solomon Islands Broadcasting Service.

Annual recurrent expenditure is estimated as follows:

Salaries	\$A9,000
Materials (paper and duplicating ink only as tapes were purchased from capital grant three years ago)	\$A 100
Travel	\$A 800

Plans for Development

Definite plans for the future cannot be made until the findings of the current Educational Review are known. It is hoped that a considerable expansion in the present schools broadcasting service will be recommended. In this case early localization of the post of Schools Broadcasting Officer would be unlikely and will only be possible in the near future if the present service levels out at its present output, and if the schools broadcasts are to consist largely of playing taped programmes.

Further Information

Some years ago a large quantity of radios was donated by the Foundation of the People of the South Pacific. However not all schools were covered and some now need replacement. An appeal to a benefactor is being contemplated.

Address for Correspondence

Schools Broadcasting Officer
P.O. Box 29
Department of Education
Honiara
BRITISH SOLOMON ISLANDS

BRITISH VIRGIN ISLANDS

GENERAL INFORMATION

AREA 59 sq.miles POPULATION 10,500 (1970)

EDUCATIONAL PROFILE

Statistics

Public expenditure on education = \$US770,818 (1972)
(Currency: United States dollar; \$US2.34 = £1 sterling 4.12.73)

Less than primary Age 15+) = 93.2% (1970)

Completed primary Age 15+)

Entered secondary Age 15+ = 6.8%

% Illiteracy 10 - 14 = 0.4%; 15 - 19 = 0.7%; 20 - 24 = 1.2% (1960)

48 New Media in Education

Structure

Educational policy is made by the Chief Minister in Executive Council advised by a Board of Education. The Government has responsibility for the educational programme in all schools, excluding the six private schools, and is helped by managers for schools which operate in church buildings.

Education is compulsory from age 5 to 15 with provision for free secondary education for pupils from about 11 to 19. Secondary education is provided at the British Virgin Islands Comprehensive High School where pupils are prepared for external examinations such as the GCE 'O' level. The Comprehensive School offers a variety of pre-vocational programmes in wood, metal, automobile engineering, general shop, electronics, technical drawing, home economics and commercial studies to pupils. A few scholarships and bursaries are offered by international bodies such as Canadian Aid, the British Development Division in the Caribbean and private benefactors. The local representative of the Extra Mural Department of the University of the West

Indies organizes afternoon classes (under the Further Education Programme of the Education Department) for which fees are paid. These classes usually attract those who wish to prepare for external examinations.

The BVI Red Cross is now operating a special school for handicapped children which depends almost entirely on funds raised by the local Red Cross.

BROADCAST COMMUNICATIONS FACILITIES

Radio (1973)

The Virgin Islands Broadcasting Ltd. is a commercial station which broadcasts in English.

Television (1973)

There is no local television station.

PROVISION FOR EDUCATIONAL INNOVATION

There is collaboration in regional educational development projects in which the University of the West Indies co-ordinates activities and is assisted by agencies such as Unesco and CEDO.

BRUNEI

GENERAL INFORMATION

AREA 2,226 sq.miles POPULATION 116,000 (1969)

EDUCATIONAL PROFILE

Statistics

Public expenditure on education = \$B35,203,000 = 19% of total government expenditure (Currency: dollar; \$B5.74 = £1 sterling 4.12.73)

Less than primary	Age 15 - 24 = 58.8%	Age 25+ = 79.2%
Completed primary	Age 15 - 24 = 19.4%	Age 25+ = 9.4%
Entered secondary	Age 15 - 24 = 21.1%	Age 25+ = 10.4%
Entered tertiary	Age 15 - 24 = 0.7%	Age 25+ = 1.0%

Teacher training (1968) primary level students 540 staff 22

Students at university abroad in 1968 = 88

% Illiteracy = 10 - 14 years = 25.7%; 15 - 19 years = 38%; 20 - 24 years = 46.3% (1960)

Structure

The supreme policy-making body in the State is the Council of Ministers, of which the Minister of Education and the Assistant Minister of Education are members.

Free Malay-medium education is available for all children, in schools run by the government. English-medium education is provided by government and mission schools. Chinese schools are run privately, with financial assistance from the government.

Government scholarships for overseas studies are restricted to pupils who have reached a prescribed standard in Malay, and

are Brunei citizens. They are for university-level training.

New institutions planned or recently opened are an agricultural school, two trade schools and a vocational secondary school. The government teacher training college accepts students after three and five years at secondary school.

BROADCAST COMMUNICATIONS FACILITIES

Radio (1971)

Government-controlled Radio Brunei has six stations, with four medium-wave trans-

mitters and two short-wave transmitters (for 14,000 radio sets or 121 per 1,000 in 1969). A VHF network links remote villages with Brunei Town and Kuala Belait. It broadcasts in Malay, Chinese and English.

Brunei Teachers' College. The full-time course lasts three years and trains teachers for both primary and secondary teaching in Malay and English medium schools.

PROVISION FOR EDUCATIONAL INNOVATION

The only teacher training institution is the co-educational government-administered

CAYMAN ISLANDS

GENERAL INFORMATION

AREA 100 sq.miles POPULATION 10,249 (1970)

EDUCATIONAL PROFILE

Statistics

Public expenditure on education = £138,387 (1971)
(Currency: dollar; \$CI2.0 = £1 sterling 4.12.73)

Less than primary	Age 15 - 24 = 8.2%	Age 25+ = 17.5%
Completed primary	Age 15 - 24 = 78.5%	Age 25+ = 74.8%
Entered secondary	Age 15 - 24 = 13.4%	Age 25+ = 7.8%

Structure

Authority to formulate educational policy is vested in the Board of Education appointed annually by the Administrator.

Education is universal and compulsory from 5 to 15. In state primary schools it is free, but a small fee is charged in some cases in the secondary schools. In addition to the state schools, there are some (private) primary and secondary schools which charge fees, and are usually operated by the various churches. In 1966 there were nine state primary schools, five private primary schools, two state secondary schools and one private secondary school.

At the beginning of 1970 a survey was made of the school situation and plans were drawn up for making the system comprehensive. The site chosen for the new school was that of the secondary grammar school on Grand Cayman. Seven-form entry is proposed, and the new school will have better facilities than the old grammar school and the secondary modern. Up until now, the system has operated on a selective basis, with the Common Entrance Examination used as the means of deciding to which school the children should go at secondary stage.

Pupils are prepared for GCE 'O' and 'A' levels. The need is felt for more provision for the less academic child and for more examinations in the technical and commercial fields.

Government grants are available for students to attend overseas universities and colleges. The University of the West Indies has links with the Cayman Islands through its Extra-Mural Department. There is also an evening institute which runs courses in practical subjects and is attended by adults and school leavers.

There is provision for the in-service training of teachers on the islands, and refresher courses are held for those already trained. There is at present a shortage of trained teachers at the primary level.

BROADCAST COMMUNICATIONS FACILITIES

Radio

The government radio stations were closed in 1967.

PROVISION FOR EDUCATIONAL INNOVATION

There is a Cayman Islands Teachers' Association. Research is carried out by the University of the West Indies Institute of Education which benefits the Cayman Islands. There is collaboration in regional educational development projects in which the University of the West Indies co-ordinates activities and is assisted by agencies such as Unesco and CEDO.

FALKLAND ISLANDS

GENERAL INFORMATION

AREA 6198 sq.miles POPULATION 2,109 (1969)

EDUCATIONAL PROFILE

Statistics

Public expenditure on education = £60,000 (1971) = 12.2% of GDP (1971)
(Currency: pound; f£1.0 = £1 sterling 4.12.73)

In 1970 there were 383 pupils in primary school with 41 teachers.

% Illiteracy = 0.5% of total population over 10 (1969)

Structure

The main aims are to provide a sound, basic education at primary level to fit children for their careers within the colony and to provide the incentive and background for further studies to those going overseas for education with a view to returning to the colony to take up employment.

The government controls all the schools on the islands, and attendance at school is compulsory from 5 to 15, in Stanley, where there are boarding or settlement schools, and where itinerant teachers call. Education is free, except at the Darwin Boarding School, where there is an annual £12 boarding fee. There is a service of broadcast lessons by radio for children in outlying districts.

Grants are made to children from the islands attending secondary schools overseas. Qualified teachers are recruited from or trained overseas, as there is no provision for teacher training on the islands.

BROADCAST COMMUNICATIONS FACILITIES

Radio (1971)

The Falkland Island Broadcasting Service is run by the government. There are two stations, served by a medium-wave and a short-wave transmitter and 1,000 radio sets. An educational broadcasting service is provided.

There is also a government radio station at King Edward Point, which maintains regular contact with Stanley, in the Falklands, and broadcasts weather bulletins for shipping.

FALKLAND ISLANDS EDUCATION DEPARTMENT

Purposes and Structure

The Education Department, with the

co-operation of the Falkland Islands Broadcasting Station, is developing a new approach to educational media in schools beginning in 1974. Until 1973 a twice weekly programme, of forty-five minutes, was broadcast, arranged in three fifteen-minute subjects. From 1974 the service will include taped lessons on cassette with link-up radio lessons and films and film strips, to cover fundamental English and number work for grades 1 to 4 (5 to 8 years). There is no television on the Islands and tuition by correspondence is almost useless since communications between the islands are poor.

The education system is under the control of the Superintendent who is a civil servant and responsible through the Chief Secretary to the Governor. There is an advisory Education Committee of members of the Legislative Council which decides general policy.

Users

The potential audience will be about 250 plus some 8 to 15 year olds in Stanley and in 'Camp' (all territory in the Islands outside the limits of Stanley) about 100, approximately twenty-five of whom will be between 8 and 15.

Output

The equipment target for 1974 is: five cassette tape recorders, one tape copying machine, one photo copier (for duplicating work cards) and sixty play-back cassette machines. As well as taped lessons there will be at least forty-five minutes of radio broadcasts on three days a week. 16 mm film and 35 mm film strips will also be used.

Staff and Training Provision

The exact staffing arrangements have yet to be determined but will probably consist of

the Superintendent with a radio programmer and a producer and copyist working centrally. The Superintendent will also liaise with the headmaster in Stanley and with the supervisor of the 'Camp' area and through them with the teachers. The Camp teachers are itinerant. In-service training will be undertaken by an expert from the United Kingdom.

Expenditure

Capital expenditure:	New board-	
	ing wing	£80,000+
	Transport	£ 3,800
	Equipment	£ 5,000
Recurrent expenditure:	Salaries	£44,078
	Other	
	charges	£33,233
Total 1973-74		<u>£77,311</u>

Plans for Development

The whole project is as yet in the development stage. The new equipment both in the schools and in the Education Department will necessitate training courses at several different levels.

Further Information

The greatest difficulty in the 'Camp' areas will be the basic requirements of beginners particularly where parental knowledge is limited and co-operation semi- to non-existent.

Address for Correspondence

Superintendent
Education Department
Stanley
FALKLAND ISLANDS

GIBRALTAR

GENERAL INFORMATION

AREA 2½ sq.miles POPULATION 26,833 (1970) PER CAPITA INCOME £502 (1970)

EDUCATIONAL PROFILE

Statistics

Public expenditure on education = £521,000 (1970-71) = 8% of total government expenditure (Currency: pound; £G1.0 = £1 sterling 4.12.73)

Less than primary	-
Completed primary	10.34%
Completed secondary	80.31%
Completed tertiary	9.35%

Illiteracy is negligible in all age groups

Structure

The Minister of Education is responsible for formulating policy, and is assisted by the Director of Education. Education is compulsory and free from 4 to 15 years. Secondary education is provided by the Government under a Comprehensive Education system introduced in September 1972. At present there is a Boys' Comprehensive School, largely run by the Christian Brothers, and a Girls' Comprehensive School run with the help of the Loreto Nuns. A new boys' comprehensive complex should be in operation early in 1974, and there are plans for a new girls' school. GCE Ordinary and Advanced level, CSE, Royal Society of Arts and City and Guilds examinations are taken. Private schools are financed from fees and run by the Christian Brothers and Loreto Nuns.

The Government, in conjunction with the Royal Navy, runs a Technical College which

will become a college of further education. There is no provision for teacher training or for higher education in Gibraltar but scholarships are provided by the government for students to attend colleges and universities in the United Kingdom. The opportunity to train in the UK attracts many teachers to the profession, but they tend to leave Gibraltar after a few years, attracted by higher salaries. Adult education is available in the form of evening classes.

BROADCAST COMMUNICATIONS FACILITIES

Radio (1971)

Radio Gibraltar is part government, part commercially run. It has one station. Radio licences: 2,682 (1971) or 93 per 1,000 of population.

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Television (1971)

Gibraltar Television is a commercial service, with one station. There were 6,701 licences in 1971, or about 236 per 1,000, served by two transmitters.

PROVISION FOR EDUCATIONAL INNOVATION

At present neither radio nor television is used directly in education and the provision of visual/aural aids are the direct responsibility of the schools and there is no centralization of these media.

The main obstacle to the provision of a broadcasting service in Gibraltar is the cost. The school population is too small to make any form of 'broadcasting' cost effective. The normal service of the local television station starts in the evening and the provision of a television service

for schools would mean additional staff would be needed to man the station during school hours. In addition, the high cost of getting the (canned) programmes to Gibraltar and the provision and maintenance of sets in the schools means that it is not feasible. Moreover the programmes would be so limited in their application and appeal that it would be unrealistic to 'broadcast' when only one or two schools at any given time would receive them.

However a project has been designed and is in the process of implementation to provide an audio-visual support service combining flexibility with low recurrent and capital cost. It is based on a mobile cinema van which will eventually be equipped with a videotape recorder or a telecine machine.

GILBERT & ELLICE ISLANDS

GENERAL INFORMATION

AREA 324 sq.miles POPULATION 54,000 (1969)

EDUCATIONAL PROFILE

Statistics

Public expenditure on education = \$A521,596 (1972) = £298,055
(Currency: Australian dollar; \$A1.57 = £1 sterling 4.12.73)

At the age of five less than half of the children attend school. At the age of six and seven, this proportion increases and from age 8 to 13 more than nine out of every ten boys and girls attend school. The proportions begin to drop at the ages 14 and 15 and the decline becomes very marked at the age of sixteen. At no age is a hundred per cent school attendance reached for the total population, but the figures seem nevertheless encouraging, more than twenty-five per cent of the total population being reported as school-going.

Teacher training (1971) primary level students 99 staff 17
secondary level students 70 staff 10

Students at university abroad in 1971 = 69

Structure

Of the 144 primary schools, thirty-seven are government-run, thirty-one are grant-aided Roman Catholic schools, and the rest are mission schools. About sixty-one of all these are approved primary schools. These schools take pupils from 6 to 16 years old, and education between these ages is compulsory. A few pupils have secondary education: there are three mission schools and one co-educational government secondary school.

In-service technical and vocational training is carried out in Tarawa by the government's medical, marine, post and telecommunications, police and public works departments. The British Phosphate Commission operates an apprentice training scheme on Nauru.

The Tarawa Teacher Training College trains about thirty primary school teachers a year, and the Roman Catholic College in Manoku also runs pre-service training courses. Secondary school teachers are trained overseas.

The government provides scholarships for secondary and tertiary education and training in other Pacific territories.

BROADCAST COMMUNICATIONS FACILITIES

Radio (1971)

The Gilbert and Ellice Broadcasting Service is run from Betio, Tarawa. It has one station and one transmitter and broadcasts in the three main languages of the islands. There were about 14,000 sets in 1969 or 250 per 1,000 population.

PROVISION FOR EDUCATIONAL INNOVATION

The University of the South Pacific in Fiji actively fosters curriculum development and has an Audio-Visual Aids Support Unit.

SCHOOLS BROADCASTING SERVICE

Purposes and Structure

This project, which will be controlled by the Education Department with co-operation and assistance from the Department of Agriculture and the Information and Broadcasting Departments is on the point of becoming fully established. The Service will provide radio broadcasts for primary schools to assist with the introduction of new curricula. Initially the Schools Broadcast Officer will be responsible to the Director of Education and will liaise closely with the Tarawa Teachers' College and the Curriculum Development Unit.

Users

Sixty schools have radios. Some larger schools will have more than one set. Ten thousand children will be involved initially.

Output

At the time of completing the questionnaire details of output of the service still had to be arranged.

Staff and Training Provisions

A Schools Broadcast Officer (recruited under ASPAP) will have two local assist-

ants chosen from the ranks of the best primary teachers, who have expressed an interest in this work. There will also be supporting and clerical staff. The initial training for local personnel will be provided by the Broadcasting Training Officer. It is planned to make use of further training facilities available in Australia, New Zealand, and the United Kingdom when required.

Expenditure

It is estimated that the capital expenditure for the service is as follows:

Buildings	\$A15,000
Equipment	\$A15,000
Others	\$A10,000

The annual recurrent expenditure is estimated at \$A5,000.

Plans for Development

In preparation for the launching of the service, funds are available, equipment on order, counterparts have been chosen and the arrival of the Schools Broadcast Officer is awaited.

Assistance with the provision of overseas training, and the preparation of primary teachers' notes are two areas which have been identified as being desirable.

Address for Correspondence

Schools Broadcasting Service
 Schools Broadcasting Officer
 Bairiki
 GILBERT & ELLICE ISLANDS

HONG KONG

GENERAL INFORMATION

AREA 403.7 sq.miles POPULATION 4,185,800 (1973)

EDUCATIONAL PROFILE

Statistics

Public expenditure on education = \$HK502,800,486
 (Currency: dollar; \$HK11.87 = £1 sterling 4.12.73)

Less than primary	Age 15 - 24 = 14.5%	Age 25+ = 56.6%
Completed primary	Age 15 - 24 = 29.8%	Age 25+ = 19.9%
Entered secondary	Age 15 - 24 = 51.5%	Age 25+ = 18.9%
Entered tertiary	Age 15 - 24 = 4.2%	Age 25+ = 4.5%

Teacher training (1973) Graduate trainee teachers 315
 Non-graduate trainee teachers 2,499

Students at universities, polytechnic and post-secondary colleges in 1973 = 27,492

% Illiteracy 10 and above = 17.4% (Estimated 1971)

54 New Media in Education

Structure

Free primary education was introduced in all government Chinese primary schools and the majority of aided primary schools in September 1971. The Director of Education is empowered to order parents to send their children to school where it appears to him that a parent is withholding a child between the age of 6 to 11 years from attending primary school without reasonable excuse. Pre-primary schools are not government-financed but non-profit-making ones are assisted by the government with accommodation in public housing estates. The six-year primary course (whether in English or Chinese) is normally begun at the age of six. On completion of the primary school course, suitable pupils are selected for places in government aided or assisted secondary schools on the results of the Secondary School Entrance Examination. In practice over 80% of primary school leavers take some form of secondary course.

Secondary education leading to a certificate of education is provided in secondary grammar and secondary technical schools. Non-academic subjects at this level are provided at secondary modern, technical, prevocational, commercial and tutorial schools. It is government's declared aim to provide at least three years of aided secondary education for all children of 12 to 14 age group seeking it. It is intended to achieve the first half of the goal by 1976. Within the provision of secondary places in government aided and assisted secondary schools for 50% of the 12 to 14 age group by 1976, 18% of the 12 to 16 age group will be provided with an aided secondary school place in a five-year course leading to a certificate of education.

Teacher training courses are provided at the three colleges of education, two Chinese medium and one English medium. The courses last two years, full-time, and there are also two-year part-time in-service courses and shorter refresher courses in the Evening Institute. Specialist third-year teacher training courses are also provided at the colleges of education. The University of Hong Kong runs post-graduate courses, two-year part-time and one-year full-time. The Chinese University runs parallel courses. There is one polytechnic and one technical institute. The Polytechnic offers a variety of full-time, part-time and evening courses up to the higher diploma level, concentrating on the training of technicians and technologists. The Technical Institute provides training of lower level technicians and for technical teachers. Part-time adult education is provided by the Evening Institute, the Evening School of Higher Chinese Studies, and the Extra-Mural Departments of the two universities, as well as at the Adult Education and Recreation Centres.

BROADCAST COMMUNICATIONS FACILITIES

Radio (1973)

Radio Hong Kong, which is a government-financed station, has four channels, two in Chinese and two in English. The aim of the Government broadcasting is to provide a balanced programme with emphasis on information and public affairs.

The Hong Kong Commercial Broadcasting Company has three channels, two in Chinese and one in English. The Rediffusion (Hong Kong) Ltd. runs four broadcasting networks.

Television (1973)

Rediffusion (Hong Kong) Ltd. (RTV) has two channels which operate in English and Chinese, both on wired networks.

Television Broadcasts Limited (HK - TVB), which has some broadcasts in colour, runs two networks in wireless transmission.

It is estimated that about eighty per cent of the households possess television receivers, of which 550,000 received only TVB, 43,000 received only RTV and 83,000 received both.

PROVISION FOR EDUCATIONAL INNOVATION

(i) Research, Testing and Guidance Centre

Standardized attainment tests in Chinese, English and Mathematics were given to pupils of Primary 3 to 6 levels. A system for the personal educational guidance of individual pupils is introduced on the basis of records of standardized academic attainment and of scaled in-school estimates. This is supported by assessments of verbal and numerical ability made during the final primary school year as an aid to choice of future education, training or employment.

(ii) Curriculum Development Committee

The main task of the Curriculum Development Committee is to ensure that the curriculum of all schools is kept under constant review and that programmes of curriculum renewal and innovation are introduced. In any such renewal the criterion will be the need of students in contemporary society.

A pilot scheme to help bring about a more informal approach to teaching methods in primary schools was started. Syllabuses were revised on a number of secondary school subjects and were issued on a trial basis.

EDUCATIONAL TELEVISION SERVICE

Purpose and Structure

The Educational Television Service was introduced in 1971 to provide educational television programmes to complement and supplement classroom teaching in primary

schools, to improve the quality of education and to provide in-service training for teachers. The authority responsible for the Service is the Education Department of the Hong Kong Government. The Service is headed by an Assistant Director of Education (ETV) who is assisted by a number of teachers' committees in designing the programmes.

Users

In 1973 the audience was 220,000 third and fourth year primary school children.

Output

Thirty programmes based on the syllabuses of the primary school course are produced on each of the four subjects, namely Chinese language, English language, mathematics and social studies. Each programme lasts for fifteen minutes and is transmitted 13 to 15 times per week. With the exception of English language, other subjects are produced in Chinese. Supporting teachers' and pupils' notes are provided as guides to preparation and follow-up activities before and after the broadcasts.

Staff and Training Provision

There is a staff of forty-four including the Assistant Director who heads the division. There are twenty members of staff working in the engineering section, ten in the graphic and photographic sections, twelve producers and one senior education officer.

Before 1971 the staff were trained at CEDO, Thomson Foundation Television College and Indiana University, but now they are trained locally at the ETV Centre. Production staff are recruited from the teaching profession and transferred to ETV Division for training. The Head of the Service is available to advise other Commonwealth countries and to take part in training courses.

Expenditure

Capital Expenditure: Buildings	\$HK3.2m
(Approximate) Equipment	\$HK4.08m
TV Receivers	\$HK4.5m
Annual Recurrent Salaries	\$HK1.8m
Expenditure (Approx) Materials etc.	\$HK0.7m

Plans for Development

By 1975 the Educational Television Service will also cover the fifth and sixth years of primary education. It is also planned to extend the service to secondary schools in the period 1975-78. This will increase the audience by approximately 200,000 and require over 700 additional TV receivers and 400 cassette video recorders. It will be necessary to train additional staff both at home and overseas as well as the continuous training of teachers in ETV utilization and evaluation.

Address for Correspondence

The Director
Educational Television Service
Education Department
HONG KONG

VISUAL EDUCATION CENTRE

Purposes and Structure

The Education Department is responsible for the Visual Education Centre which exists to provide teaching resource services to all schools. Up to 1957 most of the activity in visual aids, including a film library, was centred at Northcote Training College (now Northcote College of Education) and the move from the college to the Education Department marks the start of the Centre in its present form. The Visual Education Section of the Department is a division of the Advisory Inspectorate under the Assistant Director of Education (Chief Inspector of Schools), assisted by the Deputy Chief Inspector.

Users

The services of the Centre are extended to any schools (over 2,000 in all) and colleges that seek them.

Output

The instructional resources library contains approximately 870 films, 200 sets of slides, 3,200 filmstrips, 180 8mm film loops, 520 reels of recorded audio tapes, 607 overhead transparencies and 96 picture sets. Materials produced by the Centre for classroom use include filmstrips, slide sets, photographs, overhead projector transparencies and 8mm loop films. Organized visits to the Centre are arranged annually for final year student teachers of the three colleges of Education and Diploma in Education students from the two Universities including technical teacher-trainees from the Technical Institute. In-service courses are run at regular intervals. A quarterly A-V News Bulletin is issued to all schools, colleges and interested organizations. Instructional Resource Catalogues and supplements at primary and secondary level are issued from time to time.

Staff and Training Provision

Ten members of staff are employed: four Visual Education Officers including the Section head, two Technical Assistants, two Workshop Assistants, one Clerk and one Typist. Two of the Visual Education Officers were trained in the USA, one was trained in OVAC and one has been nominated for training at CEDO. They were all recruited from schools and transferred to the Centre. They were nominated for overseas training on the basis of merit, aptitude and job requirements.

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Expenditure

Existing equipment and resource materials are valued at \$HK1,000,000. Recurrent expenditure totals \$HK108,700 of which \$HK500 is for library books, \$HK200 for furniture and the rest for materials and equipment.

Plans for Development

Expansion of the Centre will concentrate on specific areas of activity of the Centre: the instructional materials library, in particular on streamlining the loan service; ensuring that the productions keep pace with curriculum development; the newly established media production unit for teachers to make their own teaching aids; the dissemination of information to schools through quarterly AV news bulletins, catalogues and supplements, visits to schools, organized visits to the Centre and in-service courses and demonstrations.

Address for Correspondence

Assistant Director of Education
Visual Education Centre
Lee Gardens 3/F
Hysan Avenue
Education Department
HONG KONG

AGRICULTURAL EXTENSION SERVICE

Purposes and Service

The Agricultural Extension Service is part of the Department of Agriculture and Fisheries, and as part of its work provides information to farmers through the "Farmers Weekly" radio programme, and a quarterly newsletter called "Hong Kong Farmer". The radio programme has been operating since 1959 and the newsletter since 1958.

Users

The potential targets are all farmers in Hong Kong of which there are over 32,000.

Output

The "Farmers Weekly" radio programme covers many aspects of technical farming information, such as crop husbandry and health, livestock husbandry and health, co-operative management, agricultural extension, etc.

The "Hong Kong Farmer" is published at quarterly intervals containing articles on wide-ranging agricultural topics such as crop husbandry, plant protection, livestock husbandry and diseases, co-operative management, agricultural extension, etc. The

material for both the programme and the newsletter is at post-primary and secondary level since they are intended for farmers.

Staff and Training Provision

The radio programme and the newsletter each have the part-time service of one senior field officer and one field officer Class II.

Expenditure

The only expenditure which can be estimated is the printing cost of the newsletter at about \$HK14,000 per annum.

Address for Correspondence

Senior Field Officer
Agricultural and Fisheries Department
HONG KONG

"FISHERMEN'S HALF-HOUR" RADIO PROGRAMME

Purposes and Service

The project provides an educational radio programme for local fishermen as part of the Fisheries Extension Service.

The project is organized and controlled by the Fisheries Extension Section of the Agriculture and Fisheries Department and has been in operation since 1961. It is run in co-operation with Radio Hong Kong.

Users

Potential target is 40,000 fishermen listeners. There are over 5,000 fishing vessels with radio receivers.

Output

Topics of the programme include technical and educational information on fishing at post-primary level. The thirty-minute programme is broadcast and repeated weekly.

Staff and Training Provision

Staff employed on the project are a Fisheries Supervisor, Class I, and a Fisheries Supervisor, Class II, both of whom are part-time workers.

Expenditure

Expenditure for this programme cannot be separated from the other work of the section.

Address for Correspondence

The Fisheries Supervisor
Fisheries Extension Service
Agriculture and Fisheries Department
HONG KONG

MONTserrat

GENERAL INFORMATION

AREA 39.5 sq.miles POPULATION 12,905 (1972 estimate) PER CAPITA INCOME \$EC1,100 (1971)

EDUCATIONAL PROFILE

Statistics

Public expenditure on education = \$EC808,210 (1972) = 6.1% of GDP (1967)
(Currency: East Caribbean dollar; \$EC4.80 = fl sterling 4.12.73)

Less than primary	22.1%	(1970)
Completed primary	82.7%	
Completed secondary)	8.3%	
Completed tertiary)		
Teacher training (1972)	primary level	students 9

% Illiteracy decreasing from 42.7% for 65+ to 17.5% for 25 - 46 age group to 3.1% for the 10 - 19 age group.

Structure

The aims of education in Montserrat are designed to meet the needs of the West Indian community and to foster a sense of good citizenship.

During the past twenty years a deeper interpretation of the functions of education has been incorporated in education. A more practical bias in the primary school programme is now being emphasized, and children are taught at an early age the use of their hands through light hand-icraft, woodwork and metalwork. This is followed through in the secondary school where, in addition, commercial subjects are taught.

Primary education is compulsory for all children, and is free. At the secondary level, fees are charged but some scholarships are awarded. Supplies and equipment are distributed free to all schools. The Ministry of Social Services (Education) supplies film projectors to all schools.

The public examinations, apart from the School Leaving Certificate, are all set and marked overseas. The College of Preceptors Examination and the GCE 'O' level are both qualifications for teachers.

Fundamental changes are taking place in the system to ensure that at eleven plus all children will receive junior secondary education at least. The first of three junior secondary schools was opened in September 1972.

A new technical school is now operational and offers craft courses in a variety of trades - building, engineering and commercial.

BROADCAST COMMUNICATIONS FACILITIES

Radio (1971)

Radio Montserrat is government-owned. There is one station, served by three medium wave transmitters. Radio Antilles is a private foreign-owned station.

Television (1971)

The Leeward Islands Television Services Ltd., which are run by joint government and commercial interests, have a relay station in Montserrat, but the main broadcasting studios are in Antigua.

PROVISION FOR EDUCATIONAL INNOVATION

Montserrat contributes to the University of the West Indies, whose Institute of Education organizes in-service training for teachers in Montserrat.

Educational planning and curriculum development are carried out by the education department officials in consultation with the teachers.

Educational research is carried out at the University of the West Indies, and results are communicated to the education officers. There is collaboration in regional development projects in which the University of the West Indies co-ordinates activities and is assisted by agencies such as Unesco and CEDO.

NEW HEBRIDES

GENERAL INFORMATION

AREA 5,700 sq.miles POPULATION 81,000 (1971) PER CAPITA INCOME £50 approximately.

EDUCATIONAL PROFILE

Statistics

Public expenditure on education = frs NH142,892,000 (1968)

(Currency: New Hebridean Franc and Australian dollar; F170.18 and \$A1.57 = £1 sterling

Teacher training (1970) primary level students 100 staff 9 4.12.73)

Structure

Education is provided separately by the French National Service and the British National Service. The French National Service is entirely free, whereas fees are levied in the British schools - \$A6 per annum in day schools and \$A48 in boarding schools. Education is not compulsory.

The English medium primary schools provided eight years of education, in two 4-year stages, until 1968, when the second stage became three years in a boarding school. There is one government English medium secondary school, and a French lycee as well as three French mission schools. Scholarships for higher education overseas are provided from local and metropolitan funds.

There is one English medium teacher training college, which recruits half its intake from the primary schools (three-year course) and half from the secondary schools (two-year course of training). The college also provides one-week multiplier courses for trained teachers, who in turn organize courses in their own districts.

BROADCAST COMMUNICATIONS FACILITIES

Radio (1968)

Radio Vila, the New Hebrides Broadcasting Service, has three stations and broadcasts in English, French and Pidgin. There were 9,000 sets (or 115 per 1,000).

SCHOOLS BROADCASTING SECTION

Purposes and Structure

The British Education Department will be responsible for the service which will start in 1974 and which aims to provide educational radio to support teachers in primary schools with special reference to the teaching of English and Current Affairs. The Schools Broadcasting Officer will be responsible for a small section

within the British Education Department in co-operation with the Senior Information Officer (British Residency), the Condominium Radio Department (responsible for Radio Vila) and the Primary School Curriculum Development Unit at Kawenu College.

The Australian Ministry of External Affairs is actively concerned in guiding the project through its formative years.

Users

There will be a potential audience of 140 schools with approximately 11,000 pupils.

Output

The Service will start with half an hour a day transmitting time, five days a week, on Radio Vila.

Staff and Training Provision

The initial planned staff consists of the Schools Broadcasting Officer, two New Hebridean Assistant Schools Broadcasting Officers (for training) and one secretary/typist.

The Schools Broadcasting Officer is expected to be appointed on ASPAP terms to initiate the scheme and to train staff. Australian authorities have indicated their willingness to provide courses in Australia for staff at appropriate times. The staff for training will be selected by the British Service Advisory Board Sub-Committee which will interview applicants from serving teachers or Assistant Education Officers.

Expenditure

Capital expenditure is estimated as just under \$A20,000 on buildings and equipment and the annual recurrent expenditure is likely to be about \$A17,000.

Address for Correspondence
 Chief Education Officer
 Schools Broadcasting Section
 British Education Service
 Vila
 NEW HEBRIDES

UNESCO LANGUAGE LABORATORY

Purposes and Structure

The Laboratory provides teaching in English and French to secondary schools, teachers' college students and adults. It has been in operation for one year and is the responsibility of the British Education Department with the co-operation of the French Education Department. The Language Laboratory is organized by a professional committee consisting of staff members from both British and French services.

Users

The Laboratory is situated in the British Secondary School and is used by approximately 200 pupils, seventy-five students and forty to fifty adults.

Output

The British secondary school uses the laboratory for seven periods per week. The French Lycee uses it for three periods per week, Kawenu College for seven periods per week, French adults for five periods per week and English adults for three periods per week.

Staff and Training Provision

An Education Officer of the British Education Department is in overall charge

of the project but the day to day use of the laboratory is organized by the principals of the three institutions involved and their language staff as well as the adult education staff. A Laboratory Supervisor with the help of one technician runs the actual laboratory.

The Laboratory Supervisor was trained on the job by a Unesco specialist who set up the project. Teaching staff were taught operation and procedures by the same specialist. Staff are recruited from the teaching profession by an Education Department selection board.

Expenditure

Capital:	Buildings	\$A 9,360
	Equipment	\$A 6,800
	Other	\$A 1,140
		<hr/>
		\$A17,300

Annual Recurrent:	Maintenance	\$A 250
	(Laboratory Supervisor) Salary	\$A2,100
	Office expenses	\$A 100
		<hr/>
		\$A2,450

Plans for Development

No further development is planned at present but educational expansion may result in the Language Laboratory being insufficient to meet all the needs.

Address for Correspondence

Chief Education Officer
 Unesco Language Laboratory
 British Education Service
 Vila
 NEW HEBRIDES

PITCAIRN

GENERAL INFORMATION

AREA 1½ sq.miles POPULATION 84 (31 December 1972)

EDUCATIONAL PROFILE

Statistics

Public expenditure on education = \$NZ14,453 = 43.04% of total Government expenditure. (Currency: pound sterling and New Zealand dollar; \$NZ1.62 = £1 sterling 4.12.73)

No details of educational attainment are available but all indigenous inhabitants born after 1943 have received at least primary education.

% Illiteracy = Nil

60 New Media in Education

Structure

Responsibility for education was formally assumed by the Administration in 1948. There is one school on the island under the control of a teacher (known as the Education Officer), appointed by the Governor in consultation with the New Zealand Department of Education which courteously makes available, on secondment, the services of qualified teachers for periods of two years. Education is free and attendance is compulsory for all children between the ages of 6 and 16. The school provides primary education based on the New Zealand syllabus and practical training is given in home studies, carpentry, farming, commercial practice and typewriting.

Correspondence courses in post-primary education were introduced in 1957, and

overseas secondary education is encouraged by the grant of bursaries. The timetable has to be approved by the Governor of Pitcairn. Examinations are conducted by the Education Officer, and the Governor may prescribe external examinations and arrange for inspection.

The school roll in 1972 consisted of eight girls and four boys.

BROADCAST COMMUNICATIONS FACILITIES

Radio

A radio station was set up by the Royal New Zealand Navy in 1940. This was rebuilt starting in 1962. Since April 1969 the schedules have been handled with Suva in Fiji on 21804 Kcs at 0200, 1855 and 2000 hours GMT daily except Saturdays.

ST. HELENA

GENERAL INFORMATION

AREA	St Helena	47 sq.miles	POPULATION	St Helena	5056	PER CAPITA INCOME	Not Available
	Ascension	34 sq.miles	(1971)	Ascension	1231		
	Tristan			Tristan			
	da Cunha	38 sq.miles		da Cunha	275		

EDUCATIONAL PROFILE

Statistics

Public expenditure on education = £37,000 (1966)
(Currency: pound sterling)

No schooling)
Completed primary) No figures available
Entered secondary)
Entered tertiary)

Teacher training (1970) primary level students 5 staff 2

% Illiteracy = 0.7% for the under 30 age group; c 2% for 30 - 60 age group; 6.3% for the 60+ age group.

Structure

The aims of the system have been largely unchanged since 1941 when an Education Ordinance was issued. All schools were placed under government control and a Board of Education was established. Provision was made for the appointment of an education officer to hold overall responsibility for the education in the colony.

In 1967 a new constitution came into being, but the aim remains to provide, from local sources, as far as possible, an education suited to the needs of children from 5 to 15 years of age, which will fit them for life in a small community while also preparing them for life outside the island, should they ever leave it.

The system comprises infant, junior, secondary and further education. Education is free and compulsory for children

between the ages of 5 and 15. Parents are encouraged to take an interest through parent-teacher associations.

Education at the primary level is carried out either in primary schools or in 'all age' schools. There were eight of the latter in 1965; and at the secondary level there were five lower secondary schools and one higher secondary school. There is one teacher training institution. In recent years the number of adult education courses has increased and there were thirty institutions in 1965.

The school on Ascension Island is run by the Cable and Wireless Company, though subject to final approval by the Colonial Government. The Government alone is responsible for the school on Tristan da Cunha. Schools are mixed. Higher education has to

be provided overseas since there is no provision for this at present on the islands.

BROADCAST COMMUNICATIONS FACILITIES

Radio (1966)

One radio transmitter, broadcasting on long and medium wave.

PROVISION FOR EDUCATIONAL INNOVATION

The preparation and development of the curriculum is the responsibility of the Education Officer and his assistants.

Facilities do not exist for carrying out large scale research. Part of the Education Officer's job is to disseminate current educational thought and the results of relevant research, etc., carried out abroad.

A film society has recently been created.

A small population poses certain problems in education; for instance it is difficult to make provision for the very small number of handicapped children because it is not economic to have special buildings and facilities. It is hoped (World Survey of Education, 1971) to build a central secondary school which will bring together the existing scattered provision to some extent. At present it is felt that there are too many small or all-age schools in isolated districts. On the other hand, centralization imposes problems of transport.

ST HELENA GOVERNMENT BROADCASTING STATION

Purposes and Structure

The station has been operating for six years and is run by the Information Office of the Government with the co-operation of the Education Department. The service provides a local radio service of educational programmes as well as general information and entertainment.

Users

The general population of St Helena is 5,000 and the school population is approximately 1,200.

Output

The Education Department broadcasts approximately four hours per week to supplement

subjects taught in primary and secondary schools and a further two hours per week of basically adult education and entertainment.

The Information Services broadcast approximately sixteen hours per week of general information and entertainment consisting of music, news, interviews, talks etc., including some material supplied by BBC Transcription Services and tapes supplied by the Central Office of Information in London.

Staff and Training Provision

The only member of staff employed is the Broadcasting Officer. He is assisted by volunteer broadcasters. Technical maintenance is performed by personnel of the Diplomatic Wireless Service. The volunteers receive a very limited training depending on the amount of time the Broadcasting Officer and the volunteers themselves can make available.

Expenditure

Capital: Buildings £5,000. Most of the equipment was provided free by Diplomatic Wireless Service. Annual recurrent expenditure is estimated at £500 made up as follows:

Materials	£300
Maintenance	£180
Sundries	£ 20

Plans for Development

There is no large-scale development envisaged and the policy is to continue to expand the educational and general programmes in accordance with the requirements of an island community of 5,000 inhabitants. As the station develops consideration will be given to recruiting additional staff and improving training facilities.

Address for Correspondence

Broadcasting Officer
Information Office
Government of St Helena
ST HELENA

SEYCHELLES

GENERAL INFORMATION

AREA 107 sq.miles POPULATION 56,534 (1973) Estimated PER CAPITA INCOME Rs.1,600 Approx.

EDUCATIONAL PROFILEStatistics

Public expenditure on education = Rs.7,303,000 = 13.9% of Government expenditure
(Currency: Rupee; R13.37 = £1 sterling 4.12.73)

No schooling	Age 15 - 24	8.2%	Age 25+	28%
Completed primary	Age 15 - 24	38%	Age 25+	55.3%
Completed junior secondary	Age 15 - 24	35%	Age 25+	7.2%
Completed secondary grammar	Age 15 - 24	12.2%	Age 25+	5.3%
Entered tertiary	Age 15 - 24	1.5%	Age 25+	0.7%

Teacher training (1973) secondary level students 104 staff 8

% Illiteracy (1971 Census) 15 - 29 years = 26%; 30 - 44 years = 44%; 45 - 59 years = 54%; 60+ years = 62%

Structure

Pre-school education is provided in one government kindergarten and thirty-nine Creole-speaking Creches (1973). A combined project between Government, the local Children's Society and the British Save the Children Fund is resulting in a training creche to improve standards.

Primary education of six-year duration is free but not compulsory although over 90% of children of school age attend. The system is directed towards using English as the medium of instruction with French as a second language in the fourth year of school. The mother tongue is Creole and is used also in religious instruction. Schools, with the exception of four government schools, are under the management of the Roman Catholics, Anglicans and Seventh Day Adventists, although all expenses except for the fabric are borne by Government.

Secondary education, grammar and junior secondary is fee-paying but bursaries are awarded to a third of the pupils. Secondary education is open to all pupils for two years and is followed by vocational training in technical subjects, domestic science, pre-nursing, secretarial and pre-teaching courses which are filled by selection and last two years. Entry to the secondary grammar schools which lead to 'O' and 'A' level standards (Cambridge Overseas) is by selection from primary six.

Adult education focuses upon the improvement of literacy in English through the use of a modern language course. Adequate opportunities for higher education overseas exist through Commonwealth and French Government awards.

Pre-service teacher education is provided by a two-year course leading to the award of a local certificate. The increased output of trained teachers since 1971 has resulted in a decrease of unqualified teachers in service from over 50% to 24% of the total teaching force. A co-ordinated programme of in-service training complements the efforts being made in pre-service training to new approaches to teaching, specifically in language and the introduction of new mathematics.

The Director of Education is responsible for promoting the effective direction, development and co-ordination of all educational activities in the Colony. There are no local authorities and good consultation and co-operation between the administration and the teaching staff is assisted by the size of Seychelles. A team of advisory teachers working in close harmony with the administration and Training College staff in the ratio of one to six schools provides in-service assistance and advice in administrative and professional matters.

BROADCAST COMMUNICATIONS FACILITIES

Radio Seychelles, a government-owned station opened in 1965, broadcasting on 225m at a power of 10kw, for eight hours daily, of which three hours are school programmes. Estimated number of sets in 1968: 11,000 (200 per 1,000 of population)

PROVISION FOR EDUCATIONAL INNOVATION

Changes in curricula, introducing

integrated English and modern linguistic approaches in English and French have operated since 1970, together with new maths, all working through in-service courses, with the aid of handbooks and visual aids. A new science project is under way and an intensified reading programme is operating.

ADULT EDUCATION

Purposes and Structure

The project is run by the Education Department with the co-operation of the Carnegie Library and is intended to give courses in Oral English, allied to literacy for adults and school leavers, French audio-visual teaching to those wishing to learn and 'O' level classes in English, maths and French to adults. English 901 was started in September 1970 and the French 'Voix et Images' started in July 1971. The 'O' level classes do not yet use audio-visual material but are formal classes.

The service is controlled by the French and English Language Advisers under the Director of Education. They make use of part-time tutors and there are two full-time Adult Education tutors. Allied Rural Reading Rooms have been organized and financed but they lack supervision and are falling into disuse.

Users

1,700 students are using the English course and fifty using French. Approximately sixty students are studying for 'O' levels. Numbers vary considerably. French and 'O' level courses are based on Victoria while English 901 covers the whole country.

Output

901 English: forty-two classes altogether - twice weekly covering Books I-V and using records and tapes.

Voix et Images: ten classes - twice-weekly using tapes and film.

Staff and Training Provision

The English Language Adviser is assisted by two full-time tutors, one specializing in police literacy and the other in 'O' levels, and thirty-eight part-time tutors. The French Language Adviser has four part-time tutors. There are also eleven part-time assistant librarians. English 901 tutors are given individual briefing and each term there is a training session and demonstration lessons. Voix et Images tutors receive individual briefing and demonstration lessons. Recruiting is by word of mouth. Local teachers for English are selected on a geographical basis outside the town and expatriate tutors on

interview and initial observation of classes.

The English Language Adviser is willing to assist other Commonwealth countries with problems of literacy and adult education especially at the pre-literacy levels.

Expenditure

Capital: Approximately £2,000 on equipment - fourteen tape recorders and textbooks and work-books for English 901, twenty record players and equipment for Voix et Images. Annual recurrent: Approximately £3,000.

Plans for Development

No further development is possible until staff are appointed to consolidate and extend the work done since 1970. A full-time fully qualified European Adult Education Officer is needed with appropriate assistance. The regional reading rooms should be expanded since they are not working efficiently at present.

Further Information

The recognition that English is needed for contact with people who visit the islands has just begun to be understood, as the first impacts of tourism are felt, but it is in conflict with a confused growth of nationalism and a desire to use Creole or French which have political and religious connotations respectively. Adult education therefore fluctuates and needs an injection of experienced staff if it is to survive and then to expand its operations.

Address for Correspondence

Director of Education
Education Department
SEYCHELLES

FRENCH LANGUAGE TEACHING

Purposes and Structure

The purpose of the project which is run by the Seychelles Department of Education and Radio Seychelles, is to provide a linguistically based all-through radio course in French starting in the fourth year of primary schooling in accordance with declared government policy. The project was started in January 1971 and was organized by the French Language Adviser and the Education Officer (Broadcasting) until April 1973 and since January 1973 with the co-operation of five French Government teachers.

Users

The target audience is approximately 7,000 primary/secondary school children with an estimated casual audience of about 10,000.

and intellectual approach to selected teachers. It is planned to support the locally prepared material with textbooks by Ridout. A leader of experience in the field of English medium and reading would be welcome. Money now needs to be spent on equipping the schools.

Further Information

The English Language Adviser has contributed to Oxford Peak Course, New Hebrides English Medium Course and has worked with the South Pacific Commission Course. He would be available to advise other Commonwealth countries and to take part in

training courses. Two Advisory Teachers would be able to assist although they are not easily available for travel.

After initial suspicion of 'new ideas' there is acceptance, and co-operation but the habitual use of Creole in the classroom still operates against the complete success of the programme.

Address for Correspondence

Director of Education
Education Department
SEYCHELLES

TURKS & CAICOS

GENERAL INFORMATION

AREA 166 sq.miles POPULATION 5,675 (1970)

EDUCATIONAL PROFILE

Statistics

Public expenditure on education = £59,000
(Currency: United States dollar; \$US2.34 = £1 sterling 4.12.73)

Less than primary Age 15+ = 13.4%
Completed primary Age 15+ = 78.3%
Entered secondary Age 15+ = 8.2%

Teacher training (1972) Outside the islands primary and secondary level students 19
Students at university abroad in 1972 = 2

% Illiteracy (1970 - no illiteracy)

Structure

One aim is to provide each individual with the type of education calculated to bring about a desirable behavioural pattern in his way of life, another is to create and protect an atmosphere of learning where students are free to acquire knowledge and to use that knowledge.

The Board of Education is the controlling body. All education is free and paid for by the State. Elementary education is compulsory.

The system consists of primary education for infants, juniors and seniors, and secondary education, from 11 to 17 or 18. There are no pre-school classes.

There are two secondary schools, a government secondary school on G. Turk and Pierson High School (operated by the Seventh Day Adventists' Mission) on South Caicos. Both schools prepare pupils for GCE 'O' level examinations.

The government sends suitable students for professional studies to overseas centres for courses.

BROADCAST COMMUNICATIONS FACILITIES

Radio (1972)

Radio Station VS18 is operated by Cable and Wireless Co. Ltd (West Indies). There are about twenty minutes per day of news and announcements, but no other programmes.

PROVISION FOR EDUCATIONAL INNOVATION

A programme of educational development has been running for the past three years. Schools are being equipped with textbooks and visual aid apparatus. There is also an ambitious school building programme. Educational aids used in schools include slide and film projectors but these are restricted at present to those schools with an electricity supply.

A full-time teacher trainer operates an in-service teacher training programme designed to upgrade existing primary school teachers and to prepare teachers for entry to teachers' college overseas. A teachers' centre operates on G. Turk. The school curriculum is being reviewed.

Plans are in hand to introduce Schools Broadcasting once the Government has established its own broadcasting system.

CANADA

GENERAL INFORMATION

AREA 3,851,809 sq. miles POPULATION 21,568,315 (1971) PER CAPITA INCOME \$C3,265 (1971)

EDUCATIONAL PROFILE

Statistics

Public expenditure on education (1969) = \$C6,959,394,000 = 8.9% of GNP
(Currency: dollar; \$C2.34 = £1 sterling 4.12.73)

Teacher training (1971) university level: students 14,906 staff 1027
Students at university in 1970 = 218,584

Structure

Because each of the ten provinces has the authority and responsibility for organizing its educational system, organization, policies and practices differ from province to province. But each has a Minister who is a member of the Cabinet. Ontario has, in addition, a Department of University Affairs under the Minister of Education. Each department is administered by a deputy minister who is a professional educationist and a public servant.

Canada's educational administrators are deeply conscious of the fact that the young people of the country must be fitted to face the years ahead secure in the realization that they have been trained to meet all the challenges that may arise in their future careers. It is essential that no young person in Canada be hindered from following the career of his or her choice by colour, race, creed, sex, social standing or financial limitations. Thus Canada's requirements have in recent years become increasingly demanding and diverse.

Courses offered in Canadian schools now seem almost limitless, from the elementary and secondary level where, in addition to the basic subjects, instruction is available in such cultural areas as music, drama and fine arts, and from community colleges and vocational institutions where a widening range of advanced technological courses is given, to universities with numerous faculties and provisions for graduate study in many fields.

The Federal Government is responsible for the education of Indian and Eskimo children and other children in the Yukon and the North West Territories and adult education.

BROADCAST COMMUNICATIONS FACILITIES

Radio (1973)

The Canadian Broadcasting Corporation is a publicly owned body and runs the national

service working with private stations, of which there are 249. These are AM stations, there are also seventy-seven FM stations of which six are operated by CBC and seventy-one are privately operated. CBC runs twenty-seven English-speaking stations and seven stations which broadcast in French, for domestic coverage, as well as an International Service, broadcasting in eleven languages to Europe, United States, Africa, the Caribbean, Latin America and the South Pacific. Included in the International Service is the Northern Canada Service, which broadcasts in English, French and Eskimo to the sparsely populated areas. There are 14,740,000 radio sets (about 699 per 1,000 of population)

Television (1973)

CBC has twelve television stations for its English network and eighty-three relay and rebroadcasting stations. There are also 153 privately owned, affiliated and rebroadcasting stations, fifteen relay stations and forty-two private stations. There are also seventy-one private commercial stations, and Ontario Department of Education has its own TV service.

80-90% of peak viewing is in colour. There is also CTV (English) with sixteen privately owned stations and thirty affiliated and cable systems (CATV) numbering 317.

PROVISION FOR EDUCATIONAL INNOVATION

This is the responsibility of individual provinces.

Alberta

AUDIO VISUAL SERVICES BRANCH

The Audio Visual Services Branch of the Department of Education provides media services to provincial schools, through production, identification and evaluation projects and through the services of the Learning Resources Library. The three sections, Curriculum Resources, Learning Resources and School Broadcasts have responsibilities covering both materials and in-service training of teachers. In 1973 an Alberta Educational Communications Authority was established.

CURRICULUM RESOURCES SECTION

Purposes and Structure

This service has been in operation for over two years. The service disseminates curriculum development information via 'quick and dirty' videotape productions illustrating the objectives of curricular change. Other media presentations are produced when appropriate. The videotape format is $\frac{1}{2}$ " EIAJ to allow flexible playback on school VTR. The project is organized by two professional educators with ETV production experience in consultation with curriculum development personnel. There is also one technician and a secretary. The University of Alberta and the University of Calgary allow mutual exchange of videotapes.

Users

The service is aimed at teachers interested in curricular change, and is used by about 20,000 at all grades and in all subject areas.

Output

Typical output for a single year:
100 16mm films, audio cassettes and other media items purchased
50 small format videotape productions
15 sundry sound/slide productions, printed monographs, etc.

A catalogue is produced for users' convenience.

Staff and Training Provision

Four people are employed in the Section: a co-ordinator and an assistant, and a technician and a clerk. On-the-job training is usual, although staff are expected to have appropriate qualifications also. Staff are appointed by public competition.

So far very little communication has taken place between the section and other Commonwealth countries involved in similar projects. However, the section is ready and willing to be of help, and this could

be negotiated through the Alberta Department of Education.

Expenditure

The section's equipment comprises three 1" master VTRs; four $\frac{1}{2}$ " VTRs; three small format TV cameras; lighting; switcher, etc. amounting to about \$C10,000. Annual recurrent expenditure is estimated as follows:

Salaries	\$C29,000
Production	\$C15,000
Travel	\$C 3,000
Administration	\$C10,000
Materials	\$C 8,000

Plans for Development

This project is still somewhat experimental in nature, and it is not certain in what direction expansion will lie. Possibly, similar activity will be encouraged among the local education authorities.

Further Information

More information about educational media in Alberta is contained in Section 2 of this report.

Address for Correspondence

Curriculum Resources Section
Audio Visual Services Branch
200 Devonian Building
11160 Jasper Avenue
Edmonton
Alberta
CANADA

ALBERTA SCHOOL BROADCASTS SECTION

Purposes and Structure

The Alberta School Broadcasts, Audio Visual Services Branch, Department of Education, is responsible for this service. Radio broadcasts were in operation prior to 1940 and the TV service began in 1956. It produces radio and television programmes to be broadcast to the schools of Alberta, makes the resulting tapes available through audio and visual dubbing services, provides resource materials for needy areas, introduces new curricula and methods. In television the Canadian Broadcasting Corporation co-operates. In radio CBC co-operates in some of the productions and others are produced in the studios of CKUA, Edmonton. The four western Provinces of Canada through their Departments of Education co-operate on some joint television and radio planning and production. All ten provinces of Canada through a sub-committee of the Council of Ministers of Education co-operate in some programme planning in co-operation with the CBC. Programme planning, hiring of performers, writers, etc., is done by Alberta School Broadcasts (Dept. of Ed); production facilities, personnel and air time are contributed by CBC. It is a direct

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(Alberta School Broadcasts) and indirect (CBC) cost arrangement. In all joint planning with other provinces, content decisions rest with the Department of Education (Curriculum Division). In the case of CKUA radio production, all authority rests with Alberta School Broadcasts. Some TV films are contracted out entirely to private companies.

Users

The service is aimed at the total Alberta school audience, approximately 430,000, grades 1 to 12; programme series are produced for all grades in a number of subject areas.

Output

Two radio programmes and one half hour of television per day are broadcast; all are accompanied by support publications. Broadcasts can be obtained on audio or videotape. Evaluation booklets, cards, tapes, catalogues and 'Signpost' are also published.

Staff and Training Provision

A Co-ordinator, an Assistant Co-ordinator (who in effect are the producers of all materials) and two secretaries are the basic staff; clerical, graphic, editorial and other assistance is available from Audio Visual Services Branch staff. Freelance writers and performers are hired for radio and television productions. Producers and film directors may also be hired on a freelance basis, except when CBC crews are directly involved in television and film productions. No separate staff training is required.

Mr Dan Adjivon, Commonwealth Visiting Fellow, Producer of School Broadcasting, Ministry of Education, Sierra Leone, spent two months with the Audio Visual Services Branch in Alberta, in the fall of 1972. He observed radio and television production and studied the operations of the tape library service. There have been occasional visitors from Commonwealth countries, such as Australia and Africa.

Expenditure

No building or production equipment is owned.

Estimated annual recurrent expenditure:

Production	\$C98,500
Publications	\$C35,000
Rights, travel, etc.	\$C18,550
Salaries	\$C41,000

Plans for Development

A new larger broadcast service under the Alberta Educational Communications Authority is in the developmental stages. Production of programmes remains top priority.

Address for Correspondence

Alberta School Broadcasts
Department of Education
200 Devonian Building
11160 Jasper Avenue
Edmonton
Alberta
CANADA

LEARNING RESOURCES SECTION

Purposes and Structure

The Alberta Department of Education is responsible for this service, which began in its original form twenty-five years ago. 'Visual Education' gives consultative advice to schools in organizing media centres and distribution systems. In addition, educational films, audio-tapes and videotapes are provided for classroom use. In-service instruction on the uses of film is given to teachers. The service is organized through the Audio Visual Services Branch of the Department of Education.

Users

400,000 students and 20,000 teachers make use of the service.

Output

The material covers all grades, 1 through 12, and all areas of the curriculum. There is a stock of 4,000 films, borrowed 28,000 times by 644 schools; 2,000 videotape masters (unlimited video copying); 2,400 audio-tape masters (unlimited audio copying). Catalogues of film, audio-tape and videotape are produced. Monographs detailing the results of evaluation studies are distributed to schools along with pertinent information related to current needs.

Staff and Training Provision

The staff establishment is as follows:

Professional staff	- 2
(Teacher - Media Generalists)	
Secretary	- 1
Booking staff	- 3
Film technicians and shippers	- 5
Audio-tape technicians	- 2
Videotape dubbing technicians	- 2

Support staff:

- Branch Administrator (shared)
- Graphic artist - 1 (shared)
- Publications editor - 1 (shared)

Senior members of staff are responsible for the training of new members. Staff are selected by open competition, and professional staff must have a teaching qualification and a high degree of specialization in media. Technicians also must

have appropriate training and/or experience.

Through bodies such as the Canadian International Development Agency, staff are able to assist other countries in similar enterprises; they could also be seconded to other organizations.

Expenditure

Capital expenditure on equipment is estimated at \$C85,000. Annual recurrent expenditure on materials is estimated as follows: film \$C100,000; film rights \$C30,000; audio and videotape \$C18,000.

Plans for Development

It is intended to explore the educational value of student-made visual aids and to make wider use of these and of teachers' own innovations. The service may become more regionalized. At present, a multimedia cross-reference catalogue is being produced, combining the resources of the old film, tape and videotape catalogues. A collection of 35mm slides is also being incorporated.

Address for Correspondence

Learning Resources Section
Audio Visual Services Branch
Alberta Department of Education
200 Devonian Building
11160 Jasper Avenue
Edmonton
Alberta
CANADA

FILMSTRIP EVALUATION SERVICE

Purposes and Structure

Responsibility for this service, in operation since 1971, falls on the Alberta Department of Education Audio Visual Services Branch. It provides a filmstrip preview service to Alberta teachers, compiles and distributes to schools a source list of filmstrips, evaluated by teachers and recommended for use in Alberta classrooms; the list will also assist teachers to select suitable filmstrips for purchase. Filmstrip distributors and publishers cooperate with the Department by depositing representative selections with them for a two-year period. The filmstrips are packaged into classified 'kits', in particular subject areas, according to grade level. A master list of all kits is distributed to schools on request (by letter) for a period of two weeks. Teachers are requested to preview and evaluate the appropriate items, and return them to the Department with completed evaluation cards. These cards are kept on file at the Department of Education for inclusion in an annual report. Distributions are once only to any one school, and evaluation cards must be

completed by the teacher, or the service is discontinued. Full purchasing information (suppliers, addresses and prices) are included in each kit. The Department pays all mailing charges and reimburses suppliers for items lost or damaged.

Users

There are 1,200 schools, approximately 20,000 teachers and 40,000 students in the Department's area. Approximately 300 schools have registered for the service.

Output

Approximately 26,000 items relating to all subject areas and grade levels were despatched in the school year 1971/72; 14,000 in school year 1970/71. A recommended filmstrip list, a detailed kit content list, terms of service and evaluation cards are produced.

Staff and Training Provision

One administrator (30% of her time) and one full-time clerk are employed, plus part-time clerical help, as required. On-the-job training under supervision of experienced staff is given to staff who must have had high school or office training and some clerical aptitude.

The service has not been involved in similar enterprises in other Commonwealth countries, but could provide written articles and evaluations of its services.

Expenditure

Capital expenditure includes the cost of sharing office space (150 square feet at \$C2.50 = \$C375 per year), desks, shelves, typewriter, packaging materials, filing cabinets, stationery and office supplies. Recurrent annual expenditure is estimated at:

Salaries: Full-time clerk	\$C5,200
Part-time administrator	\$C3,000
Replacement of shipping materials, stationery, etc.	\$C 500
Mailing	\$C 300

Plans for Development

The service intends to continue as at present with periodic revision of its published lists.

Address for Correspondence

Alberta Department of Education
506 IBM Building
10808 99th Avenue
Edmonton
Alberta
CANADA

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RESOURCE EVALUATION PROGRAM

Purposes and Structure

This program developed from the need for schools to have accurate information about the various commercially available multi-media packages.

Each year about one hundred learning packages and multi-media kits which have apparent relevance to the Alberta curriculum are brought in and evaluated in classrooms. At the conclusion of the classroom teaching phase, the co-operating teachers make a careful analysis of the materials in terms of quality, relevance and student involvement. The packages are re-evaluated by members of the Learning Resources Section and the combined evaluations are published annually in monograph form.

Users

There are about 1,200 schools, 20,000 teachers and 40,000 students in the Department's area. Approximately 400 schools have requested permission to participate in the evaluation. The results of the study are received by all schools.

Output

(Annually) One Elementary (Grades 1 - 6)

Plans for Development

The project will continue while the need exists. Other media evaluation studies will be developed as need arises.

Address for Correspondence

Learning Resources Section
Audioc Visual Services Branch
Alberta Department of Education
200 Devonian Building
11160 Jasper Avenue
Edmonton
Alberta, T5J 2V2
CANADA

British Columbia

AUDIO-VISUAL SERVICES BRANCH FILM LIBRARY

Purposes and Structure

The Audio-Visual Services Branch Film Library has been in operation since the late 1940s and is the responsibility of the Department of Education. It distributes films and other audio-visual materials to all schools in the province. Films are previewed, selected and purchased by the Audio-Visual Services Branch on advice from teachers and curriculum committees. Distribution is by request.

Users

1,500 schools, representing 500,000 students.

Output

The Library contains 5,000 films and 12,000 filmstrips. 275,000 requests were fulfilled in the 1971/72 school year. The Library produces film catalogues.

Staff and Training Provision

There is a staff of twelve: a part-time Director, an Assistant Director, two distributors, two revisers (checkers), five clerical staff, one photographer and one supervisor. The staff, having been selected according to their previous experience, receive on-the-job training.

There is no involvement with other Commonwealth countries engaged in similar enterprises.

Expenditure

Capital expenditure: equipment \$C75,000
Estimated annual recurrent expenditure and building rental:

Staff	\$C75,000
Materials	\$C75,000
Mailing	\$C30,000

Address for Correspondence

Audio-Visual Services Branch
British Columbia Department of Education
1726 West Broadway
Vancouver 8
British Columbia
CANADA

EDUCATIONAL MEDIA CENTRE

Purposes and Structure

The British Columbia Department of Education Audio-Visual Services Branch is responsible for this service which began in September 1972. The Centre duplicates and distributes videotapes of television programmes which are prepared by a variety of agencies, including the Department of Education. The tapes are distributed on request.

Users

All public and post-secondary educational institutions are able to use the service.

Output

The studio is expected to produce 2 - 3 units per week in the first year of operation. All subjects and levels are potential areas of production. Initial plans are for science and social studies programmes at five different levels and a yet-to-be determined college course. (This was the situation in the summer of 1972.)

Staff and Training Provision

Eleven staff, recruited from professional production agencies, are employed in the Centre, as follows:

a producer; a technician supervisor; an administrative assistant; two cameramen; an audio technician; a studio technician; a graphic artist; two programme organizers; a secretary.

Expenditure

Capital expenditure was as follows:

Buildings	\$C500,000
Equipment	\$C150,000

Annual recurrent expenditure is estimated at \$C100,000, divided equally between salaries and materials.

Plans for Development

In order to build up its stock, the Centre would welcome materials from other countries.

Address for Correspondence

Provincial Educational Media Centre
Audio-Visual Services Branch
1726 West Broadway
Vancouver 8
British Columbia
CANADA

SCHOOLS BROADCASTS

Purposes and Structure

This service, which has been in operation since the early 1950s, is the responsibility of the British Columbia Department of Education Audio-Visual Services Branch, and broadcasts radio and television programmes to schools in British Columbia. The Department of Education determines subject areas. Programmes are planned and prepared by the Department's Audio-Visual Services Branch. Production and transmission are carried out by the Canadian Broadcasting Corporation.

Users

The service is aimed at grades 1 - 12 in all schools in British Columbia. The intended audience is 500,000 students in 1500 schools; actual audience (total cumulative) is 250,000.

Output

A half hour each of both radio and television programmes are broadcast per school day, totalling 150 hours for each per year. All subjects and all grades are more or less equally distributed. A School Broadcast Teachers' Bulletin is published and 'First French', 'Chantez', and 'A Propos'.

Staff and Training Provision

One director, two assistant directors, one programme organizer, two secretaries, together with freelance, writers and performers make up the Audio-Visual Services Branch. CBC normal production crew consists of a producer, two assistants, three

cameramen, a sound engineer, a graphics designer, two floor managers, two lighting engineers, a director and a vision mixer. Staff receive on-the-job training, having been selected by normal Civil Service procedures.

The service has not been involved with similar projects in other Commonwealth countries.

Expenditure

CBC buildings and equipment are used only partially for ETV.

Estimated annual recurrent expenditure:

CBC	\$C200,000
Department of Education	\$C 50,000
Salaries	3 x \$C 10,000

Plans for Development

There is a possibility of broadcast schedule hours being expanded.

Address for Correspondence

Audio-Visual Services Branch
British Columbia Department of Education
1726 West Broadway
Vancouver 8
British Columbia
CANADA

Manitoba

MANITOBA SCHOOL BROADCAST BRANCH

Purposes and Structure

The Manitoba Department of Education is responsible for this service, which has been providing radio broadcasts since 1945, and television broadcasts since 1956. The purpose of the programmes is mainly to supplement class teaching, though a few give 'direct' teaching. The Canadian Broadcasting Corporation co-operates in the production of programmes. Policy is directed by the Minister of Education, and programmes are planned by specialists in school broadcasting.

Users

Primary, elementary and secondary school pupils use the service, using either broadcast programmes or recordings on audio and videotape. There are approximately 172,000 viewers and 97,000 listeners. (Figures based on a 76.9% return on information).

Output

Television programmes are produced on several subjects: social studies, science, mathematics, language arts, art and music. There are approximately twelve hours of television broadcasting per week. Radio

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programmes are produced on the same range of subjects, excluding mathematics. There are approximately ten hours of radio broadcasting per week. Beside the broadcast programmes, there is a wide range of audio and videotapes available for school use. A tape dubbing service is available free to teachers on request. Numerous handbooks, leaflets and calendars are produced to accompany broadcasts and to give information.

Staff and Training Provision

A Supervisor controls the work of two programme organizers, two audio-visual technicians and a cinematographer. One secretary and two stenographers are employed, and there are also freelance scriptwriters and programme consultants. Staff receive training on the job. Programme organizers and planners require teaching experience as well as broadcasting experience. Professional actors are engaged for dramatic programmes. Positions in the Broadcast Branch are advertised through the Civil Service, and sometimes in newspapers and broadcasting publications across Canada.

Students from other countries who have been in Canada studying educational broadcasting have had the opportunity to visit the Broadcast Branch, to observe production and to visit schools. It is the policy of the Branch staff to be as helpful as possible to these visitors. To date, no member of staff has visited a Commonwealth country to assist in broadcasting, though the Supervisor has visited a number of African countries to observe educational broadcasting practices and to discuss the developments in Western Canada.

Expenditure

Capital expenditure on building cannot be estimated, as the Branch operates within the Education building. Annual recurrent expenditure is estimated at \$C270,000. In 1972, \$C30,000 were set aside for equipment.

Plans for Development

It is hoped to expand the service, working towards the provision of three hours per day of television. The studios will need to be expanded, and more staff employed.

Further Information

It has been found that the increased number of videotape recorders in schools has brought about a considerable increase in the number of viewers, not all of whom have found the broadcast times convenient.

Address for Correspondence

Manitoba School Broadcast Branch
Robert Fletcher Building
1181 Portage Street

Winnipeg,
Manitoba
CANADA

New Brunswick

AUDIO-VISUAL SERVICES FILM DISTRIBUTION

Purposes and Structure

The Department of Education through its Audio-Visual Services Branch is responsible for the service, which began in 1940. The service is organized by the Audio-Visual Services Branch, to provide support for instructional programmes by means of an educational films distribution service.

Users

All schools in the province of New Brunswick - approximately 550. There was an audience of 2,000,000 for the school year 1971/72.

Output

15,655 bookings for school year 1971/72.
70,000 film screenings for school year 1971/72.

Staff and Training Provision

Eight persons are employed, Director, Supervisor, a film distributor, two film inspectors, a shorthand typist, two clerk/typists, and a part-time clerk. These people work at other projects concurrently, but most of their time is occupied with film distribution. The Director and Supervisor are university-trained, other staff are trained on-the-job, having been selected according to job specifications.

There is no involvement with services in other Commonwealth countries, but possibly leave of absence could be arranged for professional personnel to assist other countries.

Expenditure

Capital expenditure:

Two classrooms in teachers' college, film inspection equipment etc. \$C 7,000

Estimated annual recurrent expenditure:

Mailing expenses and related costs \$C17,000
Cost of new film materials \$C14,000
Salaries \$C40,000

Plans for Development

The plans include (subject to fiscal approval) production of materials of local interest and needs in simple formats, i.e. slides and/or filmstrips, with or without tapes, also some videotape productions. Duplications will be made in whatever quantity are required. Audience demands

for the film service always exceed the capability to satisfy them.

Address for Correspondence

Director
Audio-Visual Service
PO Box 784
Frederickton
New Brunswick
CANADA

Newfoundland

EDUCATIONAL TELEVISION CENTRE, MEMORIAL
UNIVERSITY OF NEWFOUNDLAND OFF-CAMPUS
COURSES FOR CREDIT

Purposes and Structure

Responsibility for this project is shared by the Educational Television Centre and the Extramural Studies Department of the Memorial University of Newfoundland.

The purpose of the project, which is in its fifth year, is to make university credit courses available to the province, particularly to school teachers. It is an attempt to extend the university beyond the campus and to upgrade the competencies of the citizens as far as can be accomplished through higher education.

All media production is the responsibility of the ETV Centre. Administrative concerns of utilization fall under Extramural Studies, who maintain both local and field liaison, co-ordinators and tutors. University faculties administer the academic standards of their courses on a contract basis. Ultimate university policy for the project rests with the Faculty Senate.

The off-campus project occupies nearly 60% of the workload of the ETV Centre, the remainder reserved for on-campus projects and broadcasting general information programmes.

Users

Registered students off-campus each year vary from 3,000 to 4,000 (two semesters). All students have gained matriculation to university and just over 85% are teachers. Students are drawn from the remote areas of Newfoundland and Labrador.

Output

Four semester courses are produced each year for offering via closed-circuit television. Many courses have been offered, constituting the regular university offerings in psychology, educational psychology, geography, geology, educational foundations, history and others. Each course is offered in twenty-eight centres twice in three years, sometimes more often. These courses are in every way equivalent

to what could be obtained on campus by live instructors and have ranged from first to third-year standard. No graduate courses have been attempted.

Once the great majority of potential students has been served, the course is retired and replaced by another of benefit. The aim is to upgrade areas of weakness in the province; once this has been accomplished, other needs are identified and attacked.

Staff and Training Provision

The ETV Centre employs twenty-two members of staff, divided between Administration, Secretarial, Production, Graphics, Photography and Technical duties, the Extramural Studies Department employs 104 members of staff altogether. Six of these are campus staff concerned with administration and accounting. Eight are full-time field staff, and the rest are part-time field staff consisting of co-ordinators and tutors for the most part.

Trained staff are hired and versed in the particular needs of the operation on the job. Staff are selected on a personal basis from applicants.

Expenditure

Portions of existing campus buildings are used, perhaps costing \$C500,000 if separately assessed. Off-campus, schools are available in the evening.

The capital expenditure for media equipment and supplies approaches \$C750,000, but is employed for many more uses than the off-campus programme. The television equipment in the field and the necessary videotape for twenty-eight locations comprises approximately \$C70,000 of this total.

Because the off-campus project is one of many uses to which the personnel and facilities are put, and because more than one administering department is involved, exact figures for annual recurrent expenditure are difficult. An estimate of maximum annual cash input is \$C200,000, which includes the field operation.

Plans for Development

The future development of the project will be to expand into in-service teacher training, more general adult education and non-credit courses of varying lengths for the general public. The basic manner of approach has been proven and it is now possible to apply it to other educational problems in the province.

Address for Correspondence

Director
Educational Television Centre
Memorial University of Newfoundland
St. John's
Newfoundland, CANADA

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DIVISION OF INSTRUCTIONAL MATERIALS

Purposes and Structure

The Division of Instructional Materials is part of the Department of Education of the Government of Newfoundland and Labrador and provides audio-visual materials to all schools from grade K-11 throughout the province. The service has been operating for approximately twenty years. The Canadian Broadcasting Corporation co-operates with the Department of Education over the radio and television broadcasts.

The Instructional Materials Service is a section of the Division of Instruction and controlled by an Assistant Director of Instruction. There are three units within the section: School Broadcasts; Audio-Visual Distribution Library; School Libraries. Advisory committees of subject area specialists assist with selection and production of materials.

Users

Approximately 800 schools use radio and television receivers, 16mm projectors etc. A total of 160,000 children are served. Exact statistics are not available for each type of equipment but approximately 150 schools have television sets.

Output

Radio and television programmes are broadcast to all levels covering a wide range of subjects including drama, science, geography, history, current events, French, biology, physical education, and literature. The programmes include Canadian School Radio Broadcasts and the Atlantic School Broadcasts as well as Newfoundland School Broadcasts.

A tape service is provided whereby recorded tapes of any radio programme, past or present, can be made available to any school on request.

16mm films, filmstrips, multi-media kits and audio-tapes are supplied to all schools on a loan basis by mail order or over-counter service to teachers in the St. John's area.

Staff and Training Provision

The Assistant Director of Instruction (Instructional Materials) heads the service. There is a Secretary and each of the three units is headed by a Supervisor. In addition the School Broadcast section has an Assistant Supervisor and a production assistant and a secretary. The Instructional Media section employs a librarian, a library clerk, a library technician, a film technician and four film and tape assistants as well as a secretary who also works for the School Libraries section. In addition there is another technician not attached to any section.

Where possible experienced staff are

recruited, otherwise on-the-job training is given.

Expenditure

Capital expenditure is estimated as follows:

Buildings (Rental)	\$C50,000
Equipment	\$C35,000
Films	\$C300,000

Annual recurrent expenditure is estimated as follows:

Salaries	\$C65,000
Materials	\$C200,000
Production	\$C48,000
Travel	\$C 4,000
Equipment subsidy to schools	\$C32,000

Plans for Development

Proposals have been made for a Provincial TV Production Centre and it is hoped that an improved network for distribution will be forthcoming.

Address for Correspondence

Director
Division of Instructional Materials
Department of Education
St. John's
Newfoundland
CANADA

Nova Scotia

AUDIO-VISUAL INSTRUCTION - NOVA SCOTIA SCHOOL TELEVISION

Purposes and Structure

The Nova Scotia Department of Education is responsible for this television service which began in 1962. The project recommends, advises, promotes and supervises activities by which information and resources can be made available to community recipients and schools using mixed media such as television, radio, language laboratories, films, recorded tapes and the telephone. The Canadian Broadcasting Corporation, the Nova Scotia Teachers' Union, the Nova Scotia School Boards Association, ad hoc community representatives, the Council of Ministers of Education and the Atlantic School Broadcast Media Committee all co-operate with this service. The service is under an advisory committee of the Ministry of Education, which is chaired by the Deputy Minister of Education. The policy planning and organization is carried out by sub-committees of the advisory committee on which teachers, broadcasters and curriculum personnel are represented. A supervisor of Audio-Visual Instruction

runs the service in co-operation with departmental personnel, including those concerned with teacher education, youth education, planning and research, building and programme planning. The supervisor also maintains liaison with inter-provincial and Canadian instructional media groups, and is at present Chairman of the Committee for Media Programming (French and English) of the Canadian Council of Ministers of Education.

Users

Approximately 800 schools, with 1500 television receivers and monitors, use this service and some 210,000 children and young people are the potential viewing and using audience. Many schools have radios for the reception of open broadcasts, other use the tape services provided by the Audio-Visual Service.

Output

The television programmes which go out to schools include science, communications, mathematics, French, English language, art and social studies, and there are some programmes for each level from primary to grade twelve, with about sixteen programmes weekly. The radio broadcasts for Atlantic schools include programmes on Canadian history, French, music, folk tales, play-time, adventures in listening, elementary language and natural history for ages 5 to 15, and about eight weekly programmes. In addition, Canadian schools television and radio provide a variety of thirty-minute programmes for all grades and the audio-visual section provides support materials including maps, manuals, films, wall-charts, audio-tapes, video-tapes, teachers' guides, and pupils' manuals to assist classroom teachers in using all programmes.

Staff and Training Provision

There is a chairman and a supervisor of audio-visual instruction, together with three radio teachers and producers, six television teachers, an executive producer/supervisor, and a technical supervisor with two producers and a script assistant, as well as nineteen studio and design staff. Television broadcasting for schools is a co-operative activity between the Nova Scotia Department of Education and the Canadian Broadcasting Corporation. As such, the Corporation shares the responsibility of training studio crews to work in educational broadcasting. At least one television teacher has had training in the U.K., and all television teachers have been provided with extensive on-the-job and travel experience. All have ample opportunities to attend training sessions, conferences and meetings and are called upon frequently to participate

in such programmes. The supervisor has had extensive experience in teaching and supervision, and has been sent to several closed-circuit and other training courses for experience. The supervisor, in consultation with the director of youth education, advertises for staff who have academic ability, professional training and experience in teaching. The Canadian Broadcasting Corporation auditions appropriate applicants and recommends final appointments to an advisory council. All personnel have at one time or another contributed articles, lectures and audio-visual presentations at Canadian education conferences and exhibitions, International Council of Educational Media, Division of Audio-Visual Instruction (USA), Paris, London, and in many USA states.

The Chairman of the advisory council, the supervisor of audio-visual instruction, and several television teachers are available to offer their services for training programmes to assist other Commonwealth countries in similar enterprises.

Expenditure

The capital expenditure involved is estimated at \$C100,000 in equipment and the annual recurrent expenditure is estimated as follows:

Recurrent expenditure	\$C210,770
Salaries	\$C117,550
Production	\$C 87,230
Travel	\$C 6,000

Plans for Development

The establishment of a steering committee to advise the Department of Education in the task of guiding and co-ordinating the preparatory steps to setting up resource centres in the province; the arrangement and equipping of temporary quarters and facilities and recruitment and hire of staff for resource centres; maintenance and augmentation of production and distribution of Nova Scotia school television and Atlantic and Canadian school broadcasts; the preparation of support materials including video-cassette recordings and audio-tapes, and the establishment of courses in the broadcasting arts are all planned.

Address for Correspondence

Audio-Visual Instruction (Nova Scotia School Television)
Department of Education
Province House
Halifax
Nova Scotia
CANADA

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HERITAGE - NOVA SCOTIA (MULTI-MEDIA RESOURCE KIT)

Purposes and Structure

The Dartmouth City School Board of Nova Scotia is responsible for the project which provides curriculum support materials in the form of multi-media resource kits for the Nova Scotia history programme at the upper elementary level. The current project was developed for use in the 1973-74 school year, and started in 1972. Two years is required from starting date until use in schools. The Nova Scotia museum and the Communications and Information Centre co-operate with the School Board in the project which is under the direction of the Director of Research for the Dartmouth City School Board. Development, use and evaluation are monitored by an advisory committee of teachers working through the Director of Research. Evaluation is made by teachers using the kit and by school principals.

Users

The teachers and pupils of the upper elementary level. At present this involves fifty-five classes of pupils (about thirty-five per class). Over thirty specialist history teachers will use the kit, and approximately 2,000 children will be involved initially.

Output

There are fifteen classroom kits and ten reference kits. Classroom kits are in regular use in the schools for a period of time up to one term. Reference kits are borrowed from the central office as required. Each kit contains: print material, documents, maps/sail plans, projectuals, slides, audio-tapes, photos, realia, models and artefacts.

Staff and Training Provision

The Director of Research does much of the technical production himself, or obtains service on a free-lance and often voluntary basis.

In-service training for teachers and principals who will use the kit is carried out with the help of the Advisory Committee, through seminars and demonstrations. All teachers wishing to use the kits are eligible.

Expenditure

Capital expenditure for equipment was \$C3,000 including overhead projector, tape recorder, screen, slide projector, projectual/photocopy equipment and thermal machine. Other expenditure was \$C500 for software.

Annual recurrent expenditure, mainly for materials was \$C200.

Plans for Development

Liaison has been established to exchange information with the Director of the PACE (Pioneer Arts & Crafts Education), Stark County, Department of Education, Ohio, USA. It is planned to extend the use of the project kits throughout Nova Scotia (and possibly throughout Canada).

Priorities are additional personnel to provide duplication service (one to two people) and funds for duplication material.

Address for Correspondence

Heritage Nova Scotia
Department of Education
Trade Mart Building
P.O. Box 578
Halifax
Nova Scotia
CANADA

Ontario

THE ONTARIO EDUCATIONAL COMMUNICATIONS AUTHORITY

Purposes and Structure

The Authority is an Ontario Crown Corporation, formed by an Act of the Ontario Legislature in 1970. The service began in 1966 as the Educational Television Branch of the Ministry of Education, producing programmes for schools only. Since 1971, when the OECA acquired its own transmitter CICA-TV, Channel 19 Toronto, the audience has widened.

The purposes of the Authority are as follows: to initiate, acquire, produce, distribute, exhibit or otherwise deal in programmes and materials in the educational broadcasting and communications field; to engage in research in relevant fields; to undertake other duties relating to educational broadcasting and communications incidental or conducive to the attainment of the above aims.

The Authority is controlled by a Board of Directors, whose Chairman is also the Chief Executive Officer. Principal corporate divisions are: Research and Planning; Corporate Affairs; Educational Media; Engineering and Operations; Finance, Administration and Personnel; Special Projects.

Users

The Authority is concerned with the following categories, pre-school children; elementary school children; secondary school students; college and university students; adults and teachers.

OECA's programming is used in 56% of Ontario's elementary schools, and 30% of the secondary schools.

OECA's CICA-TV, Channel 19 Toronto, has a weekly audience of 370,500.

Telecast breakdown:

Pre-school and Primary	20%	(of current schedules of programming)
School and Youth	29.5%	
Teacher Education	9%	
Adult, University and College	32%	
French	9.5%	

Staff and Training Provision

333 staff are employed as follows: nine executive posts; ten Research and Planning; twenty-one Corporate Affairs; seventy-four Engineering and Operations; 133 Educational Media; seventy-four Finance, Administration and Personnel; ten Special Projects; two Communications Satellite Technology posts.

The programme production staff hold subject qualifications through post-secondary degrees or teacher certification and have practical experience as film or television producers or as education writers. Technical staff hold appropriate qualifications and administrative staff are trained on the job.

Through services supplied for Unesco, OECA staff have contributed to the development of communications planning and educational research. One major conference held by the OECA involved Commonwealth delegates. In principle, staff would be willing to assist other Commonwealth countries in similar enterprises, though this would depend upon current commitments.

Expenditure

Total operating expenses for the year beginning 1 April, 1971 and ending March 31, 1972 were \$C10,341,378.

Plans for Development

Extension of the service is a priority. The possibility of five additional television channels throughout Ontario, and the extension of videotape distribution will carry OECA programming to a wider Ontario audience. In addition, co-operation with other countries could take place in the design of relay systems for television broadcasting and the design of responsive systems of instruction for adults.

Address for Correspondence

The Ontario Educational Communications Authority
Canada Square
2180 Yonge Street
Toronto, Ontario
M4S 2C1
CANADA

ONTARIO EDUCATIONAL RADIO BROADCASTS

Purposes and Structure

The Educational Radio Broadcasting Service, responsible to the Ministry of Education, Ontario, has been in operation since the early 1950s. The Canadian Broadcasting Corporation co-operates with the Service. Educational radio programmes are jointly planned by education officers and radio producers. The direct costs of production and printing are paid by Education and all indirect production costs are paid by Broadcasting.

Users

Schoolchildren, aged 6 to 17.

Output

Daily from October to May there is a half hour of broadcasting aimed at the integration of subject disciplines e.g., language, arts, drama, sociology. A different age level is covered each day. These include one programme per week when five students (aged 10 - 14) take part in a telephone conference with a special personality on a topic of concern to the students. The students and the guest personality change each week. Programmes are available free through a tape dubbing service to any teacher.

Staff and Training Provision

Eight senior education officers and four radio producers are directly employed in the Service. Printing services staff, broadcast network staff, teachers and principals are indirectly employed in the Service. Production staff receive regular CBC broadcast training; educators, who are selected for their interest in media and their ability to think creatively and appreciate good programming, receive no special training.

Members of staff, subject to personal wishes and the availability of replacement personnel in Ontario, could be called on to assist other Commonwealth countries.

Expenditure

Estimated annual recurrent expenditure:

Print materials	\$C20,000
Direct production costs	\$C70,000

Plans for Development

No detailed plans given, but outside assistance has not been requested.

Further Information

The Education Co-ordinator spent two years in Kenya in a Canadian Government-sponsored Teacher Education by Radio project.

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Address for Correspondence

Ontario Department of Education
Mowat Block
900 Bay Street
Toronto 182
Ontario
CANADA

FILM SERVICE

Purposes and Structure

The Boards of Education in the province are responsible for the service, which was started by the Ministry of Education in 1946. However, the various Boards have been initiating their own services since the early 1950s and the Ministry is now phasing out its active part in the project. The service provides 16mm films on a wide spectrum of topics to elementary and secondary schools in the province. The public libraries, the National Film Board, and various film societies co-operate in the service. The way in which the service is operated varies from one school jurisdiction to another.

Users

The service is provided for the benefit of elementary and secondary school students. No statistics are kept on their numbers.

Output

Catalogues of material available can be obtained from the School Boards.

Staff and Training Provision

There are no figures on the number of employees. The procedure for staff selection and training depends entirely on local jurisdiction. On-the-job training and attendance at Community College is usual for technical staff.

There is no information available on whether personnel from the present service have been involved in assisting other Commonwealth countries in similar enterprises, but it is felt that a considerable number of individuals now has the knowledge and experience to be of assistance in such situations.

Expenditure

No figures are available.

Plans for Development

Plans for the future vary with jurisdiction, but many areas have financial problems in common.

Address for Correspondence

Department of Education
Mowat Block
900 Bay Street
Toronto 182, Ontario
CANADA

Prince Edward Island

EDUCATIONAL MEDIA SERVICE

Purposes and Structure

The Prince Edward Island Department of Education is responsible for this service. The Educational Media Division was formed in 1969, though radio for schools has been operating in Prince Edward Island since 1940 and television since 1964. The Service provides programmes to support the curriculum in elementary and secondary schools, and to provide other audio-visual matter to the same end. The Canadian Broadcasting Corporation and the Atlantic School Broadcasts Committee are also involved in the Service. The Media Division is controlled by a Director, acting under the Provisional Director of Library Services. Educational Media in this province is a term used to cover both the new media and conventional school libraries.

Users

A total of sixty-five television sets serve 13,500 children. Forty-five schools have one set each, and ten schools have two or more. There are seventy-five schools with radio receivers; radio programmes are available to 20,000 children from grades 1 to 12.

Output

Television programmes originate from the Nova Scotia Department of Education, and are transmitted by local CBC-TV. The province also uses national CBC television programmes. Radio programmes are provided in co-operation with other Atlantic provinces; they do not originate from Prince Edward Island. The Atlantic School Broadcast Manual is published each year and gives details of forthcoming programmes. Individual subject manuals are produced to be used in conjunction with television programmes.

Staff and Training Provision

The staff establishment comprises the Director of Library Services, the Director of Educational Media, the School Resource Centre Consultant, an audio-visual technologist, an audio-visual technician, a film librarian, and six clerical/technician employees. There is no formal staff training, but advantage is taken of all available seminars, summer courses and area workshops.

At present, the staff is not large nor experienced enough to provide assistance to other Commonwealth countries in similar enterprises.

Expenditure

There was no capital expenditure on buildings in this Service. Capital expenditure on equipment was \$C100,000. Annual recurrent expenditure is estimated as follows:

Salaries	\$C48,000
Materials	\$C65,000
Other	\$C10,000

Plans for Development

New schools in the province will be provided with more radio and television receivers. Radio and television programmes will be taped more often to ease the problem of class schedules. Wider use of film and filmstrip material is expected.

Address for Correspondence

Department of Education
Province House
Charlottetown
Prince Edward Island
CANADA

Quebec

INSTRUCTIONAL MEDIA SERVICE, DEPARTMENT OF EDUCATIONPurposes and Structure

The Instructional Media Service which is part of the Ministry of Education, Government of Quebec, determines the needs and priorities in the area of the production of educational materials, produces or is responsible for the production of materials and monitors development in the utilization of teaching materials in all educational institutions. Radio-Quebec, Office du Film du Quebec and the Canadian Broadcasting Corporation assist the service.

The Instructional Media Service was created in 1971 and is a reorganization of Services which formerly were independently responsible for different forms of educational materials: The Technological Media Service (1968), (TV and radio programmes had been initiated as early as 1963 but were the responsibility of numerous bodies); the School Libraries' Service (1964) and the Ministry of Education. The Service is under a Director-General, assisted in his administrative duties by two Assistant Director-Generals (one for administration and one for planning and development), and a Secretary-General. It also has a policy committee containing the above-mentioned personnel, plus the Director of Production (Technological Service), the Director of the School Libraries' Service and the Director of the Service for Correspondence Courses.

Users

There are approximately 2,100 elementary and secondary schools serving a total of 1,626,187 students (1971-72 statistics). Ninety per cent of these institutions are equipped with: more than one television set, (total of 6,083 sets), and more than one radio set (total of 4,094 sets).

Adults, collegiate and university institutions are also well equipped with radio and television sets and have a large range of programmes available.

Output

A typical audio-visual production output for a single year (1971-72) consisted of:

Audio-visual documents	- 44 (12 series)
Slides	- (3 series)
Records	- 64 (9 series)
Films	- 32 (10 series)
Photographs	- 1 set
Radio programmes	- 52 (Approximately 13 hours)
Television programmes	- 290 (Approximately 56 hours)

Production covers all levels of primary and secondary education, as well as teacher training and adult education. Programmes include language, technical and commercial subjects.

Staff and Training Provision

Permanent personnel totals 137, which includes seven administrators, fifty-three professional staff, and seventy-seven clerical and technical staff. Non-permanent personnel employed on a yearly basis consist of 110 professional staff, and fifteen clerical and technical workers.

Many media specialists were trained (and still are) through governmental and non-governmental agencies. The educational advisers are mostly trained in education departments of universities. The technological advisers are generally trained in technical schools, in industry and in broadcasting corporations. The Instructional Media Service also offers training facilities to educational and technological advisers and teachers, through its 'Ateliers' division. This division is equipped for complete training in the various educational media. Its staff is composed of a director, two professional assistants, and a secretary, all on a permanent basis.

Staff are selected by open competition, and the educational advisers must have teaching qualifications and a good degree of specialization in the media. Very diversified trainings are however considered valuable for the admission of technicians; the basic criteria being appropriate training and/or experience.

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Expenditure

Capital expenditure is limited to \$C93,000 on equipment since the buildings are rented by the Quebec Department of Education.

Annual recurrent expenditure is estimated as follows:

Salaries	\$C2,490,200
Transportation and communication	\$C 148,600
Professional, clerical and other services (including production in the proportion of \$C3,713,600)	\$C5,062,100
Maintenance and repair	\$C 12,000
Rent (machinery: industrial and communication)	\$C 45,000
Non-capitalized expenditure (paper, film and audio-visual supplies)	\$C 288,700
Miscellaneous	\$C 9,900

Plans for Development

The first priority for development is the rational and measured introduction of audio-visual equipment at all levels according to the priorities established by the different educational communities.

The second priority is the development of national co-operation (through the Council of Ministers of Education, Canada) and international co-operation through various competent international agencies.

The third is the investment of competent and creative personnel in the fields of production and utilization of audio-visual services.

Further Information

No data is available on the nature and extent of the involvement of the present service's personnel in assisting other Commonwealth countries. Such enterprises are normally dealt with through such bodies as the Service de la Co-opération avec L'Exterieur, the Ministry of Education, the Agence Canadienne de Developpement International and the Agence de Co-opération Culturelle et Technique des Pays Francophones. However, a good number of the educational advisers, administrators and technical advisers would have sufficient knowledge and experience to assist other countries.

In a long term view, the Instructional Media Service favours a policy allowing the accessibility of all audio-visual services and means to the entire population with an aim of expressing and comprehending their own educational, social and cultural interests. Therefore, it considers it of prime importance to establish availability of all audio-visual equipment within the reach of every individual or group.

Address for Correspondence

Instructional Media Service
Government of Quebec
Department of Education
Hôtel du Gouvernement
Quebec
CANADA

Saskatchewan

DEPARTMENT OF EDUCATION FILM LIBRARY

Purposes and Structure

The Department of Education is responsible for this service, which has been in operation since 1947. The purpose is to provide 16mm educational films to Saskatchewan schools, and to circulate to adult borrowers film stock of Government departments (other than the Department of Education). The Programme Consultant, Audio-Visual Education, is responsible for the following aspects: annual budgeting, pre-selection of films and the establishment of evaluation committees for these decisions on purchasing, technical processing of new films, and reference assistance to patrons. The Principal of the Government Correspondence School, who is also the Manager of the Auxiliary Services Section, is responsible for film circulation and the finalizing of purchase orders.

Users

In the year 1971-72, 1,040 schools used the service, between them making use of 59,169 films. Individual adults using the film stock of other Government Departments numbered 890.

Output

The service provides films on all subjects covered in Saskatchewan schools. There is also a small collection available for teachers' professional needs. The general collection of films covers all school grades. It is available as required during the school year, and during the vacation months for seminar work.

Staff and Training Provision

Apart from the Programme Consultant and the Principal of the Government Correspondence School, fourteen people are employed. There are five booking room clerks, five film inspection clerks, and four shipping clerks. Training takes place on the job, and the more senior clerks assume responsibility for this. Those with business or industrial experience are considered suitable for employment.

Occasional discussions with Commonwealth visitors has taken place in connexion with similar enterprises abroad, and staff from the Film Library would be able to offer assistance to such countries through correspondence.

Expenditure

Capital expenditure on equipment amounts to about \$C1,046,000. Annual recurrent expenditure is estimated at \$C70,000 for films and \$C60,000 for salaries.

Plans for Development

The following, though not to be regarded as official plans, may be seen as possibilities: the regionalization of the film service to schools and the development of urban centres; the relinquishing of film circulation for other departments; the development of an adequate professional collection for both the Department of Education and the Department of Continuing Education, and the establishment of a preview library for the regions and the urban centres. It is also possible that information on films which have been evaluated during the school year will be more widely released.

Address for Correspondence

Program Consultant (Visual Education)
Department of Education
Midtown Centre Building
Hamilton Street and 11th Avenue
Regina
Saskatchewan
CANADA

INSTRUCTIONAL RESOURCES SECTION OF PROGRAMME DEVELOPMENT BRANCH (GENERAL EDUCATION) DEPARTMENT OF EDUCATION

Purposes and Structure

The Instructional Resources Section is a section of the Programme Development Branch under the leadership of the Director of Programme Development. The Section provides a regular schedule of radio and television programming prepared by the Section and jointly produced by the Section and the Canadian Broadcasting Corporation. Programming began in 1945. The Section combines school libraries, visual education, radio and television programming, tape (audio and video) services and the operation of a tape library. (The actual film library distribution service is in Auxiliary Services; but the Consultant for Visual Education carries out the professional duties and film evaluation, selection and purchases for the film library).

Materials of all kinds are evaluated and selected as appropriate resources to support curricular development. Others are

produced as tapes, broadcasts, telecasts, filmstrips and slide sets to support curricula also. A number of teacher committees work with the Section in planning programmes, evaluating and selecting.

Users

There are 238,869 students in the province in 1049 schools, of which 98% are equipped with radios, 90% with TV sets, and 75% with tape recorders.

Output

A half hour each of both radio and television programmes are broadcast each day from mid-October to the end of May. There is a consultative service and workshops in areas where schools are developing closed-circuit television centres. All schools receive radio and TV manuals providing information on all programming. Music booklets to support music series and other support material as required are available.

Staff and Training Provision

The following are Departmental employees and explain the structure of the Section. The Chief, Instructional Resources, heads the Section which includes: programme consultant (educational television), programme consultant (radio and tape), programme consultant (school libraries), programme consultant (visual education), tape librarian, librarian II.

Freelance writers prepare most scripts, which are edited and prepared for production by radio and TV consultants. Photographic and art services are obtained from another branch of the government, the Information Service. The production services for radio and TV are supported by CBC for all programmes going out over the CBC network; use is made of its studio and production staff. Section staff who are hired through the Public Service Commission and who must submit an application which is approved by the Director and Chief, are expected to have specialized training; summer courses and short courses giving special training in audio-visual techniques are often held on the University campus.

The Chief spent a year with the Canadian International Development Agency - working as a Consultant in Audio-Visual Aids to the Ministry of Education in Ghana (1967-68). A member of the Ministry of Education from Ghana was attached to the section for eight months (1970-71). The Chief would be available for further advice, should this be requested by other Commonwealth countries.

Expenditure

Buildings are owned by the Government; capital expenditure on studio equipment shared by the Section and other government

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branches was \$C60,000.

Estimated annual recurrent expenditure:

Salaries (Chief and T.V. Consultant)	\$C24,000
Production costs	\$C30,000
Film costs (film and videotape)	\$C19,300
Printing costs	\$C18,500
Equipment	\$C 6,000

Plans for Development

The educational television service is expected to expand when, and if, cable service is extended across the province. This would enable television programming to expand to periods of four to five hours a day for elementary and secondary education. A videotape service to back up television as audio-tape service backs up radio has just been initiated. At present about 25% of the schools have colour video-tape recording and playback equipment and a compatible system based on 1", ½" and ¾" video-cassettes has been established in the province.

Address for Correspondence

Instructional Resources Section
Department of Education
Midtown Centre Building
Hamilton Street and 11th Avenue
Regina
Saskatchewan
CANADA

SASKATCHEWAN SCHOOL BROADCASTS

Purposes and Structure

The Instructional Resources Section of the Saskatchewan Department of Education is responsible for this service, which has been in operation since 1945. The service provides all school age students with supporting programmes in various subjects by radio. The Canadian Broadcasting Corporation prepares the productions for broadcast, and the Instructional Resources Section provides scripts and on-air personnel.

Users

All 238,869 students from grade 1 to grade 12 are included in the intended audience. Provision is made for teachers to make their views known on the value of the programmes.

Output

Programmes are broadcast on all subjects taught in elementary and secondary schools, and are aimed at children from about 6 to 18 years of age. Broadcasts are daily, each afternoon from the end of October to the end of May, apart from Christmas and Spring vacations.

Publications connected with the service are varied; each year a series of general information programme manuals 'Young Saskatchewan Looks and Listens' are prepared and distributed to all schools. Filmstrips are produced for two or three radio-visual series prepared each year. There are written manuals for the filmstrips and schools are encouraged to place filmstrips, booklets and tapes of these broadcasts in their resource centres. A yearly booklet 'The Story Tower' is compiled, made up of children's creative writing inspired by a radio series. Music booklets and other types of resource material are also prepared and distributed.

There is an audio and videotape catalogue prepared for distribution to schools that make use of the tape services.

Staff and Training Provision

There are three members of staff (excluding employees of the CBC) involved in production. There is a radio and tape programme consultant, and the services of the tape librarian and a clerk-stenographer are also used. Personnel with appropriate qualifications fill these posts. Any training necessary is done on the job.

The Chief of the Instructional Resources Section has been involved in assisting Commonwealth countries in setting up radio and tape operations. At the present time though, this help is not being sought.

Expenditure

The Saskatchewan Government provides rented space for offices, and space for studios at no cost to the service. Capital expenditure on equipment is estimated at \$C60,000. Annual recurrent expenditure is estimated as follows:

Personal services	\$C17,300
Contractual services	\$C23,940
Material and supplies	\$C 6,220
Total	\$C47,460

Plans for Development

Future plans involve the expansion of the broadcasts, depending upon arrangements which may be made with the Canadian Broadcasting Corporation.

Address for Correspondence

Instructional Resources Section
Department of Education
Midtown Building
Hamilton Street and 11th Avenue
Regina
Saskatchewan
CANADA

SASKATCHEWAN SCHOOL LIBRARY DEMONSTRATION PROJECT

Purposes and Structure

This project, which has been operating since 1965, is financed by the Department of Education and promotes the development of better school resource centres in Saskatchewan by sponsoring demonstration schools which can be visited by the staff of other schools, or other interested people. When a school is chosen for demonstration, the local school jurisdiction accepts the responsibility for keeping up the duties involved there for a minimum of two years. Financial assistance is offered for this purpose by the Department of Education for the first year. Various bodies are involved in the project in addition to the schools and the Department, and members of these organizations go to make up the Advisory Committee which controls the project and appoints the Evaluation Committee whose job it is to assess the applicant schools. The organizations represented by the Advisory Committee are as follows: Canadian Association of School Administrators (Saskatchewan Branch), the Provincial Library, Saskatchewan Association of Educational Media Specialists, Saskatchewan Department of Education, Saskatchewan Council of Educational Administrators, Saskatchewan Federation of Home and School Associations, Saskatchewan Library Trustees Association, Saskatchewan School Trustees Association, Saskatchewan Teachers' Federation, and the Regina and Saskatoon Campuses of the University of Saskatchewan.

Users

Besides the students in the demonstration schools, visitors from within the province and elsewhere in Canada are able to benefit from seeing the way in which the selected schools meet the quantitative standards for print and audio-visual materials and, through their integration, maintain the standard of quality of the educational programme. All grade levels are served, and the staff also aim to meet the individual student's need.

Staff and Training Provision

The minimum staff for a demonstration school is two: a librarian and a library clerk, the latter preferably also trained as a library technician. Additional staff are appointed in proportion to school enrolment, as set out in 'Standards of Library Service in Canadian Schools'. The librarian will have good teaching experience and a professional library training. The library clerk will have been trained in business methods. If there is a library technician he will have had the

appropriate recognized training.

Personnel from the present service have held occasional discussions with visiting educators from Commonwealth countries concerning similar projects, and would be able to assist also by correspondence.

Expenditure

Capital expenditure in an early demonstration school was as follows:

Building (library space)	\$C28,000
Equipment	\$C 7,000
Furnishing	\$C 8,000
Materials	\$C20,000
	<u>\$C63,000</u>

Annual recurrent expenditure was divided between staff salaries, (\$C12,000) and materials (\$C10 per head per student).

Plans for Development

Demonstration schools might be chosen for pilot educational or innovative projects.

Address for Correspondence

Programme Consultant (School Libraries)
Department of Education
Midtown Centre Building
Hamilton Street and 11th Avenue
Regina
Saskatchewan
CANADA

TAPE LIBRARY SERVICE

Purposes and Structure

The Saskatchewan Education Department is responsible for this service, which is part of the Instructional Resources Section. It has been in operation since 1957, and provides educational audio-tapes in all subject areas for Saskatchewan schools. Tapes are both dubbed and loaned. In 1973 a videotape dubbing service and videotape section were added to the library. This service is available to all schools equipped with VTR equipment.

Users

So far a total of 794 schools have made use of the service. The Tape Exchange Project between Saskatchewan schools and schools all over the world has been in operation since 1959.

Output

During 1971-1972, 787 shipments of 3,811 dubbed and loan tapes were made to Saskatchewan schools.

Staff and Training Provision

The tape librarian is in charge of the day-to-day work, and the service is supervised by a Chief, and also the Radio and Tape Programme Consultant of the

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Instructional Resources Section.

Expenditure

No detailed information is available (see under Instructional Resources Branch)

Plans for Development

The videotape dubbing service has been the most recent development. A small library of tapes is available now and the studio has been equipped to offer a dubbing service.

In the near future it is hoped that preliminary discussions on the establish-

ment of a Communications Corporation will result in the adoption of the report to form 'The Saskatchewan Media Corporation'.

Address for Correspondence

The Tape Librarian
Instructional Resources Section
Department of Education
Midtown Centre Building
Hamilton Street and 11th Avenue
Regina
Saskatchewan
CANADA

CYPRUS

GENERAL INFORMATION

AREA 3,572 sq. miles POPULATION 645,000 (1972) PER CAPITA INCOME £456 (1972)

EDUCATIONAL PROFILE

Statistics

Public expenditure on education = £7,089,200 (1971) = 3.0% of GDP
(Currency: pound; £CO.83 = £1 sterling 4.12.73)

No schooling	Age 15 - 24 = 15%	Age 25+ = 51.9%
Completed primary	Age 15 - 24 = 45.9%	Age 25+ = 33.8%
Entered secondary	Age 15 - 24 = 38.4%	Age 25+ = 13.0%
Entered tertiary	Age 15 - 24 = 0.7%	Age 25+ = 1.4%

Teacher training (1973) primary level students 267 staff 17

Students at tertiary (non-university) level in 1973 = 921

Cypriot students abroad in 1970/71 = 11,450

% illiteracy = 10 - 14 years = 0.8%; 15 - 19 years = 2.3%; 20 - 24 years = 5.0% in (1960)

Structure

The Ministry of Education provides schools for the Greek-speaking community (82% of the population), but education for the Turkish-Cypriot community is organized separately by the Turkish Communal Chamber.

Primary education is compulsory for every child aged 6 to 12 years. There are nine 'eight-grade' schools in large rural centres, which comprise the seventh and eighth post-primary classes, in which among other subjects of general education, girls take domestic science and boys agriculture and technical subjects. In practice about 86% of primary school pupils enrol in the secondary schools. The first two years are free and by 1974 the third year will also be free, but the other grades are fee-paying, though grants covering up to 30% of students are available. Academic secondary education lasts six years. There are also technical schools, which give training in mechanical and electrical engineering and other vocational subjects. The government also provides courses for the training of nurses, policemen, forest rangers, and tourist guides.

The only institution of higher education under the Ministry of Education is the Pedagogical Academy of Cyprus in Nicosia, which gives three-year teacher training courses, for primary teachers.

Further education is provided by the Ministry of Education in its Evening

Cultural Centres, in the rural areas, and in its Foreign Language Institutes and Technical Schools, which provide afternoon and evening courses, in the towns.

The Ministry of Labour has established a Higher Technical Institute and a Hotel and Catering Institute in Nicosia, with Unesco and ILO support, and some of the teachers and students come from the Turkish sector.

BROADCAST COMMUNICATIONS FACILITIES

Radio (1971)

The Cyprus Broadcasting Corporation is an independent statutory body, using six stations for 175,000 radio sets (271 per 1,000 of population).

Television (1971)

CBC has two television stations and two transmitters, for over 71,000 TV sets. The service covers the whole island.

PROVISION FOR EDUCATIONAL INNOVATION

An Educational Institute is currently under establishment and is expected to open its doors in 1974 for the in-service training of teachers. It will incorporate units concerned with educational documentation and dissemination of information, curriculum development, educational research and an audio-visual service.

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EDUCATIONAL BROADCASTING SERVICE (RADIO AND TELEVISION)

Purposes and Structure

The Ministry of Education is responsible for both educational radio and television which have been in existence since 1968 and 1966 respectively. The Service provides programmes and support material for pupils in elementary and secondary schools during the morning school hours. It also provides radio broadcasts and support material to help with the in-service training of teachers. Programmes are produced in co-operation with the Cyprus Broadcasting Service. Educational broadcasting is run by an Organizer. Policy is controlled by a committee composed of the heads of departments of both the Ministry of Education and the Cyprus Broadcasting Service, representatives of the three teachers' unions, the principal of the teachers' training college, and the Organizer.

Users

All the elementary schools, totalling 63,068 pupils, are provided with radio sets; all secondary schools, which have 36,585 pupils, are provided with TV sets. In addition 2,000 elementary school teachers receive the radio programme.

Output

Radio programmes for elementary school children include local history, Greek history, the history of the Church, rhythm and music, totalling fifty-four fifteen-minute broadcasts for grades 1 to 6. The teachers' radio programmes include a series of thirteen broadcasts on modern mathematics and ten programmes on language. The television programmes addressed to secondary school children cover subjects of geography, biology, physiology, and English for grades 1 to 5.

Staff and Training Provision

The Ministry of Education provides an Organizer and four teachers who are seconded to the Service on a year-by-year basis. The Cyprus Broadcasting Service provides a producer and an assistant to co-operate with the other staff when scripts reach the stage of production and recording. Staff are trained by vacation courses and workshops which are jointly organized by the Ministry and the Broadcasting Service. In addition, some of the staff now employed have received training in the UK.

The Organizer participates in seminars, workshops, and study groups organized or sponsored by the Council of Europe and he would be available to offer his services and to participate in training courses to assist other Commonwealth countries.

Expenditure

£5,000 per year is allocated to cover payments to the Cyprus Broadcasting Service, scriptwriting, visual material, etc. Staff salaries and travelling come under separate heads of expenditure within the Ministry of Education and the Cyprus Broadcasting Service.

Plans for Development

It is hoped to improve and extend the services rendered so far and to offer opportunities and assistance for the training of staff abroad.

Address for Correspondence

The Organizer
Educational Broadcasting Service (Radio and Television)
C/O Ministry of Education
Nicosia
CYPRUS

MASS MEDIA IN EXTENSION

Purposes and Structure

The Ministry of Agriculture and Natural Resources set up the service to provide educational, advisory and enlightening radio and television programmes within the framework of the Agricultural Extension Programme of the Ministry of Agriculture and Natural Resources. Home economics aspects are also covered in these programmes. In addition to the radio and TV programmes a periodical and a number of educational and technical leaflets and bulletins are issued according to the needs of the farming Community.

The radio programmes were started in 1955 and television programmes in 1964. Publicity and Publications - Mass Media, are part of the Extension Service of the Department of Agriculture.

Technical preparation and presentation of the radio and television programmes as well as of the leaflets and bulletins, including the scientific side, is done by the staff of the Ministry, while the structure and the form of the television and radio programmes is decided in co-operation with Cyprus Broadcasting Corporation (CBC). In the case of leaflets and bulletins, the Public Information Office (PIO) co-operates with regard to the printing procedure required.

Users

The programmes are intended mainly for the rural community - farmers, housewives, and youth. However, they are also followed by members of the urban population.

Output

Radio agricultural programmes are

broadcast twice a week, each Thursday and Sunday for forty-five and twenty-five minutes respectively. The TV programme is a weekly programme every Friday afternoon, for twenty minutes. They generally cover agricultural subjects of interest to the farming community. Home Economics are included as well. In planning for the programmes seasonal needs of the community are taken into consideration, as well as the priority development targets of the Department.

Staff and Training Provision

Four members of the Extension Service are involved in this work. They are in close co-operation with a large number of the technical staff of the Ministry and with the relevant staff of CBC and PIO. One senior officer has been trained at CEDO in television production. Another has received overseas training in photography and cine-filming.

Staff also occasionally participate in in-service training courses, and seminars. Staff are selected for training on the grounds of the service's requirements and the trainee's needs. Assistance may be provided to other Commonwealth countries if personnel visit Cyprus.

Expenditure

The Ministry provides the office buildings and the CBC the receiving and studio equipment, the PIO also provides office buildings for their staff. In addition to CBC equipment, the Ministry has a capital investment in equipment amounting to £5,000.

Recurrent expenditure: (£9,500)

Ministry staff salaries	-	£6,500
Ministry staff materials	-	£2,000
Travelling expenses	-	£1,000

CBC's and PIO's recurrent expenditure is not included in the above figures. PIO's expenditure for 1973, for the printing of the periodical, the bulletins and the leaflets will amount to £9,000.

Plans for Development

The main task is to strengthen the service so as to meet the increasing demand and needs of the community.

Address for Correspondence

Director General
Ministry of Agriculture and Natural
Resources
Nicosia
CYPRUS

FIJI

GENERAL INFORMATION

AREA 7,055 sq.miles POPULATION 541,000 (1972)

EDUCATIONAL PROFILE

Statistics

Public expenditure on education = \$F10,751,153 (1972)
(Currency: dollar; \$F1.88 = £1 sterling 4.12.73)

Less than primary	34.9%
Completed primary	63.8%

Teacher training (1973)	primary level	students 426
	secondary level	students 312

Structure

'To produce a literate and alert people, capable of controlling their own personal and national affairs' - from the aims of the pre-independence government quoted in Unesco World Survey of Education. The Minister for Education, Youth and Sport is responsible for the formulation and execution of educational policy.

Hitherto the pattern has been eight years of primary education and four years of secondary education for selected pupils. It is hoped to replace this with six years of primary education followed by four years of secondary education, the primary years being free and compulsory, and the secondary being available to all, with two years' upper secondary for selected pupils.

There are three teacher training colleges, the main one being the government-run Nasinu Training College. The other two are small, taking only about twenty students each, and are run by the Roman Catholic Church and the Seventh Day Adventists.

The University of the South Pacific, established in 1969, is in the capital of Fiji, Suva. Its School of Education is involved in curriculum development for the whole region.

BROADCAST COMMUNICATIONS FACILITIES

Radio (1971)

The Fiji Broadcasting Commission is an independent statutory body. There are eleven stations, all on medium wave bands situated in five centres. World news services are rebroadcast from Britain and Australia, and there is also a local news service. There are school broadcasts during term-time. 45,000 sets were licensed in 1969 (87 per 1,000 of population).

PROVISION FOR EDUCATIONAL INNOVATION

Curriculum development is being actively fostered by the University of the South Pacific which also includes an Audio-Visual Aids Support Unit. The South Pacific Commission has a broadcasting and television officer in Suva.

SCHOOLS BROADCAST UNIT

Purposes and Structure

The Ministry of Education, Youth and Sport is responsible for this service, which has been in operation since 1969. The programmes are intended mainly as a support to teachers in primary schools and the lower forms of secondary schools. Emphasis is given to the teaching of English as a second language. The Unit is an integral part of the Research and Development Section of the Ministry and is responsible directly to the Chief Education Officer, Research and Development. An advisory committee assists the Permanent Secretary for Education, Youth and Sport on policy matters. The Fiji Broadcasting Commission Radio Bureau, Suva, and the University of the South Pacific are also involved in the Unit's activities.

Users

About two-thirds of the schools in Fiji have radio receivers. The potential audience is 130,440 in primary schools and 18,000 in junior secondary schools. There are no programmes as yet for older secondary pupils.

Output

Much of the programme time is taken up with English studies - reinforcement of

language teaching, dictation, comprehension and literature. Programmes are also made on current affairs, social studies, science and music. There is also a programme for teachers. Most programmes last for fifteen minutes and there is a total of four hours' broadcasting a week. Teachers' notes and an annual handbook are provided in conjunction with the broadcasts.

Staff and Training Provision

The Unit Supervisor (Senior Education Officer) is engaged in administrative matters and performs most of the production work. When new staff are recruited, they will be given on-the-job training and it is planned to make full use of further training facilities available overseas.

The Assistant Supervisor is engaged in some administrative matters, as well as some programme production and organization. A full-time script writer is employed and a presentation assistant attends the Fiji Broadcasting Commission studios each day to present the prerecorded programmes, combining this with other duties. A typist and a part-time language specialist complete the staff; but there are plans for expansion. Staff are drawn from the teaching profession.

Expenditure

Capital expenditure is estimated at Fiji \$F30,000 for buildings, furniture and studio equipment. Through the generosity of the Government of New Zealand a new operational centre with two well equipped studios and other facilities, together with offices for members of the staff is now under construction and should be ready for full use toward the middle of 1974.

Annual recurrent expenditure:

Salaries	\$F16,794
Materials	\$F 2,385
Travel and sundry items	\$F 1,000
	<u>\$F20,179</u>

Plans for Development

Replacement radios are needed for schools to improve reception. Tape recorders would also be invaluable.

It is hoped to add a technician, another script writer and two editor/producers to the programme section. Due to shortage of staff there have been considerable difficulties.

Address for Correspondence

The Unit Supervisor
Schools Broadcast Unit
Ministry of Education, Youth and Sport
Suva
FIJI

THE GAMBIA

GENERAL INFORMATION

AREA 4,003 sq. miles POPULATION 494,279 (1973)

EDUCATIONAL PROFILE

Statistics

Public expenditure on education = D2,639,260 (1973)
(Currency: Dalasi; D4.0 = £1 sterling 4.12.73)

Teacher training (1973) primary level students 165 staff 16

Structure

The aim is to provide basic schooling for the greatest possible number of children that the slender resources of the country can allow. Primary education aims to develop sound standards of individual conduct and behaviour, an understanding of the community and of the contribution which the individual can make, the development of a lively curiosity leading to a desire for knowledge about the immediate environment and the world outside, permanent literacy, the acquisition of some manual skill and recognition of the value of manual work. A necessary emphasis at the secondary level will be to create an interest and the right attitude towards participation in agriculture and vocational skills.

Pre-primary education is provided in private, fee-paying schools in Banjul, and in a few mission schools, but the government does not contribute towards them. Primary education for most children is from 6 - 12 years of age, and is provided in government schools, local agreement schools and mission schools. Pupils who complete the six-year primary course may take the entrance examination for secondary education. At the secondary level, there are four-year junior secondary schools, and six-year senior secondary schools, which prepare for the GCE 'O' level examination. The senior secondary schools admit some pupils to sixth form-level classes after 'O' level. Fees are charged at every stage. Post-secondary education is available at the teacher training college and at two vocational training centres.

The government awards scholarships for higher education overseas, as there are no higher education institutions in The Gambia.

BROADCAST COMMUNICATIONS FACILITIES

Radio (1972)

Radio Gambia is a government-run service. It has one station, and broadcasts in English, Wolof, Mandingo, Fula, Jola and Sarahule.

Radio Syd is a commercial radio station, broadcasting from a ship anchored on the coast at Banjul.

In 1965 there were 44,000 sets, or 133 per 1,000 of population.

PROVISION FOR EDUCATIONAL INNOVATION

There is a Curriculum Research and Development Unit which has been operating for two years mainly through Peace Corps voluntary effort. UNDP and Unicef have promised assistance for future development.

A Teachers' Centre, an Audio-Visual Centre and an educational research facility are all planned for the future.

It is hoped to introduce educational broadcasting in the next three years. At present there is only an informal approach at the adult level, to the question of educational broadcasting. Both Radio Gambia and the Information Office Film Unit do broadcast adult education material in support of Government development policies.

Yundum College is shortly to undertake a large development plan which will change it into something more like a polytechnic with a teacher training department. Within the new college it is hoped to set up a Resources Centre to serve the needs, not only of students, but also of teachers throughout the country.

GHANA

GENERAL INFORMATION

AREA 92,100 sq.miles POPULATION 8,600,000 (1969) PER CAPITA INCOME £65

EDUCATIONAL PROFILE

Statistics

Public expenditure on education = 79,993 New Cedi = 3.9% of GDP
(Currency: Cedi; ₵2.69 = £1 sterling 4.12.73)

No schooling	Age 15 - 24 = 64.2%	Age 25+ = 86.2%
Completed primary	Age 15 - 24 = 32.3%	Age 25+ = 12.1%
Entered secondary	Age 15 - 24 = 2.9%	Age 25+ = 1.1%
Entered tertiary	Age 15 - 24 = 0.6%	Age 25+ = 0.7%

Teacher training (1970) primary level students 16,478 staff 1,324
secondary level students 1,557 staff 77

Students at university in 1970 = 4,729

Structure

It is the policy of the government to give emphasis to the teaching of science, mathematics and English to reflect the changing scientific, technological and cultural needs of Ghana.

Responsibility for the provision and control of education in Ghana lies with the Ministry of Education, which has two divisions: the Division of Pre-university Education and the Division of Higher Education. Adult literacy campaigns fall under the Ministry of Labour and Social Welfare.

An eight-year primary course is followed by either five years' secondary education, two years of 'continuation' (or post-primary) education, or secondary technical school for a very few. The Common Entrance Examination is taken in the eighth year of the primary school; unsuccessful pupils go to continuation schools, where they receive pre-vocational training.

Teacher training courses lasting four years are provided in eighty-three colleges for students with the Middle School Leaving Certificate, while students with the School Certificate (taken after five years at secondary school), follow two-year courses.

There are three universities in Ghana, as well as an Institute of African Studies and an Institute of Adult Education.

BROADCAST COMMUNICATIONS FACILITIES

Radio (1971)

Ghana Broadcasting Corporation is an autonomous statutory body. It operates sixteen stations, all on short wave. The Corporation's school broadcasting unit serves schools and teacher training col-

leges. There were 700,000 radio sets in 1969, or 81 per 1,000.

Television (1971)

The service has four transmitters and there are about 12,000 television sets in Ghana (or 1.4 per 1,000). The service is primarily educational.

PROVISION FOR EDUCATIONAL INNOVATION

Details of the provision for educational research and development, the Curriculum Development Unit and other provision to speed the process of educational innovation are awaited.

CORRESPONDENCE EDUCATION UNIT

Purposes and Structure

The Institute of Adult Education at the University of Ghana is responsible for this project which began with a trial run in 1970, and took 200 students in that same year. The project provides further education facilities for the general public, especially those who need additional qualifications for advancement in their jobs. The Ghana Broadcasting Corporation has consented to co-operate with the Institute by making radio and television facilities available to them to supplement the programme. The Correspondence Unit is an integral part of the Institute of Adult Education, and there is a small committee under the chairmanship of the Director which formulates policy and is also responsible for reviewing courses. The Institute has commissioned a team of writers whose work is modified and later

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reviewed by either full-time or part-time staff before the course is finally offered to the students.

Users

The number of registered students at the end of July 1972 was 1,188. The service is aiming at student registration of 5,000 by 1973.

Output

The courses include the following subjects at Ordinary level: English language, English literature, economics, mathematics, additional mathematics, commercial arithmetic, commerce, principles of accounts, history, Bible knowledge, government, geography. In addition, government is offered at Advanced level. The courses have also been commissioned in Twi for ordinary level history, economics and geography. The Unit uses the Institute's printing section.

Staff and Training Provision

The Head of the Unit is a senior lecturer who is responsible to the Director. He is assisted by a resident tutor and one senior organizer, and seven clerical staff. The staff are trained by attachment programmes to well-established overseas correspondence institutions as well as by local training. In addition, they attend overseas conferences and seminars. The full-time staff are appointed by the University, and part-time tutors are appointed in consultation with the regional heads of the Institute.

Personnel from this project have not so far been involved in assisting other Commonwealth countries in the field of correspondence education, but they are now able to assist through attachment programmes for interested parties, the distribution of an evaluation report, and short orientation courses.

Expenditure

The capital expenditure involved in the project is ₵44,400 for building, and ₵15,400 for equipment. The annual recurrent expenditure is estimated as follows:

Salaries	₵27,300
Moderators' fees	₵ 3,500
Materials	₵ 3,100
Travel, etc	₵ 2,000

Plans for Development

It is hoped to supplement the programme with the use of radio and television, and to offer students all courses, both examination and non-examination, by correspondence. The present growth rate demands the mechanization of some of the operations of the Unit. The assistance mainly required would therefore be that of additional equipment, such as Addressographs, electric typewriters and a printing machine.

Address for Correspondence

Institute of Adult Education
(Correspondence Education Unit)
University of Ghana
Box 25, Legon
Accra
GHANA

THE EDUCATIONAL SERVICE OF THE GHANA BROADCASTING CORPORATION

Purposes and Structure

The Ghana Broadcasting Corporation is responsible for this service. School radio began in 1957 and school television programmes were first transmitted in pilot form in 1965. Educational radio and television programmes are aimed to supplement class teaching in the primary and secondary schools, and training colleges. The Ministry of Education and the Friedrich Ebert Stiftung Foundation co-operate with the service, which is controlled by a Director-General, and comprises both the sound radio and the schools television section of the Ghana Broadcasting Corporation. The Governing Body is a school broadcasting advisory committee with representatives from the Ministry of Education, Ghana Broadcasting Corporation Television, and schoolteachers.

Users

280 schools and colleges have television receivers serving a total potential viewing audience of about 40,000 children. Some 1,200 schools in the country have radio receivers with a potential audience of 80,000.

Output

The television programmes are all in English and are designed for primary, middle and secondary schools, training colleges, as well as the general public. The radio programmes cover English, drama and music for primary schools and French for secondary schools.

Staff and Training Provision

Under the guidance of the Director-General, the television section is headed by a television schools supervisor/producer, and has also a producer/director and three production assistants. The radio section is headed by the Head of Schools Radio, with two programme organizers and five producers, but many of the staff have other duties in addition to schools broadcasting. Staff are trained both locally and by attachment to organizations such as the British and Canadian Broadcasting Corporations. All staff are primarily selected by the Director-General in consultation with heads of departments and are mainly recruited from the teaching profession. Some are selected for further training

overseas, after working with the service for some time.

Personnel have not been involved in assisting other Commonwealth countries in educational broadcasting, but interested parties could be considered for attachment programmes.

Expenditure

There are no specific estimates for the broadcasting service in respect of buildings and equipment, as this belongs to the Ghana Broadcasting Corporation. The Ghana Broadcasting Corporation radio schools received ₵19,000 in the 1970-71 academic year as a subsidy from the Ministry of Education for printing and materials. The recurrent expenditure on radio for educational purposes is:

Salaries	₵21,500
Materials	₵75,130
Travel	₵ 6,002

Plans for Development

The coverage of the schools broadcast service is to be increased and this calls for more television sets, together with spare parts and over 2,000 radio boxes and transistor sets.

Address for Correspondence

Educational Service
Ghana Broadcasting Corporation
Radio Ghana
Accra
GHANA

LANGUAGE TUITION BY THE INSTITUTE OF LANGUAGES

Purposes and Structure

This project was begun in its present form in 1961 and the language laboratories were installed under commission in 1964. The Institute provides guided oral practice to students pursuing language courses in French, German, English, Russian, Arabic, Spanish, Italian and Swahili. The respective embassies in Ghana help the Institute with documentary and cultural films, and in some cases the Institute is provided with language tutors under Technical Assistance agreements. The Institute is a corporate body under the Ministry of Education, established by legislative instrument. The control and formulation of policy are vested in the management board and the Director is responsible for general documentation and acts as chief executive of the board of management. The School of Translators is a department of the Institute.

Users

Enrolment at the Institute is unlimited. All literate persons wishing to study any of the languages offered, and particularly

those who are interested in language as a means of communication either for advancement of their profession or as a social need, may be enrolled.

Output

The average enrolment for each term is 350. In addition there are vacation courses for students in secondary schools and the general public. The 1971-72 vacation course for which 717 students were enrolled, had 374 for French, 275 for English and 68 for German.

Staff and Training Provision

The Director is assisted by a deputy and there are also two senior tutors, four tutors, twenty-three assistant tutors (School of Languages) and four assistant tutors (School of Translators). There is no specific training for the staff. Selection for training will be processed by the board of governors.

Opportunities for sharing experiences in modern language laboratory techniques through the attendance of seminars, conferences and workshops will be welcomed.

Expenditure

The main building and its equipment is provided by the government for use by the Institute. Three language laboratories with a total of sixty-four booths, three monitorial desks and tapes were installed in the building at a cost of ₵30,487. Annual recurrent expenditure is estimated as follows:

Personal emoluments:	
Established posts	₵85,230
Other posts	₵ 6,480
Misc. allowances	₵19,490
Travelling	₵16,600
General expenditure	₵31,500
Maintenance, repairs, renewals	₵ 3,600
Other current expenditure	₵ 500
Plant, equipment and furniture	₵ 4,600

Plans for Development

It is intended to increase the number of booths to meet the increasing enrolment for the courses offered at the Institute. A laboratory specially designed to train a limited number of interpreters will be necessary as the work of the School of Translators expands. There is need for a research department and for overseas leave for staff to further their training in special fields related to their work, and this is at present being considered.

Address for Correspondence

Institute of Languages
Box M 114
Accra
GHANA

GUYANA

GENERAL INFORMATION

AREA 83,000 sq.miles POPULATION 740,196 (1970) PER CAPITA INCOME \$G682

EDUCATIONAL PROFILE

Statistics

Public expenditure on education = \$G25,660,617 (1971) = 5.08% of GDP
(Currency: dollar; \$G5.21 = £1 sterling 4.12.73)

Less than primary	16%	
Completed primary	84%	(1970)
Completed secondary	45%	
Completed tertiary	.06%	

Teacher training (1970) primary level students 656 staff 61
secondary level students 53

Students at university in 1970-71 = 1,495

% Illiteracy = 14% in 1971

Structure

Policy is the responsibility of the Minister of Education. Free, compulsory education is provided for all children between the ages of 5 years 9 months and 14 years. First level education lasts six to eight years. Pupils take the secondary schools entrance examination. Those who are not admitted may be able to transfer to secondary school at the end of Form I by means of the Preliminary Certificate of Education (which is also the first leaving exam), or the College of Preceptors Examination at the end of Form III. Secondary school pupils take GCE 'O' and 'A' levels.

Vocational education is carried on at two Technical Institutes, one school of Home Economics and an Industrial Training Centre under the Ministry of Education as well as the Guyana School of Agriculture which comes under the Ministry of Agriculture. Almost every primary and secondary school has some vocational education on its programme. The latest policy is to expand programmes in agriculture, Home Economics and Industrial Arts at all levels of the educational system.

The Government Training College for primary school teachers provides two-year training. The teachers' college for secondary education runs a three-year course. An in-service training course of two years' duration is offered. Higher education is provided by the University of Guyana.

BROADCAST COMMUNICATIONS FACILITIES

Radio (1971)

Guyana Broadcasting Co. Ltd. is a commer-

cial enterprise. There is one medium wave transmitter and one short wave, serving 80,000 receivers (1965 figure) or 124 per 1,000. Schools broadcasts are provided locally.

PROVISION FOR EDUCATIONAL INNOVATION

There is an educational planning unit and a curriculum research and development unit. Workshops are held for teachers as required and an educational research facility is centred on the University.

BROADCASTS TO SCHOOLS SERVICE

Purposes and Structure

The Service began in 1954 to supplement by radio the work of teachers in schools, especially in remote and riverain areas; to present direct teaching in music, science, and social studies and to stimulate the imagination of the child in the classroom situation. Latterly, it has helped to create an awareness of events leading to the realization of national goals including Caribbean regional integration.

From 1954 to 1964, policy was controlled by a broadly based Committee under the Chairmanship of the Deputy Chief Education Officer. Since 1964, when the Division was transferred from the Information Ministry to the Education Ministry, the Division has worked directly to the Deputy CEO.

The policy of the Division is to make use of the expertise of personnel in the Uni-

versity of Guyana, government departments and public corporations as well as from secondary schools.

Users

Nearly 400 schools possess radio receivers, larger schools having more than one set.

The potential listening audience is in the order of 150,000. There is also a large home listening audience of parents and other adults.

Output

Programmes are transmitted to primary and secondary schools from Standard I through to Form 4 and include social studies, music, literature, Spanish language and agriculture. Programmes are about ten or twelve minutes long and the programmes are supported with timetables, children's booklets and notes for teachers.

Staff and Training Provision

There are eight members of staff at producer level under the direction of the Schools Broadcast Organizer. There are about twenty-five specialist part-time scriptwriters, drawn from University and secondary school staff and about thirty freelance narrators and contributors to programmes.

The Schools Broadcast Organizer recruits staff from the teaching profession and from the public services in consultation with the Ministry of Education and the Public Services Ministry. After a period of in-service training members of staff are then nominated for overseas training on a scholarship basis. There are also seminars

and workshops on the utilization of the programme material for classroom teachers.

The Schools Broadcast Organizer has participated in a considerable number of regional conferences and seminars and would be available to participate in training courses and to offer advice on the setting up of similar broadcasting services in the Caribbean area.

Expenditure

Capital expenditure:

Recording Studio presented by the Friedrich Ebert Stiftung, Bonn	\$G500,000
Other equipment	\$G 10,000
Vehicle (FES)	\$G 3,000

Annual recurrent expenditure:

Salaries	\$G 12,000
Printing	\$G 42,000
Other services (clerical staff, scriptwriters' fees)	\$G 25,000

Plans for Development

The Service hopes to acquire a permanent building with a recording studio and office accommodation. The development of utilization courses is under consideration.

Address for Correspondence

The Schools Broadcast Organizer
The Broadcasts to Schools Service
Ministry of Education
88 Carmichael Street
Georgetown
GUYANA

INDIA

GENERAL INFORMATION

AREA 1,267,043 sq. miles POPULATION 547,949,809 (1971) PER CAPITA INCOME 577 Rupees

EDUCATIONAL PROFILE

Statistics

Public Expenditure on education = Rs 10,000,000,000 (1971) = 3.1% GDP
(Currency: Rupee; Rs 18.71 = £1 sterling 4.12.73)

Attending primary	Age 6 - 11	80.5%
Attending middle	Age 11 - 14	34.2%
Attending secondary	Age 14 - 17	20.7%
Attending tertiary	Age 17 - 23	4.0%

Teacher training (1971)	primary level	students 136,362
	Secondary level	students 51,200

Students at university in 1971 = 2,505,713

% illiteracy 10 - 14 years = 50.3%; 15 - 19 = 49.2%; 20 - 24 = 56.2%

Structure

The obstacles which have so far hindered the provision of free and compulsory education for all children up to fourteen years of age include the large increase in population, resistance to the education of girls, illiteracy and apathy of parents, etc.

The States of India are each responsible for administering education in their own territories, for recruiting, training and paying teachers. The central authorities of the Ministry of Education are responsible for the co-ordination of educational facilities, determination of standards of higher education, scientific and technical education and research. They are also responsible for running five central universities and such other institutions of national importance as Parliament may declare by law.

Primary schooling lasts four or five years, middle or higher primary courses last three years, secondary school may last three to five years. Technical and vocational schools accept students after middle school. Post-secondary technical and vocational education is provided at the polytechnics and rural institutes.

Teacher training courses vary as to their length.

There are ninety universities. In addition to these there are nine institutions of national importance and nine deemed to be universities. Post-graduate teacher training is given in colleges affiliated to the universities, and lasts one year leading to a B.Ed. degree.

Specialized education is the joint

responsibility of the Ministry of Education and the other Ministry concerned.

The examinations which are taken at the end of the secondary schooling are set by examination boards in the separate states.

BROADCAST COMMUNICATIONS FACILITIES

Radio

Broadcasting in India is a national service developed and operated by the Government of India. All India Radio, which is also known as Akashvani, operates this service over a network of broadcasting stations located all over the country. In 1947, when India attained Independence, AIR's network consisted of only six radio stations. At present, the sound broadcasting network of AIR consists of forty-three principal stations, twenty-six auxiliary centres, two Vividh Bharati centres and four auxiliary studio centres. In March 1973, 80.3% of the population was covered by 106 medium-wave and thirty-two short-wave transmitters.

The number of radio sets in the country as on December 31, 1972, stood at 12,894,535 (provisional). There are 27,800 radio rural forums operating in the country.

Television

There are three television stations: Delhi (60 km range); Bombay (95 km range) and Srinagar (60 km range) and two relay centres: Amritsar (65 km range) and Poona (80 km range). There are about 80,000 television sets in the service area of Delhi Television Centre.

The television service is primarily intended for educational service to schools, teacher training institutions and education centres apart from giving a rich fare of Indian social and cultural affairs through a variety of entertainment.

PROVISION FOR EDUCATIONAL INNOVATION

Bodies concerned with educational innovation include the following:

The National Institute of Education of the National Council of Educational Research and Training in New Delhi - the Institute has various Departments such as the Department of Teaching Aids, Department of Science Education and several other Departments which are also engaged on experimentation and innovation in education;

The National Staff College for Educational Planners and Administrators in New Delhi;

The Educational Technology Unit within the Ministry of Education and Social Welfare in New Delhi;

The Centre for Educational Technology, which has been set up under the National Council of Educational Research and Training in New Delhi;

Educational Technology Cells, which are being set up in all the States in a phased manner. Such Cells have already been sanctioned for Maharashtra, Panjab, Jammu, Kashmir and Kerala;

A Direct Distribution Satellite Project is being developed and should be operating by 1975.

The Ministry of Information and Broadcasting plan to extend radio and television services on the ground.

Allied to these proposals is the development of a Television Production and Technical Operators Training School at Poona where it moved after starting in New Delhi.

Delhi University runs correspondence courses for teacher upgrading at graduate level.

EDUCATIONAL TECHNOLOGY PROJECT

Purposes and Structure

The Central and State Governments are jointly responsible for the implementation of the project which was started in 1973/74. It aims to develop educational technology in India by making full use of films, radio broadcasts, the expanded television coverage of the country and the new educational techniques such as video/audio recorders, programmed learning, etc. It is intended to stimulate education at all levels and to bring about qualitative improvement. It is also expected to contribute towards the reduction of wastage at schools, particularly the primary level, by making primary school

instruction more interesting and effective by supplying audio-visual materials and by training personnel.

Other agencies co-operating are: UNDP; Unesco; National Council of Educational Research and Training (NCERT); State Departments of Education, the State Council of Educational Research and Training and similar organizations; the Ministry of Information and Broadcasting and other Ministries of the Government of India and their various organizations like All India Radio, Film and Television Institute, Indian Space Research Organization; University Grants Commission and education departments of various universities.

To administer the project, an Educational Technology Unit has been established in the Central Ministry of Education. It will deal with policy matters and will co-ordinate the activities of NCERT, the ministries/departments of the Central Government and the State Governments and various international agencies.

Users

A wide variety of personnel will be trained who will be responsible for promoting, organizing and raising the quality of educational media utilization at national and state level.

Output

At the national level the new Centre for Educational Technology, which has been set up under NCERT, will undertake the various training programmes of key personnel required by the State Governments for the implementation of the project. It will be assisted by the Department of Teaching Aids of NCERT, which already runs regular courses in audio-visual education. The Centre will also prepare proto-type instructional materials such as outline models, teachers' guides, films, video-tapes and other aids. It will also carry out experimental work to develop innovative educational uses of the various media and build up an information bank on educational technology and programmed learning.

At the State level, the Educational Technology Cells, which are being set up in each State, will develop plans to use all audio-visual and other modern techniques to improve education. The Cells will undertake training of the teachers in giving pre-broadcast instructions and conducting post-broadcast discussions in the classroom. They will also assist AIR in training scriptwriters, presenters and other personnel needed to produce school broadcasts and they will prepare printed material needed for the broadcasts.

Staff and Training Provision

When the project is fully implemented the

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various sections will employ the following staff: Educational Technology Unit - one deputy secretary, an under-secretary and three other staff; Centre for Educational Technology - a chief and five deputies, four programme and scriptwriters, twenty-seven technical officers and twenty-one other staff; Educational Technology Cells in States - each Cell will have one officer-in-charge, two programme and scriptwriters and five other staff.

The key personnel being sponsored by the organizations concerned are being trained at the Centre for Educational Technology with the help of foreign experts and other resource personnel from NCERT, Film and Television Institute, AIR, State Departments of Audio-Visual Education and other similar organizations. These trained personnel will then organize training for various categories of staff for the various States and for teachers.

Recommendations were invited from the organizations concerned as to suitable staff to be trained. They are then assessed through specially arranged workshops.

The personnel would not yet be in a position to assist other Commonwealth countries since the project has only just begun. The time for such assistance will come when the project has been operating for some time and has developed the necessary expertise.

Expenditure

Capital expenditure is estimated as follows:

Buildings	Rs 3,000,000
Equipment (from UNDP)	Rs 3,400,000
Other	Rs 700,000

Annual recurrent expenditure is estimated as follows:

Foreign experts (to be provided by UNDP)	Rs 825,000
Fellowships (UNDP)	Rs 97,000
Indian staff and other expenses	Rs 378,000
Total	Rs 1,300,000

Plans for Development

UNDP's assistance is mainly for setting up the Educational Technology Centre in New Delhi and will end after three years. Considering the scope of the project, foreign assistance will be needed for strengthening the Educational Technology Centre in Delhi, for developing educational technology in the States and for equipping teacher training institutions in the country with modern instructional aids.

Address for Correspondence

Deputy Secretary
Ministry of Education and Social Welfare
Department of Education
New Delhi
INDIA

EDUCATIONAL BROADCASTS FOR SCHOOLS AND UNIVERSITY STUDENTS

Purposes and Structure

All India Radio (AIR), which is part of the Ministry of Information and Broadcasting of the Union Government, is responsible for the broadcasts which have been in operation since 1938. They provide teachers and pupils with assistance in using new techniques and methods of presentation (beyond the reach of the average school), and provide updated information and ideas, and the participation of specialists.

AIR is assisted in providing the service by the education departments of the States, consultative panels from the various States and universities in planning the programmes and organizing utilization, and feedback. Evaluation is made through subject-committees, school broadcast study groups, inspectorates and audio-visual education associations. The National Council for Educational Research and Training (NCERT) and the Institutes of English and Science also co-operate with AIR.

Users

Twenty-seven stations broadcast to about 16,000 schools, each with 500 - 1,000 pupils. Three stations broadcast to 30,000 university students and twenty-three stations broadcast general enrichment programmes to an unknown audience.

Output

About 3,400 school programmes of twenty minutes are broadcast each year in fourteen languages. The subjects covered include regional languages and literature, English language and literature, history, geography, social studies, physical and natural sciences, current affairs, music, civics and vocational guidance. Frequency of broadcasts varies from four to twenty programmes a week from the different radio stations.

Sixteen stations also provide weekly broadcasts for teachers on educational methodology and practices.

Each year there are about 1,450 broadcasts for universities covering regional and English language and literature, history, politics, economics, physics, chemistry and biology, commerce, arts and current affairs. There are also student participation programmes.

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part of the television stations in India. The Satellite Project, which should be operative in 1975, is primarily meant as an experiment with educational television in six specially selected rural areas where augmented direct reception receivers will be installed.

Address for Correspondence

Director
School Television
Television Centre
All India Radio
New Delhi
INDIA

FARM AND HOME BROADCASTING

Purposes and Structure

The Directorate General, All India Radio in New Delhi is responsible for Farm and Home Broadcasting which aims to educate the rural people of India generally towards a better rural life, and more particularly, to provide farmers with agricultural information to assist them in increasing farm production.

The service is controlled by the Directorate General, All India Radio through its different stations. General policy and implementation is directed by the Directorate while the programming and broadcasting is the responsibility of the different stations. Co-operation is given by all the ministries of both the central and state governments which are concerned with rural development, such as agriculture, health, co-operation, family planning etc.

Rural programmes have been broadcast for over twenty-five years but Farm and Home cells started to be established in 1966.

Users

The rural programmes of All India Radio (AIR) are broadcast from all the major stations and are relayed by auxiliary stations so as to cover the rural population within listening range. Specialized Farm and Home broadcasting cells have been set up in twenty-nine stations and forty-six such stations are the target for 1974.

Output

Farm and Home programmes are broadcast daily for an hour to an hour-and-a-half from the different stations. Where Farm and Home cells have been set up half an hour is devoted to farming information on local experimentation and experience to assist the farmer and to help him adopt improved practices and to solve his farming problems. The remaining time is devoted to other subjects concerned with rural living and includes entertainment as well as folk culture.

Some stations broadcast a five-minute morning bulletin providing topical hints on farming and other announcements. In addition, several stations also broadcast a ten-minute programme in the afternoon to explain in some detail a recommended technique or to help with farming problems. Time is also allotted to answering questions from rural listeners. Periodic programmes are also broadcast on nutrition and rural and small industries.

The Farm and Home broadcasts support government programmes. All programmes are broadcast in the language or dialect of the area.

Staff and Training Provision

Three members of staff at the AIR headquarters are concerned with Farm and Home Broadcasts: Director, Farm and Home; Joint Director, Farm and Home; Farm Radio Officer (Home). The various AIR stations have five members of staff who make up the staff of the Farm and Home cell if there is one: farm radio officer; farm radio reporter; field assistant; scriptwriter; copyist. In addition there is a rural producer/assistant producer and a compere.

Staff selected for rural programmes are given training at the stations to which they are posted and after a brief period of service receive short-term training by the Staff Training School of AIR. Staff for the Farm and Home cells are given training by being sent to other stations where the programmes are broadcast before they are put in charge at their stations. Later they are given an induction course in Farm and Home Broadcasting and they also receive periodical training. Some categories of staff are selected by open competition, others by deputation from other departments.

Headquarters personnel have participated in international seminars on farm broadcasting and some personnel from the stations have received training in Australia and other countries in rural broadcasting. AIR also arranges for the training of personnel from other Asian countries in India.

Expenditure

Capital expenditure is estimated as follows:

Buildings	Rs 6,200,000
Equipment (through UNDP)	US\$ 127,000
Staff, vehicles and other miscellaneous charges	Rs 4,500,000

Estimated annual recurrent expenditure for 1973/74 is Rs 1,197,000.

Plans for Development

In the fifth Five-Year Plan of India, due to start in April 1974, it is proposed to extend the Farm and Home service to all

AIR stations and also reinforce it further to provide for an intensive broadcasting service to the women and youth of the rural community.

Further Information

Farm and Home broadcasts have had a strong impact on the rural community and have given credibility to radio as a source of authentic information.

Address for Correspondence

Farm and Home Broadcasting
Directorate General
All India Radio
New Delhi
INDIA

SUPPLY OF AUDIO-VISUAL TEACHING/LEARNING MATERIALS

Purposes and Structure

The Central and State Ministries and Departments of Education are responsible for the project which aims to provide 16mm projectors, 35mm film-strip projectors and other audio-visual teaching/learning materials to support the teacher training programmes conducted by the various primary and secondary teacher training institutions and to supplement the classroom instruction in schools.

The project has been in operation for several decades. It made considerable progress in the 1940s when post-war educational plans were drawn up after the Second World War. It then received some setbacks because of curtailment of funds but recently has recovered and is increasing rapidly.

Policy is decided by the Central and State Education Ministries and Departments. The project is actually implemented by the National Council of Educational Research and Training (NCERT), the State Institute of Audio-Visual Education, the State Institutes of Education, the State Institute of Science Education and the teacher training institutions. Assistance is also given, when necessary, by various expert committees consisting of top educationists and media experts in the formulation of policy as well as in its implementation.

Users

Sample surveys have been made in different parts of the country on the extent to which educational institutions are equipped with projective aids. The results, in projected form, were as follows: primary schools - 10% or less with any form of projector; secondary schools - 35% to 70% have slide projectors but under 30% have any other form of projector; primary teacher training institutions - 10% or

less have any form of projector; secondary teacher training institutions - 31% to 70% have slide projectors, 16mm projectors, 35mm filmstrip projectors and super 8mm projectors but 10% or less have overhead projectors.

Output

Good film libraries are available in the country for the supply of educational films both to the schools and the teacher training institutions. The Department of Teaching Aids of the NCERT maintains a Central Film Library in Delhi with four regional libraries at Bhubaneswar, Bhopal, Ajmer and Mysore. There are more than 7,000 films and 2,500 filmstrips in the library. The number of educational institutions benefiting from the library is of the order of 3,000. The majority of States have also developed their own State film libraries. The number of films in these varies from thirty-three in Arunachal Pradesh to 1,560 in Maharashtra.

Staff and Training Provision

The staffing pattern differs from organization to organization. Besides the academic staff consisting of professors, readers and lecturers, technical staff of various categories, such as photographers, artists, research assistants, evaluation assistants, production assistants, laboratory assistants, projectionists, film librarians, etc. are employed to run the different units of the organization such as the Training Unit, the Photographic Unit, etc. The number of staff employed ranges from three in Jammu and Kashmir to more than thirty in Uttar Pradesh. The Department of Teaching Aids of NCERT, which is the biggest organization at the national level, employs more than 100 officers and staff.

Training is given by the regular staff of the teacher training institutions, State institutes of education, State institutes of science education, NCERT and other training bodies. Assistance is also received from Unesco, the British Council and other interested bodies.

The staff for training are sponsored by the various training institutions, State Governments and other organizations after proper selection by appropriate authorities. Since training is given mainly to serving staff, past performance is the guiding factor in selection.

Expenditure

Statistics for capital expenditure for the country as a whole are not available. Efforts are made however to supply as much equipment as possible to schools and teacher training institutions from within the budgetary allocations made by the Central and the State Governments for audio-visual

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education from year to year.

In the case of major States, the annual budget of State Audio-Visual Units ranges from Rs 7,000 (Andhra Pradesh) to Rs 300,000 (Uttar Pradesh). The Department of Teaching Aids of the NCERT has a much larger budget which is of the order of Rs 1,000,000 or more per annum.

Plans for Development

Plans for the future include the provision of facilities for the production of slides, filmstrips and films indigenously to meet the needs of the Indian students. The plans also provide for exploring the possibility of developing super 8mm technology in the country. The development of 16mm and super 8mm technologies for

educational purposes will require assistance from outside sources.

Further Information

The staff of the various institutions have gained sufficient experience to offer their services in giving training in various aspects of audio-visual education in developing countries of the Commonwealth.

Address for Correspondence

Secretary
Ministry of Education and Social Welfare
Government of India
New Delhi
INDIA

JAMAICA

GENERAL INFORMATION

AREA 4,411 sq.miles POPULATION 1,861,300 (1970) PER CAPITA INCOME \$J431 (1970)

EDUCATIONAL PROFILE

Statistics

Public expenditure on education = \$J30,894,000 (1969-70) = 4.1% of GDP
(Currency: dollar; \$J2.127 = £1 sterling 4.12.73)

Less than primary	Age 15 - 24 = 9.4%	Age 25+ = 18.8%
Completed primary	Age 15 - 24 = 81%	Age 25+ = 75.3%
Entered secondary	Age 15 - 24 = 9.5%	Age 25+ = 5.5%
Entered tertiary	Age 15 - 24 = 0.1%	Age 25+ = 0.5%

Teacher training (1968) primary level students 321 staff 7
(1960) secondary level students 683 staff 63

Students at university in 1970 = 4,590

% Illiteracy = 10 - 14 = 5%; 15 - 19 = 9.3%; 20 - 24 = 12.4% (1960)

Structure

Education is free in all public primary schools, junior secondary schools and in the two comprehensive schools. In other secondary schools entry is by selection. About 87% of the primary age group (6 - 11) are enrolled in school, but there is an attendance problem.

At the junior secondary level (ages 12 - 14), enrolment is about 80%. Only about 10% of the 16 - 18 year olds receive secondary education. There are six teachers' colleges which give three-year courses. A seventh college gives orientation and correspondence courses. Teacher training is free.

The University of the West Indies is an autonomous institution, partly financed by the Jamaica government. Teacher training is also undertaken by the University.

Other ministries responsible for education and training are: the Labour Ministry (apprenticeship scheme and industrial training centres), Ministry of Youth and Community Development (Jamaica youth corps camps, community centres and craft workshops, the art school and music school, adult literacy programmes and the approved schools), Ministry of Trade and Industry (hotel schools), Ministry of Agriculture (the agricultural school), Health Ministry (nursing school, dental school and public health school) and Ministry of Finance (which is setting up a public service training school).

BROADCAST COMMUNICATIONS FACILITIES

Radio (1971)

Jamaica Broadcasting Corporation and Radio Jamaica Ltd are both commercial companies. Each has four stations. There were 469,000 radio sets in use in Jamaica in 1969, or 239 per 1,000.

Television (1971)

Jamaica Broadcasting Corporation also runs the television service. There were 59,000 television sets in Jamaica in 1969, or approximately thirty-two per 1,000.

PROVISION FOR EDUCATIONAL INNOVATION

The Ministry of Education has established an Educational Planning Unit. There is a National Curriculum Committee and an Audio Visual Centre is to be established.

There is collaboration in regional educational development projects in which the University of the West Indies co-ordinates activities and is assisted by agencies such as Unesco and CEDO.

EDUCATIONAL MATERIALS AND AIDS PROJECT

Purposes and Structure

The project comprises the Educational Broadcasting Service, the Publications Branch and the Correspondence Courses Section of the Ministry of Education. The purpose is to develop a national production organization for the preparation of material for direct use in schools, with a multi-media approach to curriculum innovation goals. The service began in 1968 although the components had come into

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being independently several years previously.

The Educational Materials and Aids Section of the Ministry is under the supervision of a Senior Education Officer and consists of three branches:-

The Educational Broadcasting Service (EBS) produces radio and television programmes for primary and junior secondary schools, in collaboration with the Jamaican Broadcasting Corporation.

The Publications Branch produces and distributes textbooks and supplementary books for use in primary and junior secondary schools.

The Correspondence Courses Section prepares candidates by means of printed lesson material for a number of subjects taken in the Jamaican School Certificate Examination. It co-operates with the EBS in the preparation of television lessons based on some of these courses.

There is also a production centre which provides teachers' printed guides for ETV and radio, together with pupils' workbooks and worksheets of support materials. There is a television maintenance workshop responsible for the repair of school receivers.

Users

The publications are sent to 428,000 pupils in infant, primary and all-age schools. ETV and radio programmes are designed for a total audience of 120,000 pupils in primary and junior secondary schools. The correspondence course is aimed at 8,000 students preparing for the Jamaican School Certificate Examination.

Output

300 radio and well over 400 television programmes go out to schools every year, including special programmes for teachers.

Textbooks are distributed at the rate of one book for three students and exercise books at the rate of three per pupil per year.

Staff and Training Provision

The Educational Broadcasting Service employs twenty-five staff - a Senior Education Officer is in charge assisted by two education officers and ancillary staff.

The Correspondence Courses Branch employs twelve staff. Again there is a Senior Education Officer in charge, assisted by two education officers with supporting clerical staff.

Expenditure

Figures for capital expenditure are not available, but the annual recurrent expenditure of the materials and aids section totals \$J527,000.

The Educational Broadcasting Service \$J201,000

Publications Branch \$J258,000
Correspondence Courses Branch \$J 68,000

Plans for Development

It is planned to expand media facilities into the wider field of instructional materials and related research and evaluation operations.

Further Information

The Ministry of Education has arranged observation tours by international media personnel to view the Educational Broadcasting Service in Jamaica. Staff of the E.B.S. are also available (by request through the Government of Jamaica) to participate in training courses arranged internationally.

Address for Correspondence

Officer in Charge
Educational Materials and Aids
(Radio and Television)
Educational Broadcasting Service
49 Riverside Drive
Kingston 17
JAMAICA

CASSETTE PROGRAMME IN MATHEMATICS

PILOT PROJECT

Purposes and Structure

The Ministry of Education is responsible for the project which has been running as a pilot project for two years. It provides in-service training for teachers of mathematics to help give them the confidence to tackle the teaching of new mathematics. The School of Education of the University of the West Indies and the Central Connecticut State College co-operate with the Ministry in running the project and financial support is received from commercial concerns operating in Jamaica. The project is being tested under the following conditions: as review material for teachers who have already had in-service training; for the in-service training of teachers from schools in a small area under the leadership of an external counsellor; for the in-service training of teachers of a school under the leadership of a member of staff of the school; and for in-service training of teachers in a school where there is no counsellor.

Users

All teachers in twenty primary and all-age schools and students in a teachers' college are using the material.

Output

A series of audio cassettes are provided to accompany booklets containing materials to

be used in the teaching of new mathematics. The project is confined to mathematics and at present is only for teachers of grades 1 to 6.

Staff and Training Provision

A member of the School of Education of the UWI organizes and supervises the twenty schools. There is a consultant from the Central Connecticut State College and two Senior Education Officers of the Ministry of Education write the scripts and do the recordings. Another member of the School of Education of the UWI is responsible for the audio-visual materials.

The local scriptwriters have worked under the direction of the consultant from Connecticut. The officer who makes the recordings has had acting and radio experience. Both Ministry of Education Officers on the project work in mathematics education.

Expenditure

Capital expenditure on equipment and material was \$J15,000. No details are

available for annual recurrent expenditure.

Plans for Development

It is hoped that eventually on completion of the pilot project every primary and all-age school will have a complete set of notes and tapes as in-service material for staff.

It is expected that a similar programme will be developed for teachers of grades 7 to 9 and assurance of additional financial backing for this has been given.

Further Information

The ability of the staff to assist other Commonwealth countries in similar enterprises would depend upon the Ministry of Education's willingness.

Address for Correspondence

Ministry of Education
Kingston
JAMAICA

KENYA

GENERAL INFORMATION

AREA 224,960 sq.miles POPULATION 10,890,000 (1969) PER CAPITA INCOME £K42

EDUCATIONAL PROFILE

Statistics

Public expenditure on education = £K19,585,000 (1967) = 4.5% of GDP
(Currency: shilling; Sh 16.16 or £K0.83 = £1 sterling 4.12.73)

No schooling	Age 15 - 24 = 77.5%	Age 25+ = 87.8%	(1969)
Completed primary	Age 15 - 24 = 16.0%	Age 25+ = 8.6%	
Entered secondary	Age 15 - 24 = 2.9%	Age 25+ = 1.55%	
Entered tertiary	Age 15 - 24 = 0.6%	Age 25+ = 0.5%	

Teacher training (1970) primary level students 8,017 staff 575
(1965) secondary level students 2,060 staff 147

Students at university in 1971-72 = 3,450

Structure

Overall responsibility for education lies with the Ministry for Education which is responsible for educational policy, planning, teacher training and curriculum content. It also has (since 1969) direct control and administration of primary education, including recruitment and payment of teachers. At secondary level, schools are managed by boards of governors.

Primary education is not compulsory and a nominal fee is charged. In 1970 an estimated 64% of the 6 to 12 age group were in school. The primary course lasts seven years, ending with the Kenya Preliminary Examination, which serves as a leaving certificate and a selection examination for secondary education. There are over 300 secondary schools maintained or assisted by the government, though some of these are mission run. There are also approximately 600 Harambee schools which are run on a self-help basis with little or no government help. Fees are paid at all secondary schools, where the course lasts six years.

Technical education is provided at the Mombasa Technical Institute, the secondary technical schools, rural training centres, technical and trade schools and government training institutions. Those who have the East African Certificate of Education examination, taken in secondary Form IV, may take courses at Egerton College (three-year diploma in agriculture and forestry), Kenya Polytechnic, the Nairobi Medical Training Centre, and Kenya Government Secretarial College. Most of these also provide part-time courses.

Teacher training courses for primary teachers last two years. A three-year course

for secondary teachers is provided at the Kenya Science Teachers' College and at Kenyatta College, part of the university. Teachers of agriculture and technical subjects are trained at Egerton College and the Kenya Polytechnic. The Kenya Institute of Education arranges in-service training courses.

The University of Nairobi (formerly University College, part of the University of East Africa), now has ten faculties, with about 3,500 students. Attached to the University are the Institute of Adult Studies and the Institute for Development Studies.

BROADCAST COMMUNICATIONS FACILITIES

Radio (1971)

The Voice of Kenya is a nationalized corporation and forms part of the Ministry of Information and Broadcasting. There is full coverage of the country by fourteen transmitters and over 750,000 sets. There are school broadcasts to 5,000 out of 6,120 primary schools in term time.

Television (1970)

Voice of Kenya has studios and a transmitter in Nairobi with relay stations in Kisumu, Nyeri and Mombasa. An ETV project for primary teachers was scheduled for September 1972.

PROVISION FOR EDUCATIONAL INNOVATION

Curriculum research and development is carried out at the Kenya Institute of Education. Schools radio broadcasting is well developed.

The Board of Adult Education are in the process of establishing a National Extension Centre which will be an administrative, documentation and research centre to support the training programmes of other institutions both in urban and rural areas. Although it will not be a training centre, short seminars and colloquies will be held regularly to coach teachers in new teaching methods and the use of the new media in adult education.

CORRESPONDENCE COURSE UNIT

Purposes and Structure

The University of Nairobi is responsible for the Unit, in operation since 1968, which provides radio and correspondence courses for upgrading primary teachers and for other adults wishing to pursue secondary level and higher courses on their own. The Ministries of Education, Information and Broadcasting, and Co-operatives and Social Services all co-operate to provide the service. The Unit is a Department of the Institute of Adult Studies of the University of Nairobi and is headed by an Assistant Director. Policy is controlled by the Board of Adult Studies under the chairmanship of the Director of the Institute and with representatives from the Voice of Kenya, the Ministry of Education and the Government's Board of Adult Education.

Users

The target for correspondence courses is 18,000 primary III teachers and 12,000 unqualified teachers. The potential audience for the radio programmes is about half a million adults. The aggregate enrolment up to April 1973 was 9,649 students.

Output

Correspondence courses are given in English Kiswahili, history, geography, new mathematics, biology and physical sciences at Forms I and II level: a total of seventy-two lessons per subject. There are two fifteen-minute radio programmes per lesson per week.

Staff and Training Provision

The Assistant Director heads the Unit and the rest of the staff are divided into academic staff and administrative staff. The administrative staff consist of an administrative assistant, records clerks, stores clerks, and editor, proofreaders, part-time artist, typists and clerks in the Production Section and an accountant and clerks. The academic staff consist of

lecturers for the different subjects, part-time tutors, a radio tutor and a part-time studio assistant.

On-the-job training in correspondence course writing and radio scripting and production is carried out in the CCU. There is co-operation over training with Voice of Kenya and the Kenya Institute of Mass Communication. Short-term training has been received from the University of Wisconsin and CEDO. Staff are selected for training by the head of the CCU in consultation with section heads. Study leave is granted regularly to academic staff by the University.

Expenditure

Capital:	Buildings	£K85,000
	Equipment	£K10,000
	Others	£K 5,000
Annual recurrent:		
	Salaries	£K66,600
	Materials and Supplies	£K33,000
	Travel	£K 4,400
		<hr/>
		£K104,000

Plans for Development

It is planned to introduce business and technical courses which would eventually be upgraded to the East African Certificate of Education level. It is hoped to use correspondence courses in schools as part of the normal school programme. More staff would be needed in the CCU if these plans go ahead. The University of Nairobi has planned to establish First Degree Courses by External Studies in 1975. Consultations and exchange materials are being sought from bodies such as the Open University in the United Kingdom.

Further Information

The Head of the CCU took part in the Commonwealth Broadcasting Conference in Kenya in 1972 and has made study visits to Zambia, Malawi and Mauritius. The staff of the CCU have helped to train correspondence course writers from Uganda and Tanzania. The staff are able and ready to offer advice to other countries and take part in the training of radio/correspondence course writing, administration and evaluation.

The CCU has been accepted as an integral and important part of Kenya's educational system and will expand considerably. The newly-formed African Association for Correspondence Education will be seeking assistance in the training of personnel engaged or about to be engaged in correspondence education.

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Address for Correspondence

Assistant Director
Correspondence Course Unit
Institute of Adult Studies
University of Nairobi
P.O. Box 30688
Nairobi
KENYA

SCHOOLS BROADCASTING DIVISION

Purposes and Structure

The service provides support to primary and secondary teachers through educational radio programmes designed for use in the classroom and for the teachers' personal listening. It also conducts experiments in the provision of support material through other media systems. The Ministry of Education is responsible for the service which is run with the assistance of the Voice of Kenya. The Schools Broadcasting Division was set up in 1963 as part of the then Kenya Broadcasting Corporation and in 1965 the Division became part of the Ministry of Education. Pilot projects in educational television and tape/slide were started in 1972.

Policy is directly controlled by the Chief Inspector of Schools. The production staff of the Division under the direction of the Head of Schools Broadcasting works on series of programmes with selected scriptwriters drawn from the Inspectorate, the Kenya Institute of Education, the University of Nairobi and schools. These scriptwriters are paid freelance fees. No formal advisory committees exist but advice on new series is sought from inspectors and the Kenya Institute of Education subject panels.

Users

5,000 primary schools, 570 secondary schools and 25 teachers' colleges are registered as listening institutions. The average estimated audience for individual primary programmes is 150,000 and for secondary programmes 9,000.

Output

During the three eight-week radio terms per year the division broadcasts programmes from 09.30 - 12 noon and 2 p.m. - 4 p.m. Mondays to Thursdays and 09.30 - 12 noon Fridays. The programmes mostly of twenty minutes include: Kiswahili, English, science, geography and history for both primary and secondary schools; health education, music and general knowledge for primary schools; agriculture, careers, topic of the week, guest forum and religious education for secondary schools. In addition there are about two-and-a-half hours of programmes for teachers per week on

Primary English, methods and health and a programme for headmasters. There are also two ten-minute programmes for clubs.

Staff and Training Provision

Under the Head of the Division there is a Programme and Training Officer and an Administrative and Publications Officer. There are also six radio producers. Technical services are provided by the Voice of Kenya.

The production staff of the division has grown up in a haphazard fashion with recruits originally from general broadcasting but latterly from the teaching service. Recruits now entering the division are given basic theory and technical training by the Programmes and Training Officer. They then do operational production under supervision. Finally they go abroad for short intensive training courses to CEDO, the BBC or the ABC. It is hoped that the Kenya Institute of Mass Communication will eventually be able to provide full-time training courses for the Division. Voice of Kenya train the technical staff. It is hoped to send all recruits who are trained within the division on a full-time training course as soon as possible after their basic on-the-job training. These courses are offered as they become available on the basis of aptitude and need.

Expenditure

Capital expenditure:- Buildings: The division is housed in Broadcasting House belonging to the Voice of Kenya. A CD & W grant of £K24,000 was originally given for extra building and equipment for the Schools Broadcasting Division. Receivers - £K60,000 and vehicles - £K2,000.
Annual recurrent expenditure:

Staff salaries	£K15,000
Scriptwriters and artists	£K 5,000
Publications	£K 4,000
Travel & office expenses	£K 2,000
	<hr/>
	£K26,000

Plans for Development

It is planned to amalgamate the Schools Broadcasting Division and the Correspondence Course Unit and expand their operations into a variety of educational technology fields. A complex is to be built and equipped and a considerable staff expansion is planned. Both formal and informal education will be covered, but schools in particular will require to be equipped with the hardware to receive and use the produced materials. Assistance will be needed in building and equipping the centre, training of staff and equipping the schools.

Further Information

Two former members of the Schools Broadcasting Division are now in the Broadcasting Division of CEDO. The staff participated in the Unesco Regional Workshop in 1970. The Head participated in the Commonwealth Broadcasting Conference in 1970 and 1972. Programmes have been supplied to Uganda, Zambia, Nigeria and Seychelles. The staff would be available to offer

advice and information to other countries and assist in training courses subject to the approval of the Ministry of Education.

Address for Correspondence
Schools Broadcasting Division
Ministry of Education
Nairobi
KENYA

assistance from external agencies.

The Mathematics and Science Centre runs in-service courses for primary school teachers in New Mathematics and also runs a correspondence course to supplement these in-service courses.

UBLS operates an Audio-Visual, Media and Communication Centre which is used mainly

by the School of Education for audio-visual education.

A well organized system of schools broadcasting and a Correspondence College are planned for the very near future.

MALAWI

GENERAL INFORMATION

AREA 48,779 sq.miles POPULATION 4,398,000 (1969) PER CAPITA INCOME K60 (1970)

EDUCATIONAL PROFILE

Statistics

Public expenditure on education = £3,903,000 = 4.1% of GDP
(Currency: Kwacha; K1.97 = £1 sterling 4.12.73)

No schooling	Age 25 - 34 = 62.4%
Entered primary	Age 25 - 34 = 36.8%
Entered secondary	Age 25 - 34 = 0.9%
Entered tertiary	Age 25 - 34 = 0.0%

Teacher training (1970)	primary level	students 991	staff 119
	secondary level	students 92	staff 18

Students at university in 1969 = 929

% Illiteracy = (1966) 10 - 14 years = 76.2%; 15 - 19 years = 60.8%; 20 - 24 years = 66.5%

Structure

The Ministry of Education is responsible for primary, secondary, technical and vocational education, and for teacher training; the Ministry of Local Government for adult education and adult literacy.

Education at the primary level is fee-paying, non-compulsory. The course lasts eight years, culminating in the Primary School Leaving Certificate. About 35% of the age group are enrolled.

Approximately 11% of those who successfully complete primary school go on to secondary school. The secondary schools offer mainly four-year courses.

Technical education is provided at government and mission technical schools, as well as in twelve secondary schools. A Correspondence College provides for some of those who do not have access to ordinary schools. There are also in-service courses in specialized subjects for teachers. There is an English Language Centre.

Primary teacher training courses are provided at present in twelve colleges but these are shortly to be centralized into three National Colleges in Blantyre, Lilongwe and Mzuzu. Soche Hill College provides secondary teacher training and is part of the University of Malawi. However Soche Hill College will become part of the new University campus in Zomba and will become the School of Education. Chancellor College, also part of the new campus, provides degree courses in science, arts and social studies. The Institute of Public Administration will also become part of the new campus. Malawi Polytechnic offers courses in engineering and commerce. Agri-

culture courses are available at the Bunda College of Agriculture.

BROADCAST COMMUNICATIONS FACILITIES

Radio (1971)

The Malawi Broadcasting Corporation is an independent statutory body, operating from a station in Blantyre and six regional stations. There are ten transmitters and 105,000 receivers (about twenty-four per 1,000 of population). Broadcasts are in English and Chichewa. There is a schools broadcasting service.

PROVISION FOR EDUCATIONAL INNOVATION

Curriculum research and development is carried out by the Inspectorate, who also provide audio-visual support.

MALAWI CORRESPONDENCE COLLEGE

Purposes and Structure

The service provides secondary education for students who failed to obtain places in secondary schools. It is responsible to the Ministry of Education which enjoys the co-operation of the Schools Broadcasting Unit which prepares a daily broadcast for students. The College has been in operation since 1965.

Users

Approximately 3,500 children who have completed primary education but have not been selected to continue their education in conventional schools are recruited each

year. The total cumulative roll since the service started is now approximately 28,000.

Output

Assistance is given in the usual school subjects for the Primary School Leaving Certificate (twelve lessons in each subject over a one-year course); the Junior Certificate (twenty-four - twenty-five lessons over a two-year course); and the University of London GCE 'O' level (twenty-four - twenty-five lessons over a two-year course). The GCE course will soon be replaced by the Malawi Certificate of Education. Fees are charged for all courses.

Staff and Training Provision

A total of seventy-two staff are employed. The Principal is in charge of the College. There are four professional officers who direct the various courses, five executive staff dealing with liaison with students and centres, accounts, office work and publication. In addition there are forty clerical and technical staff to deal with enrolment, despatch, registry, typists etc with an additional twenty-one staff employed as messengers, press workers etc. All marking of students' work is done by external markers.

Training is given on the job. Selection is by normal government procedure.

Expenditure

Annual recurrent expenditure is given as:-

Salaries and wages	K48,517
Transport	K 1,800
Service charges	K 3,500
Tuition (including textbooks, printing, external markers etc)	K82,500

Further Information

This service received considerable assistance in its formative stages from the New Zealand Correspondence School.

Address for Correspondence

The Principal
Malawi Correspondence College
Private Bag 302
Chichiri
Blantyre 3
MALAWI

EXTENSION AIDS BRANCH OF THE DEPARTMENT OF EXTENSION AND TRAINING

Purposes and Structure

The Branch is part of the Ministry of Agriculture and Natural Resources and supports the Extension Department of the Ministry in improving village agriculture and gives limited simple education in health and hygiene subjects, making use of all poss-

ible audio-visual techniques. The service has been in operation for fifteen years and receives the co-operation of the Ministries of Health, Education, Information and Broadcasting, and Community Development.

The Extension Aids Officer, who is in charge of the Service, is responsible to the Director of Extension and Training. Two conferences are held each year where senior officers, including the Regional Agricultural Officers and their Extension Officers, discuss implementation of policy as laid down by the Government.

Users

All village people throughout the country including schoolchildren. In 1972 over a million people were shown films by the Mobile Units.

Output

A forty-minute radio programme is broadcast each weekday. These programmes include a radio farm forum once a week with a repeat and a fifteen-minute family serial programme as well as a farmers' request programme and a programme on modern farming. Agricultural plugs lasting two to three minutes are also broadcast each weekday.

The Service produces its own 16mm films with 'Auricon'. In 1972 fifty-seven agricultural films, between twelve and twenty minutes in length, were shot. Ten Mobile Units tour the country on campaigns showing films in the evening and giving puppet shows during the day. Black and white photographs and series of slides on agricultural subjects are available. A bi-monthly magazine is distributed free to farmers, schools, training colleges etc. Textbooks, booklets, handouts etc are also produced.

Staff and Training Provision

Approximately seventy members of staff are employed. The Extension Aids Officer heads the Branch with the Chief Technical Officer as his deputy. There is an Evaluation and Training Officer and eleven administrative posts. The section dealing with publications includes a publications officer, printers, graphic artists, typesetters, photo assistants, collating girls. The radio section has nine staff; editorial - four; cine film - five; photographs and slides - two. The Mobile Units section consists of an officer in charge, a senior field assistant, an audio-visual aids assistant, two maintenance assistants and drivers/operators, puppeteers.

All agricultural staff have been to one of the agricultural colleges. Specialized staff have received training in radio, printing, graphics and extension overseas in the United Kingdom, USA (AID) and Australia. The cine team received training

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in Malawi from an officer attached to AID. Staff are selected by reports received from colleges on students with special aptitudes and general ability. Final selection from a short list is made at interviews with the Public Service Commission.

Expenditure

Capital - Buildings	K175,000
Equipment	K 75,000

Annual recurrent -

Plant and vehicles	K 10,000
Travelling - Mobile Units	K 20,000
Office expenses	K 10,000
Maintenance of machinery	K 2,000
Other	K 5,000

Plans for Development

New printing equipment is to be purchased. Replacements will be made of Mobile Units, cameras, tape recorders. The Branch has recently moved into a modern building at the new capital in Lilongwe which has been specially designed for the work and therefore future work should be more effective.

Further Information

The cine section is training an officer from a non-Commonwealth country (Ethiopia). The Branch receives visitors from many countries. The staff would be available to assist other countries especially the cine, printing and graphics sections.

Address for Correspondence

Extension Aids Officer
Extension Aids Branch
Ministry of Agriculture and Natural Resources
P.O. Box 594
Lilongwe
MALAWI

HEALTH EXTENSION SERVICE

Purposes and Structure

The Health Extension Service is the responsibility of the Ministry of Health and has four main aims: to educate those in a position to educate others; to co-ordinate health education throughout the country; to educate the public directly through mass media channels (radio and cinema vans); to produce audio-visual aids. The present service dates from 1969. It started as part of the Health Inspectorate and in 1973 was attached to the Maternal and Child Health Section. The Department of Information and the Extension Aids section of the Ministry of Agriculture co-operate.

The Health Extension Service is a division of the Ministry of Health controlled by an Assistant Chief Medical Officer.

Policy is controlled by the Secretary for Health. Within the Health Extension Service there are four sections dealing with publications, photography, radio programmes and mobile units.

Users

Mothers at 351 under-five clinics and at ante-natal clinics, students at the National School of Nursing, Zomba School of Hygiene and the Training School for Medical Assistants, and all radio listeners in Malawi, are the potential targets.

Output

Four weekly radio programmes are broadcast in Chichewa: Ophiri; Radio Doctor; Za Umoyo; Pamtondo. In addition there is a daily five-minute broadcast in Chichewa.

Supporting material for under-five and ante-natal clinics includes film strips, wall charts, posters and handouts.

'Moyo Magazine' is published quarterly and a series called "Let's Teach Health" is published as well as health talks for the ante-natal clinics in both English and Chichewa and nutrition notes.

Staff and Training Provision

The Assistant Chief Medical Officer directs the Service. The Head of Publications, Utilization and Training section is assisted by one publications officer, a part-time stenographer and a copy typist. The Head of the Audio-Visual Aids section has a graphics assistant and a photographer, the Head of Mobile Van Units Section is assisted by a driver and a puppeteer. The Head of Radio Programmes works alone in his section.

The majority of the staff are health assistants recruited from the Health Inspectorate. The senior staff have been trained in the United Kingdom, the University of Rhodesia, Malawi Broadcasting Corporation and the Polytechnic University of Malawi. Selection is through secondment from other government departments. Other posts are advertised and candidates selected by the Malawi Public Service Commission.

Expenditure

Capital expenditure is estimated as follows:

Buildings	K30,000
Equipment	K70,000
Vehicles	K 4,000
Other equipment	K10,000

Annual recurrent expenditure is estimated at MK19,000 broken down as follows:

Salaries	K 3,000
Materials	K 5,000
Travel etc.	K11,000

Plans for Development

Plans include the appointment of an expatriate health education specialist to work with a Malawian counterpart for two years, to act as a co-ordinator between the Ministries of Agriculture, Education, Community Development and Health. Training courses at different levels will be needed.

Address for Correspondence

Secretary for Health
Ministry of Health
PO Box 351
Blantyre
MALAWI

MALAWI SCHOOLS BROADCASTING UNIT

Purposes and Structure

The service provides educational radio programmes to support teaching in primary and secondary schools and correspondence education. The Ministry of Education is responsible and enjoys the co-operation of the Malawi Broadcasting Corporation. The Unit is under the Inspectorate Division of the Ministry of Education. Policy is decided by the Secretary for Education with the help of an advisory committee drawn from the University, the Broadcasting Corporation, the Ministry of Education and the Schools Broadcasting Unit itself.

Users

1,300 primary schools, fifty-eight secondary schools, sixty-seven correspondence college centres, twenty-two night schools and thirteen training colleges.

Output

Primary level programmes in Chichewa, English, agriculture, science, civics, health, music are broadcast twice weekly. There are also special talks for primary teachers.

At secondary level programmes assist with English, French, agriculture, history and health.

Support for correspondence education is given in Chichewa, English, history, Bible knowledge, geography, biology and mathematics.

All programmes are fifteen minutes long. Teachers' notes are sent to primary and secondary schools.

Staff and Training Provision

The Head of Schools Broadcasting is assisted by an Education Officer, two assistant Education Officers with secretarial support. In-service training is offered, supplemented where possible by overseas courses or courses in radio production by the Malawi Broadcasting Corporation.

Expenditure

No estimates are available of the capital investment in this service but the annual recurrent expenditure is quoted as follows:

Salaries and wages	K 2,800
Transport, etc.	K 2,000

Address for Correspondence

Head of Schools Broadcasting
Ministry of Education
PO Box 283
Blantyre
MALAWI

MALAYSIA

GENERAL INFORMATION

AREA 128,553 sq.miles POPULATION 10,434,034 (1970) PER CAPITA INCOME \$M1,080

EDUCATIONAL PROFILE

Statistics - West Malaysia

Public expenditure on education (1969) = \$M530,000,000 = 17% of national budget
(Currency: dollar; \$M5.66 = £1 sterling 4.12.73)

No schooling	Age 15 - 24 = 31.3%	Age 25+ = 58.5% (1957)
Completed primary	Age 15 - 24 = 51.1%	Age 25+ = 32.7%
Entered secondary	Age 15 - 24 = 16.2%	Age 25+ = 7.2%
Entered tertiary	Age 15 - 24 = 1.4%	Age 25+ = 1.5%

Teacher training (1969) primary level students 1,425
(1970) secondary level students 2,927 staff 306

Students at university in 1970 = 8,230

% Illiteracy = (1960) 10 - 14 years = 60.9%; 15 - 19 years = 61.9%; 20 - 24 years = 68.2%

Statistics - Sarawak

Public expenditure on education (1969) = \$M26,662,790

No schooling	Age 15 - 24 = 74.9%	Age 25+ = 90.7% (1960)
Completed primary	Age 15 - 24 = 13.5%	Age 25+ = 4.8%
Entered secondary	Age 15 - 24 = 11.4%	Age 25+ = 4.2%
Entered tertiary	Age 15 - 24 = 0.1%	Age 25+ = 0.3%

Teacher training (1971) primary level students 206 staff 52
Students at university in 1968 = 291

Statistics - Sabah

Public expenditure on education = \$M16,195,000 (1967)

No schooling	Age 15 - 24 = 77.5%	Age 25+ = 89.8%
Completed primary	Age 15 - 24 = 14.5%	Age 25+ = 5.9%
Entered secondary	Age 15 - 24 = 7.9%	Age 25+ = 4.1%
Entered tertiary	Age 15 - 24 = 0.2%	Age 25+ = 0.3%

Teacher training (1969) primary level students 730 staff 50

Structure

The Federation's educational policy is to establish a national system of education which will satisfy the needs of the nation and promote its cultural, social, economic and political development. One of the major objectives is the progressive development of an educational system in which the national language is the main medium of instruction.

Primary education is free in the country's main languages - Malay, Chinese, English and Tamil with Malay and English being compulsory subjects. The primary course lasts six years.

Secondary education in Malay (free) and English is for three years to the age of fifteen. There is examination selection to upper secondary and the remainder, which is the majority, receive vocational education or leave school. After two

years at upper secondary school, pupils may take the Malaysian Certificate of Education. Selected pupils take a two-year pre-university course.

Sabah and Sarawak are each administratively autonomous in education, but the pattern is broadly the same as that of West Malaysia.

There are forty-four teacher training colleges in West Malaysia, two in Sabah and three in Sarawak, including one teacher training school. The Islamic College trains Koranic teachers. There are three universities in Malaysia. Higher education is also provided at the Serdang College of Agriculture, the Technical College, the Mara Institute of Technology, the Ongku Omar Polytechnic and Tunku Abdul Rahman College.

Early school leavers are served by further education classes and correspond-

ence schools. The Ministry of National and Rural Development runs literacy courses for adults. The government runs training schools for auxiliary medical professions, and the University of Malaya produces about sixty trained doctors a year.

BROADCAST COMMUNICATIONS FACILITIES

Radio

Radio Malaysia is government controlled. There are 21 medium wave and 16 short wave stations. School broadcasts are run in the main media of instruction with local programmes in Sabah and Sarawak. There is a wired broadcasting service in Kuala Lumpur and Penang. In 1971 480,000 radio sets were licensed (46 per 1,000 of population).

Television

Television Malaysia is government controlled. There were twelve transmitters which covered nearly all West Malaysia and Sabah at the end of 1971. Two networks broadcast in W. Malaysia with fifty-four hours per week on Network One and thirty-five hours on Network Two. There are an estimated 165,000 sets. Schools broadcasting is part of the Educational Media Service.

PROVISION FOR EDUCATIONAL INNOVATION

There is an Educational Planning and Development Unit, a Curriculum Research and Development Centre, Teachers' Centres, an Audio-Visual Centre at State level and educational research facilities in the Universities and with the Ministry of Education.

EDUCATIONAL MEDIA SERVICE

Purposes and Structure

The Malaysian Ministry of Education is responsible for this service, which has been in operation since 1958, though radio programmes were not started till 1966 and television till 1972. The service develops ETV and radio for primary and secondary schools, with the objective of improving the quality of education and keeping the teachers abreast of educational advance. The Department of Broadcasting, Ministry of Information, and the Telecommunications Department of the Ministry of Communications co-operate in the service. Policy is controlled by a central Advisory Committee under the chairmanship of the Director-General of Education. There are three major sections within the services: ETV, Radio and Audio-Visual Aids. Each of these has a Head, and the whole service is controlled by the Director and his Deputy.

Users

In 1972, 500 schools with TV sets made up an audience of above 125,000 (secondary pupils only). Most of the 700 secondary schools and 4,000 primary schools have radio sets. Schools also make use of the eleven State and 302 regional Audio-Visual Aids Centres.

Output

When TV began in 1972 programmes were produced for secondary schools only. Series were produced in mathematics, science and civics, and also a programme for teachers. There were eight hours of TV programmes per week. Radio programmes were far more extensive, and directed separately at the different language groups: Malay, English, Chinese and Indian. Programmes were produced for Standards 1 - 6, and Forms 1 - 6. The subjects covered, though not at every level, were story telling, religious studies, singing, health education, civics, history, English, Malay literature, vocational guidance, music appreciation, economics and Islamic studies. (These programmes constitute the Malay service.) The English service consists of civics, story time, history, primary English, health education, singing and music. The Indian and Chinese services follow a similar pattern, including a programme on Tamil literature in the Indian service. There are also some programmes of professional interest to teachers. Approximately thirty-six hours per week last year were given to radio broadcasting.

The Audio-Visual Aids section produces wallcharts, filmstrips and other materials for primary and secondary schools. There is a lending library for film, filmstrips and tapes.

Teachers' programme guides are issued, also a bi-annual audio-visual aid bulletin.

Staff and Training Provision

Thirty-eight people are employed in the ETV section, thirty-five in Radio (not including freelance scriptwriters and actors), and seventeen in the Audio-Visual Aids section. There are nine other administrative staff, two publications staff, two utilization and evaluations staff and nine Educational Media Officers.

There are various methods of training. Selected teachers have been sent abroad for courses in educational radio and TV. Audio-visual specialist teachers have undergone local courses. On-the-job training has been given to other members of staff. The Audio-Visual Aids library also provides in-service training for teachers in media usage. The Director,

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Heads of Sections and other specialist staff are willing to offer advice, guidance and help in training courses if desired.

Expenditure

Capital expenditure for 1972:

Building:	
ETV	\$M 750,000
Radio	\$M 333,000
AVA	\$M 50,000
Equipment	
ETV	\$M4,408,000
Radio	\$M 500,000
AVA	\$M 200,000
Other (ETV)	
Receivers	\$M3,300,000
Videotape recorders	\$M 940,000
Film equipment	\$M 150,000

Annual recurrent expenditure totals \$M1,410,890 for all three sections, divided as follows:

Salaries	\$M 710,700
Transport	\$M 32,000
Communication	\$M 18,000
Water, electricity, etc.	\$M 25,000
Rent	\$M 210,000
Printing	\$M 50,000
Supplies	\$M 310,000
Mix service	\$M 35,000
Furniture & equipment	\$M 20,190

Plans for Development

In 1973 it is planned that an additional 5,000 TV receivers will be established in primary schools to allow for the extension of ETV service. There are also plans to introduce ETV into teacher training colleges. The State Educational Media Centres are still in the planning stage and will require much attention, especially on the problem of the maintenance of TV sets. With the overall expansion of the Educational Media Service and the recruitment of more staff, specialist training, both local and overseas, will be required.

Further Information

The Malaysian Educational Media Service feels that there is a lack of prominence given to educational media in Commonwealth Education Conferences.

Address for Correspondence

Director
Educational Media Service
Ministry of Education
Kementerian Pelajaran Malaysia
Rumah Persekuthan
Kuala Lumpur
MALAYSIA

AGRICULTURAL INFORMATION SERVICE: SABAH

Purposes and Structure

The Service is run by the Department of Agriculture to disseminate agricultural information, research findings and new technologies to farmers and extension workers, to conduct publicity and information work through the mass media, especially rural broadcasting on radio, and to prepare audio-visual aids for use at training centres and in extension work. Radio Malaysia co-operates with the Service, which was established early in 1971 as a result of expansion of the former Visual Aids section which had been in existence since 1964.

The Agricultural Information Division is part of the Extension Branch of the Ministry which is controlled by an Assistant Director of Agriculture. Within the Division there are three sections dealing with publications, rural broadcasting and audio-visual aids. The Division is supervised by an Agricultural Officer.

Users

The population of Sabah is approximately 744,000, of which about 27% are engaged in agriculture.

Output

Short rural programmes on Agriculture, Agriculture News and Home Economics are broadcast in both the national language (Bahasa Malaysia) and Kadazan. The total broadcasting time per week is about one and a half hours but this is divided into short programmes of between five and fifteen minutes.

Audio-visual materials, including posters, flipcharts, flannelgraphs, slides, tapes, etc. are produced for extension and publicity work.

Technical booklets and information sheets are printed for extension staff and for training, and advisory pamphlets and bulletins are printed and published for farmers and the general public. So far fifty-two such pamphlets have been produced.

Staff and Training Provision

The Agricultural Officer supervises the Division. The Publications Section has thirteen members of staff: an assistant agricultural officer; one graphic artist; two assistant artists; one translator; one compositor and seven machine operators and assistants. Rural broadcasting: two agricultural assistants and five home demonstrators. Audio-visual: one graphic artist; one photographer; two assistants. The Mobile Publicity Unit employs a senior agricultural assistant and one assistant

driver. The total number of staff is twenty-seven.

Most of the staff were locally trained on the job. There is no special training course. The officer-in-charge was trained in Australia and UK. Extension staff and new recruits are selected to carry out information work on the basis of aptitude, talent and ability.

Expenditure

Capital expenditure is estimated as:
 Equipment - \$M20,000; Materials and other charges - \$M35,000. The Division is accommodated in the Ministry headquarters building.

Annual recurrent expenditure: \$M195,000

Salaries	\$M150,000
Materials and stores	\$M 40,000
Travel, etc.	\$M 5,000

Plans for Development

Future development will concentrate on the improvement of existing services. To achieve this, there will be a need for training courses at different levels, locally, or overseas. The mobile publicity vans will be operating on a trial basis in 1973. If they are successful they may be used to cover more districts. This again depends on the availability of funds.

Address for Correspondence

Director of Agriculture
 Agricultural Information Service
 Department of Agriculture
 Kota Kinabalu
 Sabah
 MALAYSIA

MALTA

GENERAL INFORMATION

AREA 121.85 sq. miles POPULATION 319,460 (June 1972)

EDUCATIONAL PROFILE

Statistics

Public expenditure on education (1971/72) £M6,039,760
(Currency: pound; £MO.89 = £1 sterling 4.12.73)

Less than primary	-	% of those who had left school at 1967 census
Completed primary	75.0%	
Completed secondary	22.5%	
Completed tertiary	2.5%	

Teacher training (1972) primary level students 95

Students at university in 1972 = 356

% illiteracy (estimate based on 1967 census) = 10 - 14 years = 0.12%; 15 - 19 years = 0.12%; 20 - 24 years = 0.65%

Structure

Overall responsibility for education lies with the Minister of Education and Culture. The Minister determines the syllabus and textbooks to be used in all government schools, but private schools are autonomous.

About 20% of the age-group are in pre-primary schools, all private and fee-paying, many run by religious agencies. Primary schools are single-sex, offering free education to children aged 5 to 11.

Secondary education for all was introduced in 1970. There are two types of secondary schools, the government schools and private schools. Both types offer courses to GCE 'O' level, and some schools have sixth forms. Education is compulsory up to the age of fourteen years. The Junior College, which is administered by the University, offers sixth form courses, leading to 'A' level.

There are two primary teachers' colleges.

In addition to the Royal University of Malta which was founded in 1592, there is the College of Arts, Science and Technology which provides university engineering courses. The Paola Technical Institute provides full- and part-time courses for technicians at the post secondary level.

BROADCAST COMMUNICATIONS FACILITIES

Radio

Radio Malta which was inaugurated in January 1973, is run by the Broadcasting Authority. All programmes are in Maltese. Rediffusion (Malta) Limited has a two

channel wired network servicing 54,000 loudspeakers (1972). It relays seventeen hours a day of locally originated programmes in Maltese. The International Network broadcasts local programmes in English as well as BBC World Service programmes.

Television (1972)

The Malta Television Service Ltd. is financed by advertising. There is one transmitter serving 52,857 sets which covers the whole Island. Programmes are in English and Maltese.

PROVISION FOR EDUCATIONAL INNOVATION

Educational television and radio are run by the Broadcasting Authority's School Broadcasting Unit and serve primary and secondary schools.

The Audio-Visual Aids Centre promotes the better use of audio-visual aids by producing aids suited to local conditions and needs and by providing information on all aspects of audio-visual educational media. It co-operates with the Malta colleges of education in providing instruction and training in the theory and practice of educational technology and with the School Broadcasting Unit to help ensure that proper use is made of educational broadcasts.

THE BROADCASTING AUTHORITY: SCHOOL BROADCASTING UNIT

Purposes and Structure

The service provides educational radio

and television at primary and secondary level, devised as complementary material to the usual school curriculum. It is the responsibility of the Broadcasting Authority and enjoys the co-operation of the Ministry of Education and Culture, together with the Malta Television Service and Rediffusion (Malta) Limited. There is a School Broadcasts Advisory Committee and various subject advisory committees to assist the unit. Sound (wired) broadcasts to schools began in 1949 and school television broadcasts were first transmitted in 1966.

Users

Thirty-eight secondary schools have 103 television sets, providing an audience of 11,938 at first- and second-year level. There are 100 television sets in primary schools, with a potential audience of 5,837. 107 primary schools have 1,735 wired radio sets, providing an audience of 37,717.

Output

There are five radio broadcasts each week to primary schools and one weekly television programme at the same level. Secondary schools receive one radio programme weekly and three television programmes. Radio programmes cover religion, English, science, Maltese, social studies and civics. Television programmes are produced on English and science as well as general culture.

Staff and Training Provision

Within the Malta Broadcasting Authority there is a school broadcasting organizer who is supported by a television officer, a sound officer and three school broadcasting officers. These staff have been selected from (graduate) teachers after a call for application which is followed by a written exam and interview. All educational television staff have been trained at CEDO. They are assisted by the technical and supporting staff of the Malta Broadcasting Authority.

Expenditure

Since technical facilities are shared with the broadcasting service it is only necessary to consider the annual recurrent expenditure which, for sound radio and television, amounts to £M18,000.

Plans for Development

It is hoped to be able to expand the television service at all levels, but this requires separate studios for the educational service.

Further Information

The Chief Executive, Broadcasting

Authority has offered to provide copies of the television scripts in English and science to any interested people and has also made an offer to take a limited number of personnel on attachment.

They wish to promote the idea of a catalogue of films and other audio-visual aids which Commonwealth countries can make available either free or at low-cost to other Commonwealth countries.

They also wish to encourage the holding of conferences on educational broadcasting in the Commonwealth.

Address for Correspondence

The Chief Executive
(Att. School Broadcasting Organizer)
Broadcasting Authority
National Road
Blata l-Bajda
MALTA

DEPARTMENT OF AGRICULTURE - INFORMATION AND PUBLICITY SECTION

Purposes and Structure

The Information and Publicity Section of the Department of Agriculture, with the help of the Extension Service and the Agricultural School, provides agricultural and fishing information through radio and the press to Malta's farmers and fishermen. The Malta Broadcasting Authority and the Departments of Education and Information also co-operate in this service. The radio broadcasts have been in operation since 1945 and the bi-monthly agricultural paper has been published since 1942.

Users

The broadcasts are aimed at all farmers and fishermen in Malta and Gozo and are received on about 30,000 sets. 5,000 copies of the paper are distributed to farmers, gardeners, livestock breeders, agricultural importers and exporters and fishermen.

Output

A Sunday half-hour programme is broadcast weekly on Rediffusion. A bi-monthly eight page agricultural paper called L-Agrikoltura is published and distributed free of charge.

Staff and Training Provision

A Senior Information Officer and Information Officer are employed by the Information and Publicity Section. The Extension Service has a staff of one Senior Agricultural Officer, three Agricultural Officers, and one Agricultural Inspector. The Agricultural School has a staff of two teachers who receive help from

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various technical officers. The junior staff of the Information Section are trained by the senior officials, while Extension Service officials are trained in foreign agricultural colleges. Selection of staff is made on the basis of an interview taking into account qualifications already acquired.

Expenditure

All expenditure falls under Recurrent Expenditure and is estimated as follows:

Salaries	£M 9,800
Other charges (including materials etc)	<u>5,650</u>
	<u>£M15,450</u>

Plans for Development

The advisory service is to be re-organized with the emphasis more on production units

at the Government Experimental Farm, Ghammieri, with a view to teaching farmers actual ways and means to increase production and to run efficient units.

Further Information

Heads of Sections of the Department of Agriculture and Fisheries would be available to offer their advice to other Commonwealth countries and to take part in training courses.

Address for Correspondence

Director
Department of Agriculture and Fisheries
14 Scots Street
Valletta
MALTA

MAURITIUS

GENERAL INFORMATION

AREA 720 sq.miles POPULATION 834,000 (1972 est.) PER CAPITA INCOME Rs 1,448 (provisional)

EDUCATIONAL PROFILE

Statistics

Public expenditure on education (1972) = 44,946,737 Rupees = 3.7% of GDP
(Currency: Rupee; R13.33 = £1 sterling 4.12.73)

No schooling	Age 13 - 24 = 58.3%	Age 25+ = 81.7%
Completed primary	Age 13 - 24 = 12.1%	Age 25+ = 10.3%
Entered secondary	Age 13 - 24 = 9.5%	Age 25+ = 6.7%
Entered tertiary	Age 13 - 24 = 0.1%	Age 25+ = 1.3%

Teacher training (1972) primary level students 639 staff 29 full-time
Students at university in 1972 = 1,353

In 1972 % scolarity rate 6 - 12 years: 92% 13 - 19 years: 33%

Structure

Policy-making and approval for primary and secondary education lie with the Minister of Education.

About 90% of the school age population (ages 5 to 11+) attend 179 government primary schools or fifty aided primary schools. Education is free, but not compulsory.

About 50% of primary school leavers obtain places in secondary school. There are a very few free places in government secondary schools, and in 1972, 9,740 candidates took the Junior Scholarship Examination in the hope of winning one of the 200 scholarships.

Four senior primary schools offer three-year, non-academic, technical education to 12 to 15 year olds. There are also five government vocational (craft) centres for primary school leavers. The Industrial Trade Training Centre was set up by ILO to train employer-sponsored students.

There is one primary teacher training college which offers a two-year post-School Certificate course for about 600 students.

Higher education is provided at the University of Mauritius.

BROADCAST COMMUNICATIONS FACILITIES

Radio (1972)

Mauritius Broadcasting Corporation covers the island and its dependencies. There were nearly 85,000 radio sets in 1972. MBC is a commercial enterprise, but is also a public corporation.

Television (1971)

MBC started operating a one-channel television service in 1965 and now has one transmitter and three repeaters. There are school broadcasts in the evenings. About 24,000 sets are owned.

PROVISION FOR EDUCATIONAL INNOVATION

There are active programmes of curriculum change by professional associations of teachers, encouraged by the Ministry of Education. An Audio-Visual Unit of the Ministry of Education also produces radio and television programmes for schools.

AUDIO VISUAL CENTRE

Purposes and Structure

The Centre provides educational radio and television programmes at primary and upper secondary level. The Centre is also responsible for the repair and maintenance of audio-visual equipment for all Ministries and runs a national advisory service about new text books. The Ministry of Education and Culture is responsible and enjoys the co-operation of the Mauritius Broadcasting Corporation and the Ministry of Information and Broadcasting in producing and broadcasting the programmes. Advisory committees with representatives from appropriate bodies control educational radio and television. Ad hoc committees with subject specialists help with the production of each separate series. Educational radio was started in 1951 and the ETV Service was officially inaugurated in 1969.

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Users

200 primary schools have been equipped with radio sets and extension loud speakers and provide a potential listening audience of 100,000. Television programmes are transmitted to students at home in the late evening. It is estimated that 20,000 television sets are in operation, and that the potential viewing audience is about 20,000.

Output

Radio programmes for primary schools cover English, French, geography, elementary science and special programmes in English language are produced for secondary school teachers.

Television programmes are designed to assist pupils studying for their Cambridge Schools Certificate and Higher Schools Certificate examinations in maths, physics, chemistry, biology, history, geography, manual arts and public affairs. Other programmes assist with English language and literature, French language and literature. Special programmes are produced to assist primary school teachers in geography, new maths and elementary science.

Staff and Training Provision

The Organizer of the Audio Visual Centre has three ETV producers, a production assistant and calls upon fifty-five teachers who are freelance script writers and presenters. The radio service has two producers, four full-time script writers and again calls upon freelance script writers. There is a graphic designer with four assistants, a photographer and an assistant photographer. Inspectors assist with evaluation and liaison and the service is supported by clerical staff and technicians. Training has been offered in radio and television by ORTF (France) and CEDO (London). Staff are selected for training on the basis of aptitude and are seconded to the Centre from schools after selection by a Ministerial committee.

Expenditure

Capital expenditure including buildings and equipment amounts to about 276,000 rupees.

Recurrent expenditure:

Salaries	Rs 175,000
Materials	Rs 55,000
Travel	Rs 10,000

Plans for development

The Service is concerned with the acquisition of videotape facilities. It is also planned to introduce a tape copying service for cassette players and development of a tape library. Attention is also being paid to the production of a greater variety of teachers' notes, posters, and

other supporting materials.

Address for correspondence

The Organizer
Audio Visual Centre
Rose Hill
MAURITIUS

EXTENSION SERVICE

Purposes and Structure

The main work of the Extension Service of the Ministry of Agriculture and Natural Resources is to prepare advisory publications for planters and agricultural youths and to use audio-visual teaching aids in support of talks during group meetings. Occasional radio and television talks are also arranged. The Extension Service started to use new media some thirteen years ago. The Mauritius Broadcasting Corporation assists with the radio and television broadcasts.

Users

In 1972 about 5,000 planters and Agricultural Youths attended group meetings. The radio and television talks aim to reach the maximum number of the 30,000 planters.

Output

In 1972 there were about 220 group meetings at which about 150 sessions of slide projections and film shows were held. Each session lasts about thirty minutes. During 1973 a weekly television talk on agriculture will be broadcast, and this is expected to become a regular feature. Booklets, leaflets and information sheets are prepared on agricultural problems and topics. A Farming News Bulletin is produced monthly and a bulletin is also produced for the Agricultural Youth Clubs.

Staff and Training Provision

The Service is headed by a Senior Agricultural Officer. All thirteen Extension Officers regularly use audio-visual teaching aids. In addition there are fourteen Field assistants, two drivers and one A/V operator. No staff have been specially trained to date.

Expenditure

Capital:	Rs 50,000
Buildings	Rs 30,000
Equipment	Rs 30,000 (projection equipment and supplies)
Others (Vehicles)	Rs 40,000

Annual recurrent expenditure is estimated at Rs 15,000

Plans for Development

Use of audio-visual teaching aids is integrated in the routine agricultural exten-

sion work. In future it is intended to increase the use of such aids. A district A/V section will be created and manned by an Agricultural Officer assisted by an Assistant Agricultural Officer. The two officers when posted will be sent for training in audio-visual education etc.

Address for Correspondence

Extension Service
Ministry of Agriculture and Natural Resources
MAURITIUS

HEALTH EDUCATION AND NUTRITION SERVICE

Purposes and Structure

The service is run by the Ministry of Health to improve the knowledge of health among the general public and to create in them an awareness of their role in promoting and maintaining good health. The Ministry of Information and the Mauritius Broadcasting Corporation and Television Service co-operate in providing this service which has been in operation since April 1971. The Health Education and Nutrition Division is one of the divisions of the Preventive Medical Service. Programmes on MBC/TV are arranged when the officer-in-charge requires them. There is a Health Education Advisory Committee with representatives from the divisions of the Ministry of Health concerned in prevention and from other Ministries concerned.

Users

The operation is directed at the whole population of some 850,000. There are about 79,000 radio sets and 16,000 television sets on the island.

Output

Weekly programmes on MBC/TV are broadcast lasting for fifteen minutes on relevant topics concerning existing health problems and conditions. Talks are in the local

language. Talks are given on a voluntary basis by medical and para-medical officers of the Ministry. Visual aids to supplement these talks are prepared by a local artist for a very nominal fee.

Staff and Training Provision

Two members of staff are employed. One Senior Medical Officer (in charge of Health Education and Nutrition Division) and one Health Educator. The only training programme is a course in health education organized for students in the Teachers' Training College.

The Senior Medical Officer has participated in international conferences and seminars on health, nutrition and family planning. The personnel of the Ministry are willing to offer their advice to other Commonwealth countries and to take part in training courses.

Expenditure

Details of capital expenditure are not available. Equipment was donated by UNICEF. The annual recurrent expenditure is estimated as follows:

Salaries	£ 3,600	
Materials)		
Travel)	£ 350	Total: £ 3,950

Plans for Development

It is hoped to have personnel from UNDP/WHO to assist in the implementation of the five-year plan for Health Education and Nutrition. Radio programmes will be broadcast on a regular basis. In-service training for various categories is being planned. There will also be a need for training courses at various levels both in Mauritius and overseas.

Address for Correspondence

Health Education and Nutrition Service
Ministry of Health
MAURITIUS

NAURU

GENERAL INFORMATION

AREA 8.2 sq. miles POPULATION 7,000 (1969)

EDUCATIONAL PROFILE

Statistics

Public expenditure on education = \$A559,000 (1965)
(Currency: Australian dollar; \$A1.57 = £1 sterling 4.12.73)

Teacher training (1967) primary level students 18 staff 1

Structure

The long-term aims of the educational policy of Nauru are to raise the educational level of the Nauruans to enable them to meet their needs for professional and vocational skills from within their own community. The immediate aims are to maintain efficient teaching and school organization on Nauru itself up to the Intermediate Certificate standard of the University of Melbourne, Australia.

Education is compulsory for all children between 6 and 15 years (Australian) and 6 and 16 years (Nauruans). Education is provided free in six infant schools, two

primary schools and one secondary school. There is a fee-paying mission school. Instruction is in English, on the Australian pattern (the State of Victoria), with necessary modifications to suit local conditions.

BROADCAST COMMUNICATIONS FACILITIES

Radio (1971)

The Nauru Broadcasting Service is a government-run enterprise, with one station and one transmitter. There are about 1,400 radio sets or 200 per 1,000 of population.

NEW ZEALAND

GENERAL INFORMATION

AREA 103,736 sq. miles POPULATION 2,909,916 (1972) PER CAPITA INCOME £835 approx.

EDUCATIONAL PROFILE

Statistics

Public expenditure on education = \$NZ337,800,000 = 5.4% of GDP
(Currency: dollar; \$NZ1.62 = £1 sterling 4.12.73)

Teacher training (1971) primary level students 6,389
secondary level students 1,402

Students at university in 1971 = 35,037

Illiteracy: nil

Structure

Pre-primary education receives substantial financial support from the Government.

Between the ages of 6 and 15, education is compulsory, and in state schools it is provided free between a pupil's 5th and 20th year. Private schools, which account for 9% of primary and 12% of secondary pupils, have to be open to inspection by the Department of Education. Most children start school at 5.

A primary school is organized into three departments: the junior, middle and senior, catering for children up to the age of 13. In the larger centres, senior pupils attend intermediate schools between the ages of 11 and 12. The usual age for transfer to secondary school is 13.

The larger secondary schools are usually streamed according to ability and organized on five levels (third, fourth, fifth, sixth and seventh forms). 'Composite schools' take children from the ages of 11 - 17, cutting across the normal primary/secondary system. District High and Area schools take pupils from the ages of 5 to 15. For those children in extremely isolated areas, where there are less than nine children of primary age, or for those unable to attend school because of lengthy illness or other causes, correspondence school is provided. If there are over nine children of primary age in a given area, a primary school with a qualified teacher must be set up.

Tertiary technical education is provided at the local level in classes attached to the secondary schools, at the regional level in institutes and polytechnics situated in the larger urban areas, and at the national level in two institutes, one of which caters for correspondence courses.

There are nine teacher training colleges

and six universities. Adult education, mainly of a non-vocational nature, is state-assisted through schools and universities and is supplemented by the work of voluntary agencies such as the Workers' Educational Association.

BROADCAST COMMUNICATIONS FACILITIES

Radio (1972)

The New Zealand Broadcasting Corporation is a statutory body, operating forty-nine medium-wave radio stations. There are also six private radio stations.

Television (1972)

The NZBC has four stations transmitting via nine high-powered, seven medium-powered, and seventy-eight low-powered transmitters owned by the Corporation and 238 small privately-owned low-powered transmitters operated under licence from the Corporation. There are 710,367 television receivers representing 86% of households.

PROVISION FOR EDUCATIONAL INNOVATION

The Department of Education is responsible for planning and development and has a Curriculum Development Unit. There is an audio-visual lending service to schools via libraries in ten school districts. There is also the National Film Library. Teachers' residential centres were started first in 1961 and refresher courses are held on a residential basis during the school holidays. There are in addition, fifteen in-service centres (non-residential) throughout the country.

Research is carried out in at least three different places: the New Zealand Council for Educational Research (independent, with government support), the

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Department of Education and the Universities.

CORRESPONDENCE SCHOOL

Purposes and Structure

The Correspondence School was established in 1922 and provides educational opportunity for children and adults who are unable to attend ordinary schools and educational institutions. The Correspondence School is a state school and a part of the New Zealand educational system. It is controlled directly by the Head Office of the Department of Education and it enrolls students from all parts of New Zealand.

Students follow the same syllabuses and sit the same examinations as students of other state schools.

'Correspondence' does not adequately describe the type of work done by the School. It is a multi-media school making use of the following facilities:

Radio: the School broadcasts for twenty minutes every day of the school year over the National Programme of the New Zealand Broadcasting Corporation. These broadcasts are also relayed overseas by short-wave on Radio New Zealand. Broadcasts are prepared and presented by teachers of the School in conjunction with NZBC. All subjects of the curriculum are included.

Tape recordings: these are being used more and more as a supplement to printed assignments. They are particularly valuable in all language lessons but are used in a much wider field, and add a vitally important element to correspondence teaching.

Residential courses: these are held in various places throughout the year, as are seminars.

Visiting teachers: there are five permanent visiting teachers who visit full-time pupils. Teachers also go out from the School to visit their own pupils.

A basic assignment represents two weeks' work. Kits are sent with practical subjects: woodwork, needlework, art and the sciences.

Co-operating organizations are the New Zealand Broadcasting Corporation, New Zealand Government Printer, Department of Social Welfare, Department of Health and the Post Office.

Users

Full-time primary school pupils	1,200
Full-time secondary school pupils	800
Pupils of other secondary schools enrolled for special courses	1,500
Adult part-time students	3,500
Teachers	1,550
	<hr/>
	8,550

Output

The School provides courses at all levels from first year primers (aged 5) through the primary grades for Form 2 (aged 12+) and into the secondary division from Form 3 (aged 13) to Form 7 (aged 17+).

In addition, there are courses for both physically and intellectually handicapped children. There are also courses for teacher training and for further in-service training of qualified teachers. The subjects and syllabuses are the same as in normal schools and the courses lead to the same examinations.

Adults unable to attend evening classes may enrol for most of these courses.

Staff and Training Provision

There are 250 members of staff of the following types:

Administration	50
Secondary school teachers	135
Primary school teachers	35
Part-time tutors or teachers	25
Visiting teachers	5

The teachers are already trained and certificated. They have followed a three-year teacher training programme at teachers' colleges. In addition most are university graduates. They therefore do not need to be trained as teachers, but in-service training is given to adapt them to the particular requirements of correspondence teaching.

All new members of staff are given in-service training during the first year of their appointment. Senior teachers and heads of departments are responsible for the work of their groups and for the continued counselling and further training of their teachers.

Since 1964 senior staff from the Correspondence School have been involved in advisory work in establishing National Correspondence Schools in Malawi and Uganda and the development of in-service teacher training by correspondence in Botswana. The Correspondence School has provided training to personnel from overseas and supplies information in response to enquiries. The Principal and senior staff are able to offer advice and take part in training courses. In addition, they would be available for course writing and for adapting existing courses for specific purposes.

Expenditure

It is not possible to give an estimate of the capital expenditure. Due to urban development, the School is now housed in temporary accommodation. A new multi-storeyed building is being planned and the estimated cost at present is \$NZ2,000,000.

It is not possible to separate the cost of running the Correspondence School as it is an integral part of the educational

service of the country and is a branch of the Head Office of the Department of Education.

Plans for Development

These will include a wider offering of courses for the continuing education of adults.

Tape recordings will be more widely used and integrated into courses.

Educational television programmes will greatly assist pupils working in isolation because of remoteness or ill health. If approved, it is likely that these would be provided by the Department of Education and the Broadcasting Corporation.

Further Information

The New Zealand Correspondence School is well established and accepted as an integral part of the educational system of the country. It has wide experience and is very willing to make this available to other Commonwealth countries which may seek it.

Address for Correspondence

The Principal
The Correspondence School
Department of Education
(Private Bag)
Government Building
Wellington
NEW ZEALAND

NATIONAL FILM LIBRARY

Purposes and Structure

The National Film Library, which is a Division of the Department of Education, was established in 1942 to provide a 16mm film and gramophone record library service and tape-duplicating service to primary and post-primary schools. This has been extended to tertiary institutions in the case of the 16mm films library service. In addition there is a wide community service for films to organizations such as universities, WEA, government departments and farming groups.

The policy of the Library is controlled by a committee under the Chairmanship of the Curriculum Development Officer for Audio-Visual Media. The representatives on this committee are drawn from the Head Office Inspectorate of the Department of Education, the local regional inspectorates of the Department, curriculum development officers and the Manager of the National Film Library. This Committee decides general policy while the Curriculum Unit officers recommend purchases of individual educational films. Administration and finance of the National Film Library is controlled by the Manager of the National Film Library who links directly with

administrative, accounts and stores officers of the Head Office of the Department of Education.

The community functions of the Library are carried out by wide-ranging contacts throughout the country. These are maintained by the Manager of the Film Library.

Liaison is maintained with the National Film Unit, the New Zealand Broadcasting Corporation and the National Archives of the Department of Internal Affairs.

Users

The Library caters for the needs of 640,000 students and a large range of tertiary and service organizations. In 1971 a total of 6,230 institutions (2,621 educational and 3,609 other organizations) made use of the Film Library. In the same year, 2,603 educational institutions made use of the gramophone library.

Output

Issued made from the National Film Library (Units = 1,400' reel film):

1967 - 251,689	79.4% to schools
1968 - 236,864	80.0% to schools
1969 - 278,730	80.0% to schools
1970 - 282,999	81.0% to schools
1971 - 304,892	80.0% to schools

	Titles	Prints
1967	7,649	30,741
1968	7,785	31,153
1969	8,126	31,553
1970	8,486	32,761
1971	8,909	34,027

Staff and Training Provision

The National Film Library has a staff of forty-four with twenty-two in the main Library and fourteen and eight in the branches of Auckland and Christchurch respectively. Film booking duties occupy twelve members of staff and despatch and examination a further twenty. Most training is provided on the job and personnel usually have training and practical experience in teaching.

In addition to receiving visitors from Colombo Plan countries, the present Manager of the National Film Library could assist in an advisory capacity with the establishment of a similar service.

Expenditure

The capital expenditure on the specialist equipment necessary is estimated at \$NZ80,000.

The recurrent expenditure is estimated as follows:

Annual vote (1971)	\$NZ300,000
Salaries	\$NZ145,000
Rent	\$NZ 27,000

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Plans for Development

The following are planned: cassette duplication service to schools; investigation of videotape copying services to schools; electronic film booking systems.

Address for Correspondence

The Manager
The National Film Library
Department of Education
Government Building
Wellington
NEW ZEALAND

SCHOOLS BROADCASTING SERVICE

Purposes and Structure

In 1932 the Schools Broadcasting Service opened under the control of the New Zealand Department of Education, but in 1943 was transferred to the New Zealand Broadcasting Corporation. The Service provides educational radio and television programmes for pre-school children and radio programmes for primary and secondary school audiences to support teachers of literature, science, social studies, language, music, liberal studies and careers.

The Schools Broadcast section is a division of the New Zealand Broadcasting Corporation headed by a Supervisor. Policy is controlled jointly by the NZBC and an Advisory Committee under the Chairmanship of the NZBC Controller of Programme Services. Department of Education representatives from the Inspectorate, Curriculum Development Section, Correspondence School, Advisory Services, Publications and the teaching service sit on the committee.

Users

There are approximately 3,000 schools equipped with radio receivers. The potential audience is:

Pre-school	80,000
Primary	462,000
Secondary	158,300

Output

Radio: there are sixteen series each lasting 15 - 20 minutes for primary and secondary schools and five twenty-minute series for pre-school audiences.

Television: there are four pre-school transmissions per week - two of 'Sesame Street' and two of 'Playschool'.

Staff and Training Provision

The Service employs a Supervisor and six producers, most of whom have received on-the-job training. Sequence of training is determined largely by the recognized abilities of individual staff members, but includes writing teachers' guides, studio

production of speech and music programmes, scriptwriting, editing of scripts for publications and broadcast presentation, audience research and personal visits to schools.

Broadcasting training is supplemented by attendance at NZBC in-service courses wherever applicable.

All producers are expected to maintain strong links with curriculum development officers, and to attend teacher in-service training courses conducted by the Department of Education.

Most of the staff are trained teachers with particular interest in the use of mass media in education and development of curriculum. They must be able to write well both for print and broadcasting.

Expenditure

Capital expenditure: there is no assessment of capital expenditure other than on schools radios at a cost of \$NZ450,000.

Annual recurrent expenditure: \$NZ158,890 broken down as follows:

Programme expenditure (including scripts, artists, copyright, miscellaneous expenses)	\$NZ59,650
Staff (including super- annuation subsidies)	\$NZ58,480
Administration charges	\$NZ 9,460
Printing and distribu- tion of ancillary materials	\$NZ31,300

Plans for Development

The Committee of Inquiry report on the Uses of Television is currently being considered by an Educational Priorities Conference. Development of radio and television services for education will depend largely on recommendations in 1973. Presumably training courses at different levels will be needed if it is decided to develop these services, particularly in training teachers to use the mass media.

Further Information

The Supervisor of the Service and his staff have provided training ranging from one week to six months' duration for various education and broadcasting staff from Western Samoa, Tonga, Fiji, Cook Islands and Sarawak during the period of 1962/71.

Address for Correspondence

The Supervisor
New Zealand Broadcasting Corporation
PO Box 98
Wellington
NEW ZEALAND

VISUAL PRODUCTION UNITPurposes and Structure

The Visual Production Unit of the Department of Education was set up in 1968 as support for primary and secondary schools in the New Zealand Education system. The policy of the Unit is controlled by a committee under the chairmanship of the Curriculum Development Officer for Audio-Visual Media. The representatives on this committee are drawn from the Head Office of the Department of Education, the local regional officers of the Department, and Curriculum Development Unit officers. This committee decides general policy while the Curriculum Development Unit Officers recommend purchases of visual aid material from overseas, and initiate New Zealand projects. Administration and finance are controlled by the Chief Production Officer in consultation with the Curriculum Development Unit Officer for Audio-Visual Media.

Users

A total of 2,887 schools with a total student population of 640,000.

Output (1971)

Filmstrips	23,519
Notes	12,376
Sound filmstrips	4,481
Sets	287
Overhead projector transparencies	757
Charts	3,270
Records	5,044
Tapes	11

Staff and Training Provision

There is a staff of six under overall control of the Chief Production Officer, most of whom have received on-the-job training. The staff have co-operated in the exchange of material between New Zealand and Australia. The officers of the Unit would be willing to make their expertise available to others, should it be required.

Expenditure

<u>Capital expenditure:</u>	
Buildings	\$NZ200,000
Equipment	\$NZ 20,000
Head office library	\$NZ 6,000
Regional libraries	\$NZ120,000
<u>Annual recurrent expenditure:</u>	
Annual vote (1972-73)	\$NZ180,000
Materials	\$NZ 20,000
Purchases - overseas	\$NZ 90,000
- local	\$NZ 30,000
Salaries	\$NZ 12,000

Plans for Development

It is planned that the Unit will: expand

the variety of NZ originated material; assist with in-service training of teachers in the use of audio-visual equipment; develop multi-media kits to assist curriculum change; purchase and/or produce super 8mm single concept films; and assist with planning for introduction of broadcast television into school systems.

Address for Correspondence

The Production Officer
Visual Production Unit
Saywell Building
115 Lambton Quay
Wellington 1
NEW ZEALAND

NEW ZEALAND WORKERS' EDUCATIONAL ASSOCIATION-TRADE UNION POSTAL EDUCATION SERVICEPurposes and Structure

The New Zealand Workers' Educational Association has been operating this service since 1968 to encourage trade unionists to develop their basic skills and to acquire wider knowledge so that they can participate more effectively and confidently in union and community activities. Financial support is received from the New Zealand State Services Commission, the Employers' Federation Inc. and the Manufacturers' Federation Inc. Co-operation is given by the New Zealand National Council of Adult Education which planned and introduced the scheme by setting up a Special Committee with representatives from the WEA and the New Zealand Federation of Labour. The scheme is now controlled by the WEA but the Special Committee continues to operate in an advisory and directive capacity.

Users

The courses are for New Zealand trade unionists only. To qualify for free tuition unions must affiliate to the Postal Education Service. To date over fifty unions with a total membership of 150,000 members are affiliated. Other trade union members are eligible for tuition, but on an individual paying basis. About 500 students are enrolled for the courses.

Output

Three categories of courses are offered: basic courses of English, arithmetic and statistics; courses of specific trade union interest which include history of trade unionism in New Zealand, industrial and trade union law, industrial negotiation and relations and the work of trade union branch officials; subjects of social and economic interest to unionists - pay packets, prices and profits, standards of

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living, science and industry, world affairs, sociology, home ownership and its rights and responsibilities, etc.

The courses are presented in the form of study books (6 - 12 for each course), each book being regarded as representing one month's spare-time study for the average student. Tutors adapt the instruction and guidance to the capacity of the students. Test questions are included in each study book but there are no final examinations although students are expected to maintain reasonable regularity.

Staff and Training Provision

The staff consists of one part-time secretary/director, one full-time clerical officer/typist and three part-time tutors engaged extra-murally as required. New courses are written by outside authorities under contract. There is no special staff training.

Expenditure

There is no capital expenditure as accommodation and services are provided by the National Council of Adult Education.

Annual recurrent expenditure consists of approximately \$NZ4,500 for honorarium of the secretary/director and clerical officer and \$NZ500 for tutors' marking fees. Authors are paid \$NZ25 per study book as a fee for writing new courses.

Plans for Development

It is proposed to extend the number of subjects offered. District seminars could be held in co-operation with University Extension and Industrial Relations Departments and Polytechnic Institutes.

Address for Correspondence

Secretary
Postal Education Service
New Zealand Workers' Educational
Association
PO Box 12.114
Wellington North
NEW ZEALAND

NIGERIA

GENERAL INFORMATION

AREA 356,370 sq. miles POPULATION 60,000,000 (1972)

EDUCATIONAL PROFILE

Statistics

Public expenditure on education = ₦38,214,000 = 2.3% of GDP
(Currency: Naira; ₦1.59 = £1 sterling 4.12.73)

Teacher training (1970) primary level students 32,866 staff 1,857
(1968) secondary level students 1,158 staff 114

Students at university in 1970 = 14,402

% illiteracy = total c. 60% in 1971

Structure

The structure of the educational system in Nigeria is complex: many agencies are involved. There is no 'state' system as such, although the Federal Government has greatly increased its interest in recent years.

The Ministry of Education of the Federal Government is responsible for education within the Federal territory of Lagos. The governments of the other States also have been responsible ministries. Responsibility for higher education is shared between the Federal and State Government.

Provision for education varies between the regions but the system is basically the same. The most usual age of entry for primary schools is six. Primary education is free in some states but attendance varies from region to region. Most states have, or will soon have, a six-grade primary course. Entrance to the fee-paying secondary schools is highly competitive. Secondary schools are either grammar, commercial, modern or comprehensive types. Selection is also exercised before entry to the School Certificate classes and to the sixth form. Aiyetoro School (Western State) is an example of an experiment in comprehensive education and offers a wide variety of courses including a high proportion of practical subjects. Many primary and secondary schools are government or government-aided, but there are also private institutions.

Junior technical, commercial and craft schools are available for those leaving primary school. Technical colleges and colleges of technology provide courses in engineering and commercial subjects. Part-time courses are usually available. There are six polytechnics and plans are being made for more. There is also one Law

School and a School of Forestry and four Schools of Agriculture.

Primary teacher training is given by Grade II Teacher Colleges and the basic course is 4 - 5 years for primary school leavers. Secondary teacher training is undertaken by the five University Departments and the Advanced Teachers' Colleges. Teachers of technical and commercial subjects are trained at the National Technical Teachers' College in Yaba.

There are five well established universities and other universities are emerging.

BROADCAST COMMUNICATIONS FACILITIES

Radio (1970)

The Nigerian Broadcasting Corporation is a statutory body. There are seventeen long and medium-wave transmitters, fifteen short-wave and four ultra short-wave. There are 1,265,000 receivers, twenty per thousand.

Television (1968)

There are three television transmitters and three stations - the Nigerian Broadcasting Corporation, Radio Kaduna Television and Western Nigeria Radiovision Service. There are 53,000 sets, 0.8 per thousand. There are educational radio and television services on NBC as well as in some of the states.

PROVISION FOR EDUCATIONAL INNOVATION

The Federal Ministry in Lagos co-ordinates policy in the joint interests of all the states through the National Council on Education (NCE) which is composed of the State Commissioners of Education. The NCE is under the chairmanship of the

Federal Commissioner for Education. The Joint Consultative Committee on Education is the professional advisory committee of the NCE and is composed of the Chief Inspectors of each state and the directors of the five university Institutes of Education. The JCC has four reference committees, on primary, secondary, teacher and technical education.

The National Education Research Council (NERC), the Comparative Education Study and Adaptive Centre (CESAC) and the Nsukka Curriculum Development and Resources Centre are all studying and implementing curriculum reform. The Federal Inspectorate, which is now being set up, will also be concerned with curriculum reform.

Increased provision is now being made for trained teachers to take advanced courses or in-service training. There are two British Council Centres for the in-service education of teachers.

FEDERAL SCHOOLS BROADCASTS, KADUNA

Purposes and Structure

The Federal Ministry of Education runs the service to provide educational radio and television programmes to enrich and complement traditional classroom teaching in primary, secondary schools and teacher training colleges in the six Northern States in an effort to combat the problem of qualified teacher shortage and to provide qualitative as well as quantitative education. The local education authorities and the ministries of education in the six Northern States co-operate in providing the service which was transferred to the Federal Ministry of Education in 1969, having previously been run by the Northern Nigeria Ministry of Education.

The service is controlled by the Head of Schools Broadcasts. Until 1970 the programme policy was determined by an Advisory Committee but this has been dissolved.

Users

There are a total of 135 schools and colleges with television receivers in Kaduna, Zaria and Kano areas only, with a potential viewing audience of about 100,000 students at various levels. In addition there are twenty-five Community Viewing Centres with a potential audience of 50,000.

There are about 1,975 radio sets in schools and colleges in the six Northern States, of which about 1,700 are in primary schools. The potential listening audience at all levels is about 600,000.

Output

Television programmes for upper primary children include science, history, English and French, and subjects for secondary

schools are science, geography and French. The programmes last twenty minutes and there are two or three per week on each subject. Total broadcast time is about five hours.

Radio programmes are broadcast to all levels in primary and secondary schools and to teacher training colleges. English is the main subject covered - there are seven courses at different levels, with at least two broadcasts per week and five for Primary Class I. Science and history programmes are provided for secondary schools and teacher training colleges and there is a programme on method for teacher training. Each programme lasts fifteen minutes. Support materials provided for most programmes include teachers' notes, students' work books, wall-charts and pictures.

Staff and Training Provision

The total number of staff is thirty-nine. The service is headed by the Head of Schools Broadcasts. There are five sections: Administration - fourteen staff consisting of executive and clerical officers, typists, messengers etc.; Production - twelve staff, an executive officer, education and assistant education officers and two grade II teachers; Liaison - one education officer; Technical - eight staff of technical officers and assistants and workshop assistants; Graphics/Photographic - three staff consisting of an education officer, an assistant education officer and a senior photographic assistant.

Recruits to the Schools Broadcasts are usually well-trained experienced teachers, preferably specialist teachers. Training is given on the job but depending on the technical aid awards available, overseas training in educational broadcasting is given. Six of the staff have been trained in the US and four at CEDO. A training schedule has now been drawn up for systematic training of all of the staff of the Unit, varying from courses lasting 3 - 4 months up to a year.

Expenditure

Capital expenditure is estimated as follows:

Buildings	₦ 51,660
Equipment	₦ 400,000
Radio/TV receivers	₦ 40,000
Vehicles	₦ 10,000

Annual recurrent expenditure:

Salaries	₦ 74,420
Materials	₦ 24,600
Travelling and transport	₦ 6,000

Plans for Development

Proposals are in hand for converting Federal Schools Broadcasts into a Modern Aids

to Education (MATE) Centre. The main functions of the Centre would be to develop, produce and evaluate locally, curriculum materials such as visual aids for schools and to design and develop suitable instructional systems applicable to Nigeria's educational needs and system. It will operate under five main units: Productions Unit; Support Services Unit; Research and Curriculum Development Unit; Visual Aids Unit; Technical Unit. This plan will involve an enormous capital expenditure, technical facilities and high quality personnel. Therefore outside assistance is likely to be needed in the form of monetary assistance, technical assistance and overseas training for staff. This new Centre should do much to improve the educational system of Nigeria.

Further Information

The Head of Schools Broadcasts attended a convention of the Association for Educational Communication and Technology in the US in 1972 and the Acting Head represented Nigeria at the UN Panel Meeting on Satellite Instructional Television Systems in India in 1972. The Section has also made its publications and evaluation reports and data available to several international bodies. The Head of Schools Broadcasts and his trained staff would be ready to offer on-the-job training and training courses to those countries wishing to establish similar services, and to offer advice.

Address for Correspondence

Broadcasting Unit
Federal Ministry of Education
Kaduna
NIGERIA

MASS COMMUNICATION UNIT - UNIVERSITY OF IBADAN

Purposes and Structure

The Unit was set up in 1968 to conduct research and experiments in educational development. It is administered as part of the Department of Adult Education of the University of Ibadan. The Western Nigerian Broadcasting Service co-operates.

Users

Five Departments in the University. Namely, Departments of: Adult Education, Education, Nursing, Theatre Arts, and Library Studies. There is an average number of twenty-five students at each lesson given in the Unit.

Output

The subjects covered include: community development; adult education; biology; geography; French; Yoruba; English;

psychology; history; drama and speech; nursing education; and use of the library.

Staff and Training Provision

Four members of staff are employed. These consist of a full-time producer, a part-time technician (Studio-Engineer) and two full-time cameramen.

The producer was trained at the former CETO in educational television production. He has also been on attachment to the Educational Units of the Norwegian Broadcasting Corporation and the Voice of Kenya.

Expenditure

The Unit is housed in the Faculty buildings and the only capital expenditure is ₦30,000 on equipment. Annual recurrent expenditure is estimated at about ₦2,000 for maintenance of equipment.

Plans for Development

It is planned to provide standard equipment in the CCTV Studio in order that better services can be rendered to the increasing number of Departments that are anxious to make use of the studio facilities for improved teaching.

It is also hoped to link the studio with teaching laboratories, selected lecture rooms and viewing centres so that lectures can be relayed on request to students and important announcements can be made, for example, by the Vice-Chancellor to the students in particular and the university community in general.

In view of the proposed activities, there would be a need for more trained staff in the field of mass communications with special reference to Educational Radio and Television Production.

Further Information

Staff would be available to assist other Commonwealth countries for short periods of up to one month.

If the Unit succeeds in upgrading the facilities in the studio and recruiting trained staff, there is evidence that it will be able to generate adequate interest in the other Departments which co-operate with the Faculty of Education in teacher training, and also in the Faculty of Medicine where CCTV facilities can considerably enhance training programmes.

The long-term plan may well be the establishment of a unit of Educational Technology within the Faculty for the use of radio and television in educational development.

Address for Correspondence

Director Mass Communication Unit
Department of Adult Education
University of Ibadan
Ibadan
NIGERIA

SIERRA LEONE

GENERAL INFORMATION

AREA 27,925 sq. miles POPULATION 2,630,000 (1972) estimate PER CAPITA INCOME Le122.4

EDUCATIONAL PROFILE

Statistics

Public expenditure on education = Le11,228,777 = 3.3% of Government expenditure (Currency: Leone; Le2.0 = f1 sterling 4.12.73)

Less than primary	96.40% (year 1963)
Completed primary	2.89%
Completed secondary	0.66%
Completed tertiary	0.05%

Teacher training (1971/72)	primary level	students 887	staff 80
	secondary level	students 327	staff 41

Students at university in 1971/72 = 1,197

% illiteracy (1963) 85% in 10 - 19 age group; 95% in 20 - 45 age group; 91% in 45+ age group

Structure

The stated aim of national educational policy is to provide opportunity for the full development of the individual according to his aptitude and ability, and to enable him to be of service to the community and to find fulfilment in such service.

Primary education is seen as a time when the child acquires the basic skills, knowledge and attitudes necessary to live as a contributing member of society. It is considered important that the child should learn to speak English fluently as this is the official language of the country. Secondary education is seen as a time when the pupil is prepared for higher education or for employment on leaving school, and also a time when he is encouraged to understand his civic and social responsibilities in the future.

One of the main aims of higher education at present is to produce more teachers in order to combat the present lack which has led to the high rate of illiteracy.

The Ministry of Education is the official body responsible for the control of the system, though other ministries are also involved with education. (For example, the Ministry of Social Welfare, which is partially responsible for schemes in adult education and literacy).

Pre-primary education is available to some children, and is regarded as part of the system although it is on a small scale at present. Responsibility for

primary education is delegated to local authorities. There are also various private and missionary organizations running primary schools. Fees are charged for primary schooling, but it is the long term aim of the government that primary education should be universal and free. At the moment, the attendance rate among all children of school age is about 30%. For those who do attend, the usual entrance age is five, and the primary course lasts for seven years. Not all children complete the course.

Secondary schools have a varied curriculum with greater emphasis now being placed on science and technology, home crafts, agriculture, trade and commerce. In addition to the technical classes available in secondary schools, there are two technical institutes, two trade centres and a farm school. A school for nurses has been open since 1969.

Teacher training is carried on in six colleges.

The University of Sierra Leone is an independent institution, composed of two constituent colleges. It offers courses in the arts, economic and social studies, pure and applied science, agriculture, education and engineering.

Special education for handicapped children is provided at primary level only.

Adult education programmes are run for adults who have missed formal education. These include extension services and the Extra-Mural Department of the University.

BROADCAST COMMUNICATIONS FACILITIES

Radio (1972)

The Sierra Leone Broadcasting Service is government controlled. There are two transmitters, one on long and medium wave and one on short wave. About 140,000 sets are owned; 56 per thousand population. 8½ hours per week are given to educational broadcasts.

Television (1972)

Television programmes are produced by the SLBS also. About 28 hours per week are devoted to TV transmissions. At present, it is only available to those in the Free-town area. There is one transmitter. About 3,500 sets are owned: 1.4 per thousand population. Work is in progress on the re-equipping and rehousing of radio and television service.

PROVISION FOR EDUCATIONAL INNOVATION

The Institute of Education at the University of Sierra Leone has responsibility for teacher education, curriculum development and educational research.

There is a Schools Broadcasting Service.

There is a Planning and Development Unit in the Ministry of Education.

There is a Publications Unit in the Ministry of Education.

EDUCATIONAL MEDIA SERVICEPurposes and Structure

The service provides educational radio programmes to support teachers in primary and secondary schools: particularly in the introduction of new curricula in English, science, health, French, history and music. It is the responsibility of the Ministry of Education, assisted by the Sierra Leone Broadcasting Service (SLBS) under the Ministry of Information. The service began in 1962 as the Schools Broadcasting Unit and was linked with the Teaching Aids Unit in 1965 to form the Educational Media Service.

The Educational Media Service is a division of the Ministry of Education controlled by the Principal Education Officer (Teaching Aids). Policy is controlled by a Schools Broadcasting Advisory Committee under the chairmanship of the Chief Education Officer, and on which are also represented the Director of Broadcasting, the Sierra Leone Teachers' Union, the Principal of Fourah Bay College, the British Council Representative, the Inspectorate, the Conference of Principals of Secondary Schools and a Member of Parliament.

Users

Ninety primary schools and fifty secondary schools with a potential audience of 9,200.

Output

Programmes last for twenty minutes. Each week there are at primary level three in health, two in music and two in science. At secondary level three in English, three in literature, three in French and two in history. The health, French and history programmes are repeated.

Staff and Training Provision

Within the Service there are three divisions, concerned with audio-visual aids, school broadcasting and publications.

The Audio-Visual Unit has an education officer, two artists and an assistant artist, a photographer, a demonstrator and clerks.

The School Broadcasting Unit has an education officer, a senior teacher, an operations manager, two producers and a clerk.

The Publications Unit has an education officer, a librarian and clerks.

The Ministry of Education has organized courses and workshops in scriptwriting, presentation and classroom utilization. Selected staff have been trained in London by CEDO and the BBC. Such scholarships/awards are advertised by the Ministry of Education and nominations are made by the scholarships committee. Any interested staff can submit their applications.

Expenditure

The capital expenditure involved in the project is represented by:

Buildings	Le 6,000
Equipment	Le15,740
Other charges	Le 4,580

The annual recurrent expenditure totals Le33,284, of which Le27,284 are consumed by salaries, Le3,000 by acquisition of materials.

Plans for Development

Radio programmes are being taped for use in schools by the transcription service. (Twenty-seven schools already have tape recorders.) Pamphlets are supplied to schools for follow-up work and an offset printing press is required for this. The Principal Education Officer (Teaching Aids) states that 'with all these activities there will be a need for training courses at many different levels at home and overseas'.

Further Information

It is realized that the introduction of new curricula, particularly in science and

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mathematics, has created considerable difficulties due to shortage of qualified staff, particularly with the establishment of a large number of secondary schools.

Address for Correspondence
Principal Education Officer (Teaching Aids)
Ministry of Education
New England
Freetown
SIERRA LEONE

SINGAPORE

GENERAL INFORMATION

AREA 224.5 sq. miles POPULATION 2,147,000 (1972) PER CAPITA INCOME £564 (1972)

EDUCATIONAL PROFILE

Statistics

Public expenditure on education = \$S229,992,000 = 10.5% of public expenditure
(Currency: dollar; \$S5.74 = £1 sterling 4.12.73)

(1972 estimate)

No schooling	Age 10 and over -	25%
Completed primary		35%
Completed secondary		20%
Completed tertiary		22.5%

Teacher training (1972) primary and secondary level:

Students 547 full-time plus 1,577 in-service staff 174

Students at university in 1972 = 7,822

% illiteracy = 10 years and above = 25%, but close to zero for the 10 - 14 age group

Structure

There are three main stages of education: six years' primary, four years' secondary, and two years' pre-university. Children who are not promoted to the four-year secondary course have a two-year course in a vocational school. The minimum school-leaving age is sixteen in all cases. Education is provided in the four official languages: Malay, Chinese, Tamil and English. Parents may choose the medium of instruction.

Pre-school education is also available, but is administered by independent bodies. Private kindergartens are subject to some state control, and have to be registered.

Primary education which is free leads up to the primary school leaving examination. Successful children take a four-year course at secondary school at which a nominal fee is charged. After two years they are streamed according to aptitude. Courses are available in academic, scientific, technical, vocational and commercial subjects. Some children complete their secondary school course in these streams, others leave and go to vocational institutions. In secondary schools and the National Junior College, pupils can take a two-year course as a preparation for university entrance. Admission to these classes depends on examination results.

The Institute of Education in Singapore gives training for both primary and secondary level and also runs a course for graduates. Regular re-training programmes

are held.

Industrial and technical training at post-secondary level is provided at three institutions: the Singapore Polytechnic, Ngee Ann Technical College and the Singapore Technical Institute.

University education is provided at the University of Singapore, and the Nanyang University. The former uses English as the main medium of instruction, the latter Chinese. Subjects offered at the two institutions are in the fields of arts and social sciences, law, medicine, dentistry, engineering, architecture, education, business studies, Asian studies, natural sciences and mathematics.

Adult education is mainly the responsibility of the Adult Education Board. There are courses to meet all levels of need, including recreational subjects. The University of Singapore runs Extra-mural courses.

BROADCAST COMMUNICATIONS FACILITIES

Radio (1969)

Radio Singapore is a government-controlled body. There are sixteen radio transmitters in the country, five long and medium wave, seven short and four ultra-short. The total number of receivers is 102,000 (50 per thousand population).

Television (1968)

Television Singapore is also government-controlled. There are two transmitters,

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and 131,000 sets - sixty-five per thousand population.

PROVISION FOR EDUCATIONAL INNOVATION

In the Ministry of Education, there is a Development Division which consists of three sections: Planning, Curriculum and Textbooks. This Division is mainly concerned with educational planning, curriculum development and evaluation, and textbook writing and publications.

The Educational Television Service started in 1967 and has widened its activities to include the production and distribution of educational media.

Research is also carried out by the Institute of Education.

EDUCATIONAL MEDIA SERVICE

Purposes and Structure

An Educational Television Service was established by the Ministry of Education in 1967 to provide television programmes in support of the school curriculum, initially at the lower secondary level, but now also in primary schools.

The general policy is formulated by a committee composed of members nominated by the Minister of Education on the advice of the Director of Education. The Chairman of the committee is usually the Deputy Director of Education (Professional) and the Secretary, the Head of Singapore ETV Service. Among the members will be the Director of Broadcasting (or his representative), Ministry of Culture, to advise on transmission facilities and times. The rest of the members will be drawn from officials of the Ministry of Education, Teachers' Training College, Secondary School Principals, and the Adult Education Board. Their term of office will be for two years.

The Advisory Committee will advise the Minister for Education through the Director of Education, on the following: level; subject areas; frequency; medium of instruction of the school broadcasts; the convening of sub-committees and working parties to discuss syllabuses; evaluation, etc.

Users

Television:

Primary schools - 130,000 students
Secondary schools - 70,000 students

Media:

All schools - 500,000 students

Output

Primary schools: in one year, seventeen series of programmes each lasting fifteen minutes (and each programme broadcast six times weekly), were produced. The subjects

covered included general activities, mathematics, science, social studies, English language, music, health education and art. Programmes were produced in Chinese, English and Malay languages.

Secondary schools: ten series of programmes (each lasting twenty minutes and each programme being repeated either seven or eight times per week) were produced. The subjects covered included science, mathematics, English, Chinese, Technical drawing and geography. These programmes are produced in either English or Chinese language.

There is one general series of forty-five minute programmes for pre-university students which is broadcast four times per week.

Staff and Training Provision

There is a staff of fifty-one including a Head and Deputy Head. There are sixteen production staff, eleven in engineering, nine in graphics and photographic services and the remainder in administration and support services.

At the inception of the service, rigid selection criteria were observed. Original ETV staff members had good educational backgrounds and other qualifications and skills closely related to ETV production. These officers were trained locally. In time, after gaining sufficient experience in ETV production work, they were sent to the USA, UK, Japan, and Germany for further studies. Selection for training in ETV at overseas centres and institutions was made by the Public Service Commission.

To maintain a high level of performance amongst its production staff, seminars, workshop sessions and discussions are conducted annually. In addition, in order to develop interest and provide a ready supply of ETV skills, the Service conducts two ETV/media courses annually for teachers and educators.

The Service has provided training attachments for ETV producers, graphics artists and cameramen, from seven countries. Further training attachments could be arranged.

Expenditure

It is estimated that the capital cost of the Service is \$546,000 and the cost of the buildings is \$200,000.

It is estimated that the annual recurrent expenditure is \$571,572 which is broken down as follows:

Salaries	\$374,792
Administration	\$43,690
Maintenance of motor vehicles	\$500
Programme fees	\$20,000
Programme production expenses	\$65,000
Teaching materials	\$12,000
Transport and travelling	\$2,000

Printing \$S40,000
 Stationery and office supplies \$S 2,350
 Special expenditure \$S11,240

Plans for Development

The Ministry of Education plans to develop the Educational Media Service to service all sectors of the educational system, based upon an expansion of the existing Educational Television Service.

Address for Correspondence

Head of Educational Media Service
 Teacher Training College
 Paterson Road
 SINGAPORE 9

PROGRAMMED LEARNING

Purposes and Structure

The project is run by the Language Studies section of the Adult Education Board to provide programmed language materials which incorporate built-in checking devices aimed at increasing the quality of person to person communication as well as stimulating better productivity in the working environment. The project has been operating since 1970. Co-operation is received from the Staff Training Institute, the Economic Development Board, the Ministry of Health and Social Welfare and private commercial and industrial organizations.

The Language Studies service is organized by the Assistant Director/Language Studies, who is administratively and professionally responsible for the running of the programmes planned and implemented by the Department.

Users

All adult students who attend the language classes organized by the Adult Education Board/Language Studies - 12,200 in 1973.

Output

At the twenty-nine language centres courses at five different levels in local languages (Malay, Chinese, Tamil and English) are given. Each course lasts 120 hours (forty weeks) at two sessions per week. At one language centre courses are given in foreign languages (French, German, Japanese, Russian, Thai) for beginners, intermediate and advanced levels lasting 10-12 weeks with two sessions per week. There are two language laboratories which give courses in local and foreign languages lasting twenty weeks. Evaluation is done on the basis of an AEB Annual Language Examination in October (3,100 in October 1972). Special taped programmes are prepared for use in the two laboratories and co-ordinating 'learning' materials are prepared for books to be used in conjunction with the

taped programmes. Materials make as full use of local conditions as possible.

Staff and Training Provision

At the twenty-nine language centres the staff consists of twenty-nine supervisors, fifteen assistant supervisors and 500 teachers. They are all part-time employees. The two language laboratories: two laboratory technicians, thirty part-time teachers. Headquarters: assistant director, organizer, clerical officer and two assistant clerical officers.

All teachers recommended for part-time teaching at the twenty-nine centres do a week's workshop/seminar every year. During the sessions systems to update/upgrade teaching techniques, materials, etc. All teachers at the language laboratories undergo tutorials on 'Applied Linguistics' and 'The teaching of a Second Language' both before and during their teaching. They are conducted by the Assistant Director. The aim is to update teaching and learning methods relevant to the audio-visual aspects of the various courses. Teaching staff selected must be qualified teachers with at least six years' service and each applicant is screened by the AD/LS.

Expenditure

Capital expenditure is estimated at \$S150,000. Annual recurrent expenditure is broken down as follows:

Salaries of full-time staff	\$S 30,600
Salaries of part-time staff	\$S327,000
Materials, etc.	\$S 4,400
	<u>\$S362,000</u>

Plans for Development

It is aimed to integrate languages and vocational/technical/academic materials as specially packaged programmed courses where the language laboratory when, converted into a multi-purpose laboratory, will function with visual aids as one compact teaching aid. Assistance in the form of equipment such as videotape equipment, language laboratories and film projectors would be needed.

Further Information

The Assistant Director/Language Studies is at present in the UK at Lancaster University taking an MA course. When he returns he will be able to provide advice on staff training and adult education relevant to literacy campaigns and tape programmed learning, to other Commonwealth countries.

Address for Correspondence

Assistant Director
 Language Studies, Adult Education Board
 126 Cairnhill Road
 SINGAPORE 9

SRI LANKA

GENERAL INFORMATION

AREA 25,332 sq. miles POPULATION 12,700,000 (1971) PER CAPITA INCOME approximately \$US128

EDUCATIONAL PROFILE

Statistics

Public expenditure on education = 563,000,000 Rupees = 4.7% of GDP
(Currency: Rupee; R15.57 = £1 sterling 4.12.73)

No schooling	Age 15 - 24 = 15.5%	Age 25+ = 23.4%
Incompleted primary	Age 15 - 24 = 37.0%	Age 25+ = 41.3%
Entered secondary	Age 15 - 24 = 40.0%	Age 25+ = 27.6%
Entered tertiary	Age 15 - 24 = 0.1%	Age 25+ = 0.6%

Teacher training (1972) primary level students 5,725 staff) 659
secondary level students 2,316 staff)

Students at university in 1970 = 14,480

% illiteracy = 10 - 14, 9.6%; 15 - 24, 8.3%

Structure

The Republic of Sri Lanka is responsible for the provision of educational facilities to all children of school age. Education is free from grade 1 right up to university level. The traditional academic form of education is being gradually supplemented by education of a practical nature with greater emphasis on science and technology. The national languages (Sinhala/Tamil) have been adopted to serve as the media of instruction while English has been maintained as a second language.

Under the reformed system first implemented at the beginning of 1972 the age of admission to grade 1 has been raised to six. All children will be provided with a broad-based general education programme of nine years' duration. Teacher education courses are provided in twenty-six teacher education institutes, some of which have facilities for the training of specialist teachers in science, mathematics, aesthetic studies, English, agriculture, commerce, etc.

Technical vocational education courses are organized in thirteen technical institutes at the technician and craftsman level. The Republic has one university with five campuses. Courses include arts, science, medicine, law, public administration, engineering and agriculture.

BROADCAST COMMUNICATIONS FACILITIES

Radio (1971)

The Sri Lanka Broadcasting Corporation is publicly controlled. It provides services in Sinhala, Tamil and English for the whole island using ten medium wave and

fifteen short-wave stations. It also provides a South-East Asia service. It is responsible for an educational broadcasting service.

PROVISION FOR EDUCATIONAL INNOVATION

There is an educational planning and development unit which is responsible for the production and co-ordination of the five-year educational development plan. It has a research facility.

A Curriculum Development and Research Centre has been established to prepare the necessary curricular material and evaluation material for the reforms under implementation. It also organizes in-service teacher education programmes for the teachers concerned. It works in close collaboration with the field supervisory staff and teacher educators in training colleges.

There is also an Audio-Visual Aids Centre which supplies equipment to schools and teachers' colleges.

CORRESPONDENCE TEACHER EDUCATION PROGRAMME

Purposes and Structure

This service provides correspondence teacher training to primary level teachers in-service. Aged 35 - 45 they have been unable, for various reasons, to receive professional training in a teachers' college. The service is the responsibility of the Ministry of Education, assisted by the Sri Lanka Broadcasting Corporation and Unicef. The Ministry of Education has created a correspondence teacher education

unit to run the programme which includes posting printed lesson materials, radio broadcasts once a week and short-term residential courses during the school vacations at eighteen teachers' colleges. The service has been running since 1972.

Users

The course which began in 1972 will run for three years and is followed by 2,467 teachers. It was hoped to recruit a further 1,200 teachers for enrolment in the course beginning in January 1973.

Output

Printed lessons are distributed at the rate of twelve lessons in each subject per school term for three terms in a year. The 1972 lessons consisted of Education I, Education II and social studies. In 1973, Sinhala, mathematics and science will be covered, and in 1974, religion, agriculture and optional subjects. There is one fifteen-minute broadcast each week related to the printed lessons. During two school vacations each year five-day courses are held at eighteen centres for groups of 140 teachers, at which normal instruction is reinforced with educational films and other audio-visual materials.

Staff and Training Provision

The Director of Teacher Education has appointed a Principal in charge of the correspondence teacher education unit. There is a Registrar, six full-time lesson writers, four part-time lesson writers and consultants, one part-time artist, a chief clerk, three assistant clerks, and three other labourers. In addition fifty-four teachers' college lecturers are seasonally employed as teachers at residential vacation courses, and as answer-script scrutinizers. There is no specific training programme for staff who have been drawn from principals and lecturers of the teachers' colleges on the basis of professional attainment and aptitude for this type of work.

Expenditure

Buildings have been made available by the Ministry of Education - their annual value is estimated to be R6,000. In addition, approximately R65,000 have been spent on equipment. The annual recurrent expenditure breaks down to give:

Salaries (approx.)	R 90,000
Printing	R162,000
Vacation courses	R 64,000
Term tests and script marking	R 40,000
Stationery and materials	R 12,500

Plans for Development

From 1973 a correspondence programme in

school administration for the benefit of headmasters will be started.

In collaboration with the University of Ceylon a two-year correspondence course leading to the Diploma in Education of Graduate Teachers began in 1973.

It is hoped to obtain a mobile van to maintain contact between training centres, the printing press, the broadcasting station and the post office. The service also hopes to acquire a small printing press and a duplicating machine.

Further Information

Sri Lanka will need to resort more and more to the correspondence technique in order to meet the ever-increasing need for in-service and continuous training of teachers, once the present back-log of untrained teachers in-service is cleared.

Address for Correspondence

The Principal
Correspondence Teacher Education Unit
Teacher Education Branch
The Ministry of Education
Colombo 2
SRI LANKA

EDUCATIONAL BROADCASTING SERVICE

Purposes and Structure

The output of the Education Service of the Sri Lanka Broadcasting Corporation was restructured in January 1972 in order to give support to far-reaching curriculum changes in the nation's schools. The new Service was regarded as a two-year pilot project in the first instance. A joint committee of the Broadcasting Corporation and the Ministry of Education guides the work of the Service and of the Educational Broadcasting Liaison Unit in the Ministry's Curriculum Development Centre.

Users

During the pilot project there have been 250 listening schools. In 1974 the Service will expand in output and also in size of audience. With additional radio receivers provided by Unicef there will be nearly 1,000 listening schools by the end of that year.

Output

In 1973 there have been two programmes a week each in English, mathematics, science and Sinhala for grade 6 in Sinhala schools, and two in mathematics for grade 10; for Tamil schools there have been two programmes a week in English and two in science for grade 6. The English and mathematics series have been accompanied by pupils' pamphlets. There are teachers' guides for all the series. In 1974 programmes will be extended to grade 7 and will also enter

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the primary school at grade 1. In addition there are teachers' programmes in relation to each series, and on oral English and Pre-vocational Studies, and in connexion with the Correspondence Teacher Education programme.

Staff and Training Provision

In the SLBC the cadre of the Education Service consists of a controller (who works direct to the Director-General), an organizer (Sinhala) and an organizer (Tamil), seven producers, a presentation officer, and clerks, typists, etc.

There is also at present an adviser provided by Britain under the Colombo Plan.

In the Ministry of Education's Curriculum Development Centre there is a liaison officer with two assistants.

Production staff receive technical training in the SLBC, and there have been seminars on various aspects of school broadcasting; some have attended courses at the BBC and ABC. They also attend in-service training courses of the Curriculum Development Centre on new educational developments.

Expenditure

The annual expenditure on school broadcasting by the SLBC is about R190,000

(£12,000) for Education Service staff and fees to writers and artists. Overheads for studio and transmitter facilities, rent, general administration, etc. probably amount to a similar figure.

Expenditure by the Ministry of Education for Liaison Unit staff, teachers' guides, attendance of teachers at evaluation seminars, advice by Curriculum Development Centre subject specialists, etc. is difficult to estimate.

Further Information

Further details of the output of the service and plans for future development can be obtained from the Controller, Education Service.

Address for Correspondence

The Controller, Education Service
Sri Lanka Broadcasting Corporation
PO Box 574
Colombo 7
SRI LANKA

The Liaison Officer,
Curriculum Development Centre
255 .Bauddhaloka Mawatha
Colombo 7
SRI LANKA

SWAZILAND

GENERAL INFORMATION

AREA 6,705 sq. miles POPULATION 450,000 (1970 estimate) PER CAPITA INCOME R420

EDUCATIONAL PROFILE

Statistics

Public current expenditure on education 1972/73 = R3,757,513 = 17.5% of government expenditure

(Currency: South African Rand; R1.74 = £1 sterling 4.12.73)

Age 5 - 9 (1972)	47.3%
Age 10 - 14	67.7%
Age 15 - 19	37.7%

Teacher training (1971) primary level	students 113	staff 37
secondary level	students 89	

Students at university in 1972 = 226

Structure

By developing the country's educational facilities as rapidly as possible, the Government intends to provide the necessary training which will enable citizens to participate fully in the country's economy.

At present, the first aim is for universal primary education. By 1975 it is intended that the primary school enrolment rate will be 80%. It is hoped to increase secondary enrolment by this time and to increase facilities for teacher training.

The Ministry of Education is responsible for primary and secondary education, teacher training and adult education. The Ministry of Agriculture is responsible for agricultural education and training. Labour and industrial training is the responsibility of the Office of the Deputy Prime Minister. The Prime Minister's Office is responsible for the Government's Staff Training Institute.

The primary school course lasts for seven years, after which children sit an examination for a certificate, which must be obtained in order to apply for a place at secondary schools. Most of the successful students are given places in post-primary education establishments.

Secondary education is divided into steps the first lasting for three years after which the students sit an examination, the pass of which gives a Junior Certificate. The second step lasts for two years after which students sit for an 'O' level examination. At both primary and secondary levels pupils must contribute to a small fee to the school fund used mainly for stationery and equipment. They also pay for their textbooks.

Teachers' salaries in most schools are paid by the Government.

There are two primary teacher training colleges in Swaziland, one of which also provides a two-year course for 'O' level students who then qualify for a Secondary Teacher Certificate.

The University of Botswana, Lesotho and Swaziland now has a campus in Swaziland, where studies in some art faculties are provided for during the first two years, 'Part I'. Others are sent to the University of Botswana, Lesotho and Swaziland in Lesotho.

Adult education classes are organized in urban areas, and a government-sponsored institute, 'Sebenta', is engaged in a programme of literacy, which will make Swaziland literate in seven years starting from 1973.

BROADCAST COMMUNICATIONS FACILITIES

Radio

The Swaziland Broadcasting Service (SBS) is a government-controlled station which started in 1966. It operates from a medium wave transmitter at Mbabane, with a standby transmitter to ensure reliable service. An FM VHF transmitter is also used in Mbabane and in Manzini. (The equipment for this pilot FM service has been kindly loaned to the SBS by the South African Broadcasting Corporation for an indefinite period). A further medium wave transmitting station is planned for Sidvokodvo in 1974 to extend coverage and eventually high power VHF stations will be installed at Mbabane, Hlathikhulu and Siteki. These stations will also event-

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ually serve as television transmitting stations for Swaziland's National TV Service.

SBS broadcasts 10½ hours daily from Monday to Friday and 16½ hours on weekends and public holidays in the two official languages, siSwati and English. In addition 3½ hours daily Monday to Friday are devoted to schools broadcasts in term time. A rough estimate puts the listening audience at about 67% of the population.

PROVISION FOR EDUCATIONAL INNOVATION

In line with its policy of encouraging audio-visual education in schools and to prepare schools for the ultimate introduction of educational television, the Service has applied for radiovision equipment and funds for the early introduction of a radiovision pilot project in selected secondary schools.

Beginning in January 1974 the Educational Broadcasting Service will extend its air time to broadcast programmes to teachers as part of a nation-wide project to qualify and upgrade the unqualified and lesser qualified primary school teachers.

EDUCATIONAL BROADCASTING SERVICE

Purposes and Structure

The Service began as a small pilot project under the Ministry of Education in 1967 serving about seventy-five schools. Now, six years later, under the Ministry of Broadcasting and Information since 1969, it has expanded to serve some 350 schools and in 1971 won a Special Prize in the Japan Prize Contest.

The Service provides daily morning and afternoon educational radio lessons and support material for primary and secondary schools from standard 1 to form 3, Junior Certificate level. Under the Swaziland Broadcasting and Information Services it works in close collaboration with the Swaziland Ministry of Education Inspectorate and the British Council Adviser in English to ensure the contents of the radio lessons is in line with the primary and secondary school syllabuses.

The Swaziland Broadcasting Service is controlled by the Chief Broadcasting and Information Officer of the Swaziland Broadcasting Service. The Educational Broadcasting Section is controlled by the Organizer of Educational Broadcasting who is responsible to the Chief Broadcasting and Information Officer for his policy, decisions, programme planning and timetables. He is also responsible for the general running of the service, quality of programmes and their suitability for the needs of Swaziland schools.

Evaluation of radio lessons is made by

a very successful correspondence system and by personal visits by educational broadcasting staff to schools.

Users

A radio set has been issued to each of 350 schools and educational establishments including 285 primary and 65 secondary schools, and two teacher training colleges. There is a potential listening audience of approximately 50,000 primary school pupils and 6,000 secondary school pupils. In addition an increasing number of adult general listeners are now following certain of the secondary school programme series in connexion with external examinations or simply to further their education.

Output

The Service broadcasts to schools, 3½ hours daily Monday to Friday in term-time.

The twenty-eight educational radio programmes, of which twenty-six are produced locally, include English, siSwati, local history, nature knowledge, music, gardening, health, domestic science, religious knowledge, science, geography, drama, botany, biology, poetry and general knowledge. In addition there are four special world and local news bulletins prepared for schools daily.

Visual aids (pictures and diagrams) and teachers' notes are produced and supplied to all schools before each term's broadcast.

Staff and Training Provision

Within the educational broadcasting unit there is an organizer of broadcasting, an assistant organizer, a trainee producer/announcer, and one clerical assistant.

On-the-job training is achieved through a close working relationship between senior and junior staff. Further training has been obtained at the overseas centres of CEDO and the ABC.

Expenditure

At present the Service is housed in temporary accommodation and uses studio facilities of the general service of Radio Swaziland. Expenditure on capital equipment for the studios has amounted to R5,700 and additional materials for schools such as aerials, tapes, batteries, etc., have amounted to R3,300.

The annual recurrent expenses amount to approximately R10,000 per annum.

Plans for Development

These include the provision of suitable radio receivers for the rest of the schools in Swaziland (some 150 schools are still without sets); the provision of sets to multi-stream schools and the provision of

a separate educational radio channel especially for adult educational broadcasting in the evenings.

In order to enable such parallel transmission to take place the Chief Broadcasting and Information Officer stresses the need for the provision of a separate educational broadcasting studio suite.

Further Information

Subject to suitability of content and language, certain series of taped lessons

could be made available for a wider distribution through a central clearing house such as CEDO or the British Council.

Address for Correspondence

The Chief Broadcasting and Information
Officer
Swaziland Broadcasting Service
PO Box 338
Mbabane
SWAZILAND

TANZANIA

GENERAL INFORMATION

AREA 363,708 sq. miles POPULATION 13,630,000 (1971 estimate) PER CAPITA INCOME £22 (1967)

EDUCATIONAL PROFILE

Statistics

Public expenditure on education = £7,366,500 = 2.36% of GDP
(Currency: shilling; Sh 16.29 = £1 sterling 4.12.73)

Teacher training (1968) primary level students 2,673 staff 231
Students at university in 1969 = 1,988

Structure

The aims of the educational system in Tanzania correspond with the nature of the society which the country is hoping to build. This is a socialist society, based on the sharing of resources.

The current five-year plan aims at making the country self-sufficient in trained manpower in all economic sectors by 1980. The public sector has first priority.

The Tanganyikan Government Ordinance of 1961 provided for a single system of education, and the integration of the education of various religious and tribal groups. The responsibility for this belongs to the Ministry of Education.

Primary schooling lasts for seven years. Lower secondary education lasts for four years, in which pupils can either take a course leading to the School Certificate, or a technical course in commerce or agriculture. Higher secondary education consists of either a two-year course for Higher School Certificate, or a course of up to three years at a technical college. University College at Dar es Salaam is an independent university. There are also teacher training colleges and other vocational and technical institutions. The Institute of Adult Education runs classes as well.

Only about half the children in the country are able to attend school at present, and many university students study abroad.

BROADCAST COMMUNICATIONS FACILITIES

Radio (1971)

Radio Tanzania is a government-controlled body. It broadcasts in Swahili, English, and several other languages. There are school broadcasts and an adult education programme. Radio Tanzania Zanzibar broadcasts in Swahili from the town of Zanzibar

on the island. Number of sets: 138,000 - eleven per thousand population (throughout the country).

Television (1973)

A government-controlled television service transmitting in colour was opened in Zanzibar in 1973. This is designed mainly to provide adult education programmes for viewing on 5,000 government supplied receivers in community centres. It is planned to erect a transmitter in Dar es Salaam to serve mainland Tanzania.

PROVISION FOR EDUCATIONAL INNOVATION

There is an Educational Planning Unit in the Ministry of Education which co-ordinates its work with the Ministry of Economic Affairs and Development Planning.

The Institute of Education at the University of Dar es Salaam conducts educational research in collaboration with the Ministry of Education. The Institute of Adult Education of the University publishes a twice-yearly periodical 'Adult Education Now' which is bilingual - Swahili and English. It also runs a National Correspondence Institution and conducts research in aspects of adult education including study group methods and techniques.

There is a Schools Broadcasting Service run by the Ministry of Education.

RADIO EDUCATION UNIT, UNESCO/UNDP WORK-ORIENTED ADULT LITERACY PILOT PROJECT

Purposes and Structure

The pilot project (started in 1973) was designed and organized by the Ministry of National Education to provide experimental radio programmes to motivate and support learners, teachers and new literates in

adult education literacy classes in the four Lake Regions (Mara, Mwanza, West Lake and Shinyanga) of Tanzania, starting in the Mwanza Region.

The Radio Education Unit is a section of the Unesco/UNDP Work-Oriented Adult Literacy Pilot Project under the direction of a National Deputy Director of the Ministry of National Education. Radio Tanzania co-operates in broadcasting the programmes.

Users

Initially 400 radio receivers were scheduled to be distributed to classes throughout the four regions. With an average attendance of twenty this gives an audience of 8,000 but many additional classes will, it is envisaged, listen on school, community and private receivers.

Output

The output planned by the Unit is:

Class support programme - 1 x 20 minutes weekly
In-service teacher training - 1 x 30 minutes weekly
Radio lessons - 1 x 20 minutes weekly

Staff and Training Provision

At present the staff consists of a Unesco radio specialist and two national education officers as counterparts. National staff are being trained by the Unesco radio specialist in programme recording and production. Provision for further overseas training has been made but has not been undertaken as the Unit is still in the formative stages.

Expenditure

No details are yet available.

Plans for Development

A second phase of the Literacy Project is at present being considered for the extension of the Project to the whole of Tanzania, with an increase in the number of programmes covering specific subjects in agriculture, home economics, politics, etc.

Address for Correspondence

Deputy Director
Radio Education Unit
Unesco Work-Oriented Adult Literacy
Pilot Project
Ministry of National Education
Dar es Salaam
TANZANIA

RADIO TANZANIA AGRICULTURAL PROGRAMME

Purposes and Structure

The Ministry of Agriculture, with the co-operation of Radio Tanzania and the

Ministry of Information and Broadcasting, runs the Agricultural Programme to provide educational radio programmes and to support the extension services provided by field staff working in the rural areas. Regular agricultural programmes have been broadcast since 1959.

The Agricultural Radio Programmes Service is a sub-section of the Farmers' Education Section of the Agricultural Manpower Development Division in the Ministry of Agriculture. It is controlled by the officer responsible for Farmers' Education. Policy is made by the Director of the Manpower Development Division.

Users

Approximately 500,000 radio receivers serving 2.5 million people living in the rural and urban areas of Tanzania form the potential audience.

Output

156 radio programmes are produced in a year. The programmes give information on crops, livestock husbandry, disease control, marketing, crop storage, vermin control and improved nutrition. 125 interviews with progressive farmers are broadcast annually. Over 256 news items are forwarded to Radio Tanzania for use in programmes produced by their staff. A total of 233 letters was received in one year, requesting pamphlets with more detailed information as mentioned in the programmes.

Staff and Training Provision

Seven people are responsible for the service. The Officer in Charge of the Farmers' Education Section directs the service, with the assistance of the Head of Agricultural Radio Programmes and Liaison Officer. In addition there are two producers of the agricultural magazine programme, one producer of the agricultural feature programme and two producers of the nutrition feature programme.

There is no formal procedure for training staff in radio broadcasting in the Ministry. The staff are trained by Radio Tanzania, the Institute of Adult Education and international organizations. Special short courses in educational broadcasting are run locally with assistance from TAO and the Friedrich Ebert Stiftung Foundation. These organizations provide money and staff for running such courses. USAID and CIDA have assisted by offering scholarships.

Staff are recruited from the agricultural training institutes by the Director of Manpower Development in consultation with the heads of training institutes. Staff are then trained on the job by experienced staff in the Section. They may then be nominated for further training when opportunities occur.

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Expenditure

Capital expenditure is estimated as follows:

Buildings	Sh 4,000
Equipment	Sh 26,730
Portable taperecorders, radio receivers	Sh 33,982.40

Annual recurrent expenditure is estimated at Sh 93,973 broken down as follows:

Salaries	Sh 55,050
Material	Sh 9,173
Travel	Sh 29,750

Plans for Development

The idea of having radio farm forums is slowly gaining momentum. This calls for the training of supervisors and group leaders at different levels both at home and overseas.

Very little audience research has been conducted and it is needed to determine the impact of the service as a matter of

urgency. The lack of experienced staff means assistance is needed in the form of manpower as well as recording vans.

Further Information

Three officers from the present service participated in a special short course held in Canada in 1972/73 and three programmes were prepared and sent to the Commonwealth Broadcasting Corporation in Australia.

Officers from the section would be available to offer assistance to any Commonwealth country on production and supply of materials for radio programmes on agriculture.

Address for Correspondence

Officer in Charge
Agricultural Radio Programmes
Manpower Development Division
Ministry of Agriculture
Dar es Salaam
TANZANIA

TONGA

GENERAL INFORMATION

AREA 270 sq. miles POPULATION 77,429 (1966) PER CAPITA INCOME £130 (1969 estimate)

EDUCATIONAL PROFILE

Statistics

Public expenditure on education = \$T628,588 = 18% of total public expenditure (Currency: P'a'anga (Tongan dollar); \$T1.57 = £1 sterling 4.12.73)

Teacher training (1970) (all levels) students 92 staff 8

Structure

It is felt essential that children growing up in Tonga should be educated in such a way that they are later able to find employment and be accepted in other countries if they need or wish to do so. In recent years, the emphasis has been placed on agricultural and technical training at different levels.

Schools are run by both the government and the churches. Church schools conform closely to government standards. The majority of secondary schools are in fact run by the churches. In the church schools, less than half the teachers have had formal training; while about 60% of the government teachers are locally trained. Education is universal and compulsory between the ages of 6 and 14 (inclusive). No fees are charged up to this age. Children attend primary schools for the first six years, at the end of which examinations are held for entry into secondary and intermediate schools. There are two types of syllabus for post-primary schools - one leading to local examinations after four or six years, and the overseas syllabus which leads to the New Zealand or Australian School Certificates. The former schools are known as colleges, the latter as high schools.

Secondary education is not universal. About 27% of children in the final year at primary school enter post-primary classes, and about 12½% of these go on to secondary studies. There is a Teachers' Training College in Nuku'alofa. Teachers are counted as civil servants, and they are posted as needed.

The government has a scholarship scheme which provides for about eighty students each year to receive higher education abroad, usually in New Zealand, Australia and Fiji.

BROADCAST COMMUNICATIONS FACILITIES

Radio (1972)

The Tonga Broadcasting Commission is government controlled and transmits in Tongan and English, also Samoan and Fijian. Programmes are received throughout the Tonga group and also in New Zealand, Fiji, Norfolk Island, Western Samoa and Niue. There are two transmitters operating on long and medium wave. There are approximately 7,900 sets - 95 per 1,000 of population.

Each day there is about one hour of school broadcasting.

PROVISION FOR EDUCATIONAL INNOVATION

There is a Curriculum Research and Development Centre, a Teachers' Centre and an Audio-Visual Centre.

MAN ON THE LAND PROGRAMMES

Purposes and Structure

The Agricultural Department runs radio programmes as an educational and information service for farmers and families with the co-operation of the Tonga Broadcasting Service. The programmes have been running for about five years. They are run by the Broadcasting Section of the Extension and Training Division of the Agriculture Department. Policy is determined from the Director of Agriculture through the Divisional Head. Content of the programmes is largely decided by the sectional head.

Users

All farm families in the scattered archipelago. The total population of Tonga is about 80,000 and approximately 90% of families are involved in agriculture on a full- or part-time basis.

Output

Five fifteen-minute programmes are broadcast per week. Women's programmes cover

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nutrition, vegetable gardening, family health, recipes, etc. Educational farming programmes provide technical information on farming in the form of lectures, interviews and panel discussions. Other programmes consist of general information and notices with news items, interviews with farmers, market reports, etc.

Staff and Training Provision

There are three members of staff. The Broadcasting Officer is full-time and two Broadcasting Assistants who are part-time - one for agriculture and one for home economics. The assistants also do other general duties mainly related to written publications.

Training is undertaken overseas when possible, for example three-month courses in Australia. Ad hoc visits to Fiji Rural Broadcasting Unit have taken place. Staff are obtained from general department staff according to aptitude and availability. Basic instruction is given on the job.

Expenditure

The only capital expenditure is \$T500 on equipment since the building is shared with the Extension Central Office. Annual recurrent expenditure is estimated as follows:

Emoluments	\$T1,000
Materials	\$T 100
Transport, etc.	\$T 500

Plans for Development

It is hoped to polish the standard of the broadcasts and by using more advanced techniques to make the programmes more interesting. Assistance is needed with training and a vehicle and a separate studio.

Address for Correspondence

Director of Agriculture
Department of Agriculture
TONGA

AUDIO-VISUAL MEDIA

Purposes and Structure

The Audio-Visual Centre is the responsibility of the Government of Tonga and has been operating since February 1971. It is both a governmental and a public service, controlled by staff attached to the Prime

Minister's Department and the officer in charge is directly responsible to the Secretary to the Government.

Users

All who are engaged in instructional work of any type may use the facilities.

Output

Some production is undertaken but the emphasis is on the development of teaching techniques. It provides a centre where people can work to prepare their own aids by using the materials and facilities available.

Staff and Training Provision

An Audio-Visual Officer is the officer in charge of the work. A Senior Training Officer acts as his deputy and overall supervisor. One graphics designer deals with all art and graphics work, while a Training Officer prepares teaching aids, develops techniques and liaises with teachers. An Audio-Visual Technician is concerned with the maintenance of all technical equipment.

Staff are given a three-month training course with CEDO in London. Staff are chosen for training according to the needs of the various sections.

Trained staff could possibly be seconded to assist other Commonwealth countries or to take part in training courses for a maximum of six months.

Expenditure

Capital expenditure is estimated as follows:

Buildings	\$T 2,000
Equipment	\$T10,000
Others	\$T 5,000

Annual recurrent expenditure totals \$T6,300 broken down as follows:

Emoluments	\$T 2,000
Materials	\$T 2,800
Maintenance	\$T 500
Sundries	\$T 1,000

Address for Correspondence

Audio-Visual Officer
Audio-Visual Centre
Nuku'alofa
PO Box 113
TONGA

TRINIDAD & TOBAGO

GENERAL INFORMATION

AREA 1,980 sq. miles POPULATION 1,027,600 (1972) PER CAPITA INCOME \$T630 (1970)

EDUCATIONAL PROFILE

Statistics

Public expenditure on education = \$T27,273,000 (1964) = 3.4% of national income
(Currency: Trinidad and Tobago dollar; \$T4.80 = £1 sterling 4.12.73)

Less than primary	Age 15+	=	11.3%
Completed primary	Age 15+	=	72.8%
Entered secondary	Age 15+	=	10.8%
Entered tertiary	Age 15+	=	0.7%

Teacher training (1969) primary and secondary level
students 707 staff 83

Students at university in 1969 = 1,151

% illiteracy = 10 - 14 = 8.9%; 15 - 19 = 17.8%; 20 - 24 = 20.3% (1946)

Structure

Education is compulsory and free between the ages of 6 and 12. Policy is aimed at present at keeping up with population growth. Primary education lasts from 5 to 15 years of age. Those who do not get places in government or government-assisted schools either leave at twelve, attend a fee-paying secondary school, or continue till fifteen in the post-primary classes of their primary school. Some pupils enter trade schools. There are also 'intermediate' schools which offer a five-year course leading to the School Certificate examination.

There is at present a fifteen-year development plan concerning primary and secondary schools and when complete, the new system will comprise primary schools for 5 - 11 year olds, junior secondary schools for 12 - 14 year olds, and senior secondary schools (high schools or comprehensive schools) for 15 - 19 year olds.

Higher education is available at the University of the West Indies, which has faculties of agriculture, engineering, arts, social science and natural science, in Trinidad. The University also has campuses in Jamaica and Barbados. The Polytechnic Institute runs external London University degree courses. The John Donaldson Technical Institute and the San Fernando Technical Institute offer a variety of courses, including courses for employed persons.

There are five teacher training colleges, running two-year courses.

BROADCAST COMMUNICATIONS FACILITIES

Radio (1972)

There are two commercial radio stations, one owned by the government, each broadcasting seventeen hours daily. These cover both Trinidad and Tobago. There are 293,000 receivers, 281 per 1,000 of population.

Television (1972)

Trinidad and Tobago Television is a commercial company which has been operating since 1962. The service extends to the whole of Trinidad, parts of Tobago and parts of Grenada. The service operates for about six hours daily. There are six transmitters, and 70,000 sets, about 70 per 1,000 of population.

PROVISION FOR EDUCATION INNOVATION

There is an educational planning and development unit within the Ministry of Education which includes a research function and a curriculum development centre.

There is collaboration in regional educational development projects in which the University of the West Indies co-ordinates activities and is assisted by agencies such as Unesco and CEDO.

Schools broadcasting was started in 1960.

SCHOOLS BROADCASTING SERVICE

Purposes and Structure

Through radio broadcasts, the service provides enrichment to the primary school

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curriculum. It is the responsibility of the Ministry of Education and Culture (Department of Educational Services) and the Radio Trinidad Broadcasting Service co-operates. There is an advisory committee on which are representatives of Teachers Unions and the Parent Teachers Association. The Service has been in operation for twelve years. An ETV pilot scheme was started in 1964 but was discontinued.

Users

450 schools have been supplied with radio receivers. Other schools have provided their own. The audience served numbers 250,000 children.

Output

The Service broadcasts 'to all levels of the primary school twice weekly on all subjects of the curriculum'.

Staff and Training Provision

The head of the section is assisted by seven broadcasting officers with supporting clerical and manipulative staff. Technical operations are handled by a commercial radio station. Teachers occasionally write scripts. In-service training is conducted from time to time

and senior staff are trained in the UK under technical assistance arrangements.

Expenditure

Apart from the cost of 500 radio receivers:

Buildings	\$T100,000
Equipment	\$T 20,000

Recurrent expenditure:

Salaries	\$T 79,000
Materials/equipment	\$T 15,000
Travel	\$T 8,000

Further Information

Discussions are under way to reintroduce ETV on a nation-wide basis. Meanwhile it is planned to increase greatly the number of broadcasts to schools and the number of schools covered, as the Ministry of Education will be granted the exclusive use of a new government-owned radio channel.

Address for Correspondence

Director of Educational Services
Ministry of Education and Culture
Port of Spain
TRINIDAD

UGANDA

GENERAL INFORMATION

AREA 91,076 sq. miles POPULATION 10,809,600 (1973 estimate) PER CAPITA INCOME
Sh 698 (1972)

EDUCATIONAL PROFILE

Statistics

Public expenditure on education = Sh 361,646,000 = 4.9% of GDP
(Currency: shilling; Sh 16.16 = £1 sterling 4.12.73)

Less than primary (1969)	68%
Completed primary	29%
Completed secondary)	2%
Completed tertiary)	

Teacher training (1972) primary level students 4,274 staff 297
(1970) secondary level students 306

Students at university in 1972 = 3,571

% illiteracy (1969) 61% in 6 - 15 age group; 71% in 16 - 45 age group;
89% in 45+ age group

Structure

The aim of state-aided education in Uganda is:

'to promote literacy, foster knowledge and skills, and generally to develop the individual's personality in order to make him a good and useful citizen.'

The Government hopes to expand the state-aided primary school system in order to achieve universal primary education.

The Minister of Education has the final responsibility for the system, although a few schools come under other ministries. In the case of primary schools, the Ministry's authority is delegated to local level, though in secondary schools the contact is more direct.

Education in Uganda is not compulsory. After seven years of primary education, competition for secondary places is strong and at least half of the children who complete primary education do not attend secondary school because of lack of places.

There are a number of private secondary schools, outside the state system.

Makerere University has several faculties and an Institute of Education. The Centre of Continuing Education is situated at the college and day and evening classes are organized for different areas through a system of tutors. Correspondence classes are also available.

There are twenty-five teachers' training colleges which offer four-year courses for primary teachers. Non-graduate teachers for secondary schools are trained at the National Teachers' College.

BROADCAST COMMUNICATIONS FACILITIES

Radio (1973)

Nine radio transmitters, seven on medium wave, and two on short wave. Radio Uganda, which is controlled by the Ministry of Information, Broadcasting and Tourism, broadcasts in English and several African languages. Number of receivers (1972): approximately 2,000,000 or 182 per 1,000 of population.

Television (1973)

Television also comes under the above Ministry. Transmissions began in 1963 from Kampala. There are eight transmitters of which seven are regional. All programmes are relayed from the central station at Kampala. Number of sets: (1973) about 14,530 per 1,000 of population. Television is used increasingly for educational purposes.

PROVISION FOR EDUCATIONAL INNOVATION

The Ministry of Education has a Planning and Development Unit and there is a new Curriculum Development Unit to conduct research and evolve relevant curricula for all levels.

The Ministry of Education Inspectorate produces schools radio and television programmes which are transmitted by the National Broadcasting Services.

Research is carried out at the Faculty of Education at Makerere University, at the National Institute of Education, the Centre

for Continuing Education and the National Teachers' College.

There is an important Audio-Visual Aids Centre which forms part of the Institute of Education of Makerere University. The services it gives include a stencil service, slide library service, projection lamp supply service, duplicated book production, projected and non-projected aids courses. A report was not received from the Centre in time for publication but further information may be obtained from: The Co-Ordinator, Audio-Visual Aids Centre, Makerere University, PO Box 7062, Kampala, Uganda.

EDUCATIONAL TELEVISION SERVICE

Purposes and Structure

The Service provides educational television programmes to supplement teaching in secondary and teacher training institutions. It is the responsibility of the Ministry of Education. Policy is controlled by a committee under the chairmanship of the Chief Inspector of Schools and will shortly involve an increasing contribution from the Curriculum Development Centre. There is close liaison with the Schools Broadcasting Service. The Service in its present form began in July 1964.

Users

112 schools are equipped with television receivers and the service has a potential audience of 4,480.

Output

Thirty-minute programmes are broadcast for secondary schools and teacher training colleges in biology, mathematics, geography, history, English, literature and civics each week. Each programme is repeated three times.

Staff and Training Provision

The Head of ETV is responsible to the Chief Inspector of schools and has three producers, a production assistant with a photographer, an artist and an evaluation officer. Freelance scriptwriters are used. He also has an inspector who is responsible for outside evaluation on the programmes. Staff are recruited from the teaching profession by the Uganda public service commission helped by the recommendations of the Chief Inspector of Schools and his staff.

Expenditure

The capital expenditure has been met by the Ministry of Information and Broadcasting which provides the buildings and equipment used by the production staff. The annual recurrent expenditure of the

unit runs to Sh280,000 of which Sh142,000 goes to its salaries and Sh120,000 on materials used.

Plans for Development

There is a need for new ETV studios and technical equipment, for the training of personnel, for programme planning and production, for more television receivers in schools.

Address for Correspondence

The Head of ETV
Television Centre
The Ministry of Information and
Broadcasting
Kampala
UGANDA

SCHOOLS BROADCASTING SERVICE

Purposes and Structure

The Service provides educational radio programmes to support teachers in the primary school and teacher training colleges and is the direct responsibility of the Ministry of Education. The service began in 1961 and comes under the Chief Inspector of Schools who is also responsible for educational television. The Head of the Schools Broadcasting Service works closely with the Head of the Educational Television Service and with teacher training institutions and area education officers. The programmes are transmitted by Radio Uganda, which is the responsibility of the Ministry of Information and Broadcasting.

Users

1,067 schools have radios (many more than one) with a potential audience of 48,000 students.

Output

Eight fifteen-minute programmes are broadcast each week, with three repeats. Subjects covered are: English for primary teachers; English, civics, science and history for primary schools; English literature, English and history for senior schools.

Staff and Training Provision

The Head of Educational Radio has two producers and employs freelance scriptwriters. He depends on area education officers for evaluation and feed-back information. Staff are appointed by the Public Service Commission. They are recruited from the teaching profession and are partially initiated in the work before they are sent for further training elsewhere. This training has been obtained from the Australian Broadcasting Commission, the British Broadcasting

Corporation, CEDO and in the United States.

Expenditure

No separate figures are available for capital investment since the buildings used for production purposes belong to the Ministry of Information and Broadcasting, which also own the equipment used. Schools buy their own sets and are responsible for maintaining them. Annual recurrent expenditure amounts to Sh131,000 of which Sh53,000 pay staff emoluments and Sh50,000 pay for materials.

Plans for Development

It is anticipated that this section will expand considerably when the proposed new curriculum development centre becomes functional.

Address for Correspondence

The Head of Schools Broadcasting
The Inspectorate
Ministry of Education
PO Box 3568
Kampala
UGANDA

HEALTH DEVELOPMENT SERVICES

Purposes and Structure

The Ministry of Health is responsible for the service which has been operating since 1955 and exists to improve the health, knowledge and behaviour of the people through educational means. Other organizations which co-operate with the Ministry of Health are: Ministry of Education; Ministry of Information; Ministry of Culture; Ministry of Agriculture; Makerere University, Kampala.

The Health Education Division is a Division of the Ministry of Health under the control of a principal medical officer. Policy is controlled by a senior staff committee under the chairmanship of the permanent Secretary.

Users

The service is intended to cover the whole country which has a population of about ten million people.

Output

The Division directs community health programmes at local levels whereby through educational means people are organized to do something about health problems confronting them in their local areas. In addition to personal contact use is made of the press, radio and television to reach the masses.

Staff and Training Provision

Three members of staff are concerned with

the service. They are the Principal Medical Officer, a Programme Supervisor and a Health Education Specialist.

University graduates are recruited each year and given field training before finally proceeding to major in health education at post-graduate level. Staff are selected by the Principal Medical Officer together with the Public Service Commissioner.

Expenditure

Capital expenditure consists of \$US12,300 on equipment and \$US258,000 on miscellaneous charges. No figures are available for annual recurrent expenditure.

Plans for Development

The Health Education staff development plan is to have each of the present twenty-two districts in Uganda staffed with at least one Health Education Specialist. Assistance, with fellowships for post-graduate training of health education specialists is needed.

Further Information

The Principal Medical Officer attended a regional seminar in Brazzaville in June 1971 and both he and the Programme Supervisor would be available to offer their advice to other Commonwealth countries and to take part in training courses.

Address for Correspondence

Principal Medical Officer
Health Education Division
Ministry of Health
Kampala
UGANDA

INFORMATION AND VISUAL AIDS CENTRE

Purposes and Structure

The Information and Visual Aids Centre was founded in 1964, but became fully operational in 1966. The Department of Agriculture is responsible for the Centre which provides agricultural information to farmers and makes and supplies audio-visual aids materials to agricultural extension staff. The Ministry of Information and Broadcasting and the Departments of Forestry and Co-operative assist.

The Information and Visual Aids Centre is a part of the Department of Agriculture headed by the Director. The policy is controlled by the Commissioner of Agriculture. Within the Centre, there are several sections: art photography, printing, radio and motion pictures. The Centre also has four units based at the regional headquarters.

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Users

All farmers and all agricultural extension staff.

Output

Fifteen radio programmes are broadcast per week. Each programme lasts fifteen minutes and three of the programmes are broadcast five times a week, while the rest are weekly. The Centre broadcasts in fourteen local languages. In addition there is a weekly English programme for extension staff which lasts thirty minutes.

The Centre also produces slides, flip charts, wall charts, posters, booklets and handouts for extension staff.

Staff and Training Provision

Six members of staff are employed. These are the Director, Head of Printing, Head of Photography, Head of Arts Section and the Head of Motion Pictures. Most of the staff are trained on the job.

Specialized courses have been given to the staff by USAID, UK and Australia. Staff who show special aptitude and interest are selected for specific courses.

Expenditure

Capital expenditure is estimated as follows:

Buildings	Sh 650,000
Equipment	Sh1,000,000
Vehicles	Sh 120,000

Annual recurrent expenditure is estimated at Sh2,000,000.

Plans for Development

It is hoped to improve the staffing and equipment of headquarters. The Regional units will also be re-organized. Outside assistance would be appreciated by awarding scholarships for courses in mass media communication, graphics and cinematography.

Address for Correspondence

The Director
Information and Visual Aids Centre
Department of Agriculture
PO Box 2
Entebbe
UGANDA

WESTERN SAMOA

GENERAL INFORMATION

AREA 1,097 sq. miles POPULATION 146,635 (1971) PER CAPITA INCOME \$NZ17.95

EDUCATIONAL PROFILE

Statistics

Public expenditure on education = \$NZ1,161,121
(Currency: Tala; T1.40 = £1 sterling 4.12.73)

Less than primary	12.2%
Completed primary	80.9%
Completed secondary	5.5%
Completed tertiary	1.4%

Teacher training (1970) primary and secondary levels students 303 staff 20
% illiteracy = 10 - 14 years 2.5%; 15 - 19 years 1.5%; 20 - 24 years 1.5%;
25 - 44 2.0%

Structure

The education system is based upon that of New Zealand, with fourteen annual stages as follows: Primer I - III, Standards I - IV, Forms I - IV, V Lower, V Upper, and VI. Until 1970, the first seven years were usually catered for in one building, and constituted the primary stage. Forms I and II formed the Intermediate Schools, or Forms I - IV made up the Junior High Schools. The policy is now that every village community should provide nine years of schooling, Primer I to Form II, all to be known as primary education.

It was estimated that in 1970, the government and mission schools together were catering for 79% of the children aged 5½ to 14, and 26% of the 15 to 19 year olds. Fees are charged, education is not compulsory, and entry to intermediate and secondary schools is competitive and selective.

The teacher training college runs three-year courses.

Technical education is provided at the Technical College and at the Agricultural School. Higher education is not available in Western Samoa, but scholarships for study abroad are provided by the government.

BROADCAST COMMUNICATIONS FACILITIES

Radio (1971)

Two radio transmitters, broadcasting on long and medium wave. 35,000 sets - 238 per thousand population.

The system is government-operated and broadcasts in English and Samoan.

Television

Signals received from American Samoa.

PROVISION FOR EDUCATIONAL INNOVATION

The Malifa campus in Apia, where the teacher training college is situated, also includes the Education Department, a Science Teaching Centre, the School Broadcasts and Publications service, a primary and an intermediate school and a Multi-Purpose Educational Centre for in-service teacher training, the development of teaching aids and curriculum reform.

THE SCHOOLS BROADCASTS

Purposes and Structure

The service introduces new materials and supplements the work of classroom teachers in the implementation of new syllabuses. It is the responsibility of the Ministry of Education with the co-operation of the Ministry of Posts and Telecommunications. Within the Ministry of Education there is a section responsible for schools publications and broadcasts, which is under the supervision of the Chief Inspector. It has been operating since 1948.

Users

The radio programmes are aimed at elementary schoolchildren from Primary I up to Form II and at teachers.

Output

The section prepares lesson plans and other materials which are sent to the schools before the start of each school term.

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Introductory and supplementary lessons in health, social studies, elementary science, English and Samoan are broadcast. One hour of programmes is broadcast for five days a week.

Staff and Training Provision

The service employs five full-time officers and subject organizers are also invited to participate periodically. Training is given on the job. In-service training courses are organized locally and staff have also been trained in New Zealand and Australia.

Expenditure

No figures are available for the capital expenditure of the service and it is reported that the equipment is anyway 'most inadequate'. The recurrent costs, other than the salaries of the teachers employed in the service, are stated to be minimal.

Plans for Development

New facilities are being planned and Unesco is preparing a training programme

for broadcasters in 1974. Since its inception in 1948 the Schools Broadcasts did more than supplement the work of the teachers, for it provided the first national curriculum and in-service training scheme for teachers.

The service is attempting to review its present role and to adjust its original ways to suit the demands of the rapidly changing process of formal schooling.

Further Information

The Chief Inspector states that if any Commonwealth countries are interested in learning from other people's mistakes, they might consider it valuable to correspond with him.

Address for Correspondence

Director of Education
Ministry of Education
Apia
WESTERN SAMOA

ZAMBIA

GENERAL INFORMATION

AREA 290,586 sq. miles POPULATION 4,515,000 (1972) PER CAPITA INCOME \$US375

EDUCATIONAL PROFILE

Statistics

Public expenditure on education - K72.1 million = 6.25% of GDP
(Currency: Kwacha; K1.50 = £1 sterling 4.12.73)

No schooling	Age 25 - 34	82.8%
Completed primary	Age 25 - 34	10.4%
Entered secondary	Age 25 - 34	3.7%
Entered tertiary	Age 25 - 34	0.7%

Teacher training (1972) primary level students 2,428 staff 176
secondary level students 502

Students at the University of Zambia in 1972 = 1,692 (full-time); 440 (part-time, 1971)

Structure

As a young country Zambia aims to effect a transformation of the economic and social structures inherited from the colonial era, in order to provide increased prosperity and a radical improvement in the living standards of the whole population. Sociological considerations led to the decision to provide universal primary education by 1970 (a target which has not yet been achieved) while the shortage of educated and qualified high-level manpower has generated a massive programme of secondary school development, the expansion of technical and trades training.

There are nine administrative regions. There is a three-tiered system of educational councils at district, regional and national levels. The nine regions are divided into fifty-three districts, each of which has a local council. At the top of the pyramid is the National Council of Education.

The official entry age to the primary grades is seven or eight though some children enter earlier or later because of the absence of birth records. The primary course lasts seven years, divided into lower (four years) and upper (three years). The language of instruction is now English, but a considerable number of schools still use a local language in the lower primary grades. The aim of universal primary education has proved difficult to achieve, although the Government aims at providing sufficient lower primary systems to keep pace with population growth.

Entry to secondary school is by

competitive examination, and 20.2% of the candidates found places in 1973. There are at the moment 110 secondary schools: the majority are government, though thirty-three are aided and ten are private. The latter two categories are mainly run by religious agencies. The aided schools receive 75% capital grants from the Government. All government and aided schools are free.

There are ten teacher training colleges, and facilities are being expanded. Courses in technical education and professional subjects are offered at two colleges of applied arts and commerce, eight trades training institutes and three technological institutes under the Ministry's Department of Technical Education and Vocational Training. Under the Second National Development Plan, emphasis is being given to technical and vocational education and the Adult Education Section of the Ministry of Education and Culture already runs a variety of courses up to GCE level. Adult literacy campaigns are also being launched. The University of Zambia was created in 1966.

BROADCAST COMMUNICATIONS FACILITIES

Radio (1971)

Zambia Broadcasting Service is controlled by the Government. It has a total of twenty-five transmitters, fourteen medium wave, nine short wave and two VHF. There is a Home service broadcasting in seven vernacular languages, and a general service in English and the vernaculars.

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Estimated number of radio sets: 82,000 or approximately eighteen per thousand population.

Television (1971)

Television Zambia has the same headquarters as radio, and is also government-controlled. Programmes are in English. Educational programmes are run in the mornings and other programmes from 1500 hours to 2100 hours from the transmitter in Kitwe. There are seven transmitters. There are an estimated 20,000 sets - five per thousand population.

PROVISION FOR EDUCATIONAL INNOVATION

There is a Curriculum Development Centre in Lusaka and a Primary Education Committee appointed by the Ministry of Education and Culture.

The Ministry of Education and Culture has an Audio-Visual Service which is part of the Educational Broadcasting and Television Service.

The University of Zambia will provide a base for educational research.

Instructional Resources Centre

The Department of Technical Education and Vocational Training has an Instructional Resources Centre comprising three main divisions.

(a) Curriculum Development Division:
This division is for the establishment of relevant training, syllabuses and the evaluation of results. A technical library occupies a prominent place in the division.

(b) Standards and Testing Division:
The division is organized to establish the levels of occupational competence trainees must attain and to prepare methods of evaluation.

(c) Resources Development Division:
This division develops instructional resources material for use by instructors and students. It is organized into six sections - Technical Writing and Editing, Audio-Visual Aids, Photography, Artwork, Composing and Printing.

Educational Services Centre

The Centre, now at an advanced stage of planning, will bring together in one complex the following elements:

Curriculum Development Centre - (schools)
Curriculum Development Unit - (technical education and vocational training)
Audio-Visual Library - (schools)
Audio-Visual Unit - (technical education and vocational training)
Zambia Library Service
Library of the Department of Technical Education and Vocational Training

Correspondence Course Unit
Production (Printing) Unit
Editorial Offices of Orbit, the Magazine for Zambia Youth
Conference Room

This project is part of Zambia's Second National Development Plan and is receiving loan assistance from the World Bank.

Regional Commonwealth Centre for Advanced Studies in Youth Work, Zambia

The proposed Commonwealth Youth Programme provides for the establishment of regional centres for advanced studies in youth work. The Zambian Government offered to provide facilities for an African regional centre on the site of the present King George VI Youth Camp at Mulungushi. This offer was accepted by the Commonwealth Youth Ministers' Meeting held in Lusaka in early 1973. Preparations for the establishment of the Centre are in hand.

CORRESPONDENCE COURSE UNIT

Purposes and Structure

The Ministry of Education is responsible for the Unit which has been in operation for six years. The Unit has two main purposes: to provide secondary education by correspondence for adult learners who were unable in the past to attend normal schools (Project 1); to provide secondary education at Junior Secondary level for primary school leavers unable to gain entry to secondary schools (Project 2).

The Correspondence Course Unit is an institution directly controlled by the Adult Education Section of the Ministry of Education. Its employees are appointed by the Teaching Service or Public Service Commissions. Its policy and administrative technique are as approved by the Ministry of Education and the educational materials are prepared in accordance with the Ministry's curriculum.

Users

Potentially all adults who have completed primary education (either in normal schools or by adult education) and approximately 3,400 students who have been unsuccessful in secondary school selection.

Output

A six-subject composite Junior Secondary course is provided which is expected to last at least three years. There are from twenty-five to thirty 'lessons' per subject with a similar number of assignments to be submitted. Subjects are: English, mathematics, history, civics, geography and health science. 3,500 students are enrolled at present.

GCE (London 'O' level) studies are

offered in English, history, geography, mathematics, commerce, economics and human biology. 3,000 students are enrolled to study a total of 6,900 subject courses at present.

Twice-weekly evening radio broadcasts are prepared by the staff in history and civics. Although related to the lessons, they are also intended for the casual listener.

Staff and Training Provision

Approximately 164 staff are employed. These are broken down as follows: administrative staff - four, including the Principal and Vice-Principal who also share academic responsibilities; academic staff - nine lecturers with editorial, sub-editorial, tutorial and course writing responsibilities, 105 part-time tutors who mark assignments and give tutorial guidance; technical staff - two printing assistants; orderlies - twenty employed as duplicating assistants, collators, packers, despatchers, etc.

Academic and clerical staff are given on-the-job training. Technical staff received one week's training when the machines were purchased. Academic staff are selected from serving teachers and clerical staff through the Public Service Commission Open Competitive examination.

Expenditure

Capital expenditure consists of K27,000 for equipment and K3,600 per annum for the rent of a warehouse. Staff houses are also rented. Annual recurrent expenditure is estimated as follows:

Salaries (full time)	K70,000
Salaries (part time)	K50,000
Printing	K60,000
Books, etc.	K15,000
Other charges	K 5,000

Postal services are provided free.

Plans for Development

More radio broadcasts are planned and the possible teaching of civil servants through a link with an in-service training college. It is also hoped to introduce other subjects including enrichment subjects to the programme. Aid may be required for the training of personnel and the temporary appointment of a civil service training expert. Project 2 is experimental and variations may be considered depending on the results of the pilot study.

Further Information

Visits have been paid to the Unit, as well as informal connexions and exchanges of ideas by correspondence educators from Uganda, Swaziland and Botswana.

The Principal and the Vice-Principal are

both very experienced in correspondence teaching material preparation and administration and would be willing to act in any way deemed suitable to assist other Commonwealth countries.

Address for Correspondence

The Principal
Correspondence Course Unit
Private Bag 20
Luanshya
ZAMBIA

EDUCATIONAL BROADCASTING AND TELEVISION SERVICE

Purposes and Structure

The Ministry of Education and Culture is responsible for this service, in co-operation with the Zambia Broadcasting Service, and the Ministry of Information, Broadcasting and Tourism. The service in its present form has been in operation since 1965, though educational broadcasting on an experimental basis has been in operation since 1952. The purpose of the present service is to provide educational programmes to children in primary and secondary schools. Adults are also catered for, in evening broadcasts. There are three sections: ETV based at Kitwe, educational radio based at Lusaka, and an audio-visual aids library.

Users

170 schools with television sets and 1,423 with radios make use of the service. Sets are issued by the Ministry of Education and Culture. Beside school listeners, adults make use of the evening broadcasts.

Output

Schools receive television programmes in these areas: religious knowledge, English, social studies, science, history, French, creative activities, art, Zambian studies (history), geography, and careers. Each programme lasts thirty minutes and the total transmission time comes to about twenty-two hours per week. Radio programmes for primary schools are broadcast in English, science, music, and social studies. Each programme lasts fifteen minutes. Secondary schools receive programmes in English language and literature, civics, French, history and geography. Evening broadcasts to adults consist of social studies, French, careers, history, 'Teachers' corner', 'Zambia in Education', and 'University of the Air'.

Support material for classroom use is also produced, and this includes wall charts, teachers' and pupils' notes, and pictures. An audio-visual aids library is maintained and provides a free service to

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all schools. It has the following stock:

1603 16mm films
756 35mm filmstrips
585 magnetic tapes, each containing
four fifteen-minute radio lessons
808 wall charts

Staff and Training Provision

There are thirty-six people employed in the ETV and Broadcasting Service. Under the Controller, there are two Heads for the two sections - Educational Broadcasting Unit (Radio), and Educational Television. For each section there are eight producer/presenters, and six clerical staff in the Educational Broadcasting Unit. The ETV section has four clerical staff, a photographer and a graphic artist. The officer in charge of the Audio-Visual Aids Library controls four clerical staff.

On-the-job training in broadcasting techniques is given to new staff, after which they may be sent for a course abroad. All producers are qualified teachers, and appointment is by advertisement within the teaching service.

The Controller and the Heads of Sections participate in Commonwealth conferences and regional seminars whenever these are held. They are experienced people who would be able to give advice on educational broadcasting and take part in training courses.

Expenditure

Capital expenditure on building and equipment is estimated as follows:

Buildings:	
(EBU studio building)	K10,000
(ETV studio building)	K30,000
Equipment:	
(EBU and AVA library)	K50,000
(ETV)	K100,000

A total of K130,000 was spent on radio and television sets for schools.

K90,000 per year is spent on salaries.

Plans for Development

The television service is to be extended and more sets for schools will be needed - about 700 between 1972 and 1976. Production staff and training facilities will have to be increased. Replacement radio sets (about 500) will be required. A tape copying machine to reproduce radio programmes is wanted and also equipment for copying television programmes.

Address for Correspondence

Educational Broadcasting and Television
Service
Ministry of Education and Culture
P.O. Box RW 93
Lusaka, ZAMBIA

HEALTH EDUCATION UNIT

Purposes and Structure

The Ministry of Health is responsible for the Unit which trains and supports people undertaking health education in Zambia, for example medical assistants, community development workers, teachers, rural counsellors, etc. The Unit has been in existence since 1968. For the previous two years health broadcasts have been given regularly. The function of the Unit is advisory. The staff teach at any training course being given, deal with postal requests, issue teaching notes, organize a very small library and consult with Heads of Departments. There is no proper evaluation or follow-up. There is very little formal organization except for the setting of priorities and objectives. The rest of the work is fulfilment of requests and stimulation of requests within these priorities and objectives. Other Ministries, such as, the Ministry of Rural Development, the Ministry of Information, the Ministry of Education co-operate in providing the service.

Users

All training institutions of the Ministry of Health (fifteen for enrolled nurses, three for registered nurses, one for health assistants, one for health inspectors, and one for medical students) and training institutions of other Ministries.

Output

Seven daily one-minute radio flashes and a weekly fifteen-minute radio doctor programme are broadcast. In addition booklets are produced when possible and the staff undertake teaching and in-service training as requested. Work is also done with the Curriculum Development Centre.

Staff and Training Provision

The staff consists of a health education specialist and two medical assistants. The staff of the Unit receive on-the-job training plus special training where possible. The Ministry of Health staff receive basic training within their syllabus and eight in-service training courses. Staff for the Unit are recruited by the health education specialist and are seconded from the Ministry of Health. Staff are then nominated for training on the basis of aptitude and what is available.

Expenditure

The only capital expenditure is less than K1,000 on equipment since offices in the Ministry of Health are used. Annual recurrent expenditure is estimated as follows:

Salaries	K11,000
Travel	K 1,000
Materials	K 300
Training expenses	K10,000 for running in-service training courses

Plans for Development

It is planned to undertake more work with the Curriculum Development Centre and work with hospital and clinic staff to start regular health education on wards and in clinics. Local leaders and teachers also urgently need professional staff to organize and evaluate and train local staff. At present the Unit is very short of staff and is overwhelmed with requests.

Address for Correspondence

Health Education Unit
Ministry of Health
PO Box 205
Lusaka
ZAMBIA

RADIO FARM FORUMS

Purposes and Structure

The service provides extension education for farmers and is the responsibility of the Ministry of Rural Development which co-operates with the Ministry of Information, Broadcasting and Tourism - the latter controlling Radio Zambia. The project has been in operation since 1967 and provides a channel for promoting and maintaining interests in all aspects of rural development. The Head of Information Services is responsible to the Ministry of Rural Development, and has under his control radio and publication production teams. The materials they produce are broadcast by Radio Zambia. There is in each province a provincial rural development officer who is also responsible to the Ministry of Rural Development. He has a development team of officers from local services and a provincial information officer. The latter's responsibility is to identify items which should receive the attention of Radio Farm Forums and to see that the appropriate material is fed into the production team. At the same time he works through a network of district rural information assistants and area extension officers down to village headmen and committees (called Forums). This system ensures that the material produced for transmission on Radio Zambia is relevant and useful, that it is received in a favourable village atmosphere, where there is an effective feedback link to both the provincial team and the production team at headquarters.

Users

Farmers listening in groups in villages under the supervision of officers of the

Ministry of Rural Development. It is difficult to estimate the numbers benefiting from the service, but listening groups exist at village level in each of the fifty-three districts of the eight provinces of Zambia.

Output

From Monday to Friday a daily programme of between five and thirty minutes is broadcast. On Saturday a magazine programme of fifteen minutes is produced. All programme material is aimed at teaching farmers better agricultural practice and contributing, in every possible way, to rural development.

Staff and Training Provision

The Head of Rural Information services has a programme officer and eight producers with two feature writers. There is also a programme director and secretarial assistance. In each of the eight provinces there is a provincial rural information officer and they have a district rural information assistant in each of the fifty-three districts. These staff are on government salary scales. Critical to the success of the operation is the voluntary co-operation of the members of the village Forum who elect a chairman and secretary. These Forums are encouraged by the government, headmen and the area extension officers.

Staff are trained in farm institutes and farmers' training centres. The broadcasting staff have been trained in Zambia, the Ministry headquarters and some have been sent overseas to the UK (CEDO for training in radio) and the USA.

Expenditure

Details not available.

Plans for Development

To make the service more effective

Further Information

The Director of the Service has prepared many hand-outs on Radio Farm Forums and literacy work which are mailed on request to Commonwealth countries.

He considers it would be helpful to hold a workshop in Zambia to exchange views on the development and use of Radio Farm Forums and literacy broadcasting. In the meantime he extends an invitation to any interested countries to visit them to see what Radio Farm Forum is doing for subsistence farmers.

Address for Correspondence

The Head of Rural Information Services
PO Box RW 197
Lusaka
ZAMBIA

ASSOCIATED STATES OF THE EASTERN CARIBBEAN

ANTIGUA

GENERAL INFORMATION

AREA 108 sq. miles POPULATION 65,000 (1971 estimate) PER CAPITA INCOME £99 (1964)

EDUCATIONAL PROFILE

Statistics

Public expenditure on education (1960) = \$EC614,000 = 2.5% of GDP
(Currency: East Caribbean dollar; \$EC4.80 = £1 sterling 4.12.73)

No schooling	Age 15 - 24	7.4%	Age 25+	17.5%
Completed primary	Age 15 - 24	71.5%	Age 25+	74.5%
Entered secondary	Age 15 - 24	21.0%	Age 25+	7.4%
Entered tertiary	Age 15 - 24	0.1%	Age 25+	0.6%

Teacher training (1968) primary level students 59 staff 4
secondary level students 42 staff 12

% illiteracy = c. 5% for below 45 age group; c. 20% for 45 - 65 age group and
40% for 65+

Structure

Details not available.

BROADCAST COMMUNICATIONS FACILITIES

Radio (1973)

Antigua Broadcasting Service is controlled by the Government. It broadcasts for four hours a day on the medium wave. (In 1965 there were estimated to be 3,800 receivers served by two transmitters.)

There is also a private commercial station, Radio ZDK operating from Antigua with one medium wave and one VHF transmitter.

Television (1973)

Leeward Island Television Services Limited is part government, part commercially controlled. Programmes are broadcast daily for about four-and-a-half hours, on two transmitters. There are estimated to be 10,000 television sets.

PROVISION FOR EDUCATIONAL INNOVATION

There is collaboration in regional educational development projects in which the University of the West Indies co-ordinates activities and is assisted by agencies such as Unesco and CEDO.

DOMINICA

GENERAL INFORMATION

AREA 290 sq. miles POPULATION 70,302 (1970) PER CAPITA INCOME \$EC377.1

EDUCATIONAL PROFILE

Statistics

Public expenditure on education = \$EC1,199,000 (1966)
(Currency: East Caribbean dollar; \$EC4.80 = £1 sterling 4.12.73)

Less than primary	Age 15+ =	67.5%
Completed primary	Age 15+ =	25.5%
Entered secondary	Age 15+ =	6.4%
Entered tertiary	Age 15+ =	0.5%

Teacher training (1969) primary level students 19

Structure

The educational system is administered by the Ministry of Labour and Social Services to which the head of the Education Department is responsible.

The vast majority of children attend the public primary schools for education at the first and second levels (5 - 11 and 11 - 15). Attendance at these schools is compulsory in certain areas. Some children attend secondary schools for general education until they are eighteen, taking the School Certificate or Higher School Certificate. Others take the School Leaving Certificate and continue their education after fifteen through study or overseas correspondence courses.

There are no institutions of higher education in Dominica, though facilities exist for teacher training and vocational education. There are a number of agencies, both public and private, offering adult and post-school education. The Extra-Mural Department of the University of the West Indies provides a programme of lectures and classes.

BROADCAST COMMUNICATIONS FACILITIESRadio (1971)

Radio Dominica is government-controlled and has one medium wave transmitter in Roseau. It relays the service of Radio Grenada as well as broadcasting some local news and other programmes. The total broadcasting time is about four-and-a-half hours per day. Radio broadcasts to schools were started in 1973.

PROVISION FOR EDUCATIONAL INNOVATION

There is collaboration in regional educational development projects in which the University of the West Indies coordinates activities and is assisted by agencies such as Unesco and CEDO.

RADIO BROADCASTS TO SCHOOLSPurposes and Structure

The present series of schools broadcasts is a pilot scheme and was started at the beginning of 1973 to provide radio programmes to support the teachers in primary schools in the teaching of social studies. It is the responsibility of the Education Division of the Ministry of Education and Health with the co-operation of Radio Dominica in recording and broadcasting the programmes. An Education Officer is responsible for the programmes, assisted by

a trained teacher, who carries out research work and writes the scripts under his supervision. Occasionally a teacher is recruited for a day to assist in preparing scripts and volunteers, all of whom are trained teachers, edit the scripts, criticize and advise and voice the scripts. A small advisory committee is contemplated but has not yet met.

Users

Approximately sixty schools have radios, with a potential audience of 5,000 pupils but there is a shortage of adequate receiving sets and pupils in large classes have difficulty in hearing the programmes properly.

Output

Social studies programmes (fifteen minutes in length) for infants classes I and II and programmes (twenty minutes) for primary classes IV and V are broadcast twice a week. Support materials including notes to teachers are distributed in advance.

Staff and Training Provision

Two members of staff are employed, one of whom is full-time. The Education Officer, who took a three-month course in radio broadcasting for schools at CEDO in 1971, is responsible for the broadcasts in addition to his normal duties. The full-time member of staff is a trained teacher who writes scripts but has had no special training in this field. The lack of local trained personnel is a considerable drawback.

Expenditure

Capital expenditure involved about \$EC300 for buying radios. Figures for annual recurrent expenditure are unavailable.

Plans for Development

It is hoped to expand the schools broadcasts to include music and English language. However to do this the assistance of a trained adviser is needed to launch the new programmes and to train Dominican teachers to take over.

Address for Correspondence

Education Officer
Radio Broadcasts to Schools
Education Division
Ministry of Education and Health
Roseau
DOMINICA

GRENADA

GENERAL INFORMATION

AREA 133 sq. miles POPULATION 94,826 (1970) PER CAPITA INCOME \$EC437 (1969)

EDUCATIONAL PROFILE

Statistics

Public expenditure on education = \$EC6,120,130 (1971) = approximately 13.5% of GDP (Currency: East Caribbean dollar; \$EC4.80 = £1 sterling 4.12.73)

Less than primary	Age 15+ = 62.1%
Completed primary	Age 15+ = 29.7%
Entered secondary	Age 15+ = 7.7%
Entered tertiary	Age 15+ = 0.5%

Teacher training (1970) primary level students 79 staff 7

Structure

Education comes under the Ministry of Education, Culture and Social Affairs. Schooling is compulsory from 6 to 12 years, and primary education is free.

Secondary schools are mostly of the grammar school type and charge fees, though the government does award a few scholarships. There is one government secondary school, and eleven others are run by religious denominations. The secondary schools prepare pupils for GCE 'O' and 'A' level examinations, though one school has a programme of industrial arts.

Adult education is provided in the form of evening classes in practical subjects, organized by the Education Department. Grenada Teachers' College co-operates with the University of the West Indies, the Education Department and the Grenada Union of Teachers in the pre-service and in-service training of teachers.

The Extra-Mural Department of the University of the West Indies runs classes on the island.

BROADCAST COMMUNICATIONS FACILITIES

Radio (1973)

Radio Grenada, a commercial service, is maintained by the Government of Grenada. There is a medium wave service from St. George's and two short wave transmitters on the island provide a service to a wide audience in the Eastern Caribbean.

10,000 radio sets (1965) or 104 per 1,000 of population.

PROVISION FOR EDUCATIONAL INNOVATION

There is collaboration in regional educational development projects in which the University of the West Indies co-ordinates activities and is assisted by agencies such as Unesco and CEDO.

SCHOOLS BROADCASTING SERVICE

This service is in the planning stage and full details are not yet available. The Ministry of Education and Culture forsees the appointment of a well trained officer to set up and direct the service.

About seventy or eighty wireless receivers will be needed, and the cost for these is estimated at \$EC12,000. Not more than half of this sum could be met from local funds. Possible sources of aid for the project were being explored in 1972.

The government-owned and operated radio station will make its facilities available for transmission of the programmes.

Address for Correspondence

Chief Education Officer
Ministry of Education and Culture
St. George's
GRENADA WI

ST. KITTS - NEVIS - ANGUILLA

GENERAL INFORMATION

AREA 138 sq. miles POPULATION 59,476 (1965) PER CAPITA INCOME \$EC515.6 (1969)

EDUCATIONAL PROFILE

Statistics

Public expenditure on education = \$EC1,051,558
(Currency: East Caribbean dollar; \$EC4.80 = £1 sterling 4.12.73)

Less than primary	Age 15 - 24 = 9.3%	Age 25+ = 23.2%
Completed primary	Age 15 - 24 = 80.3%	Age 25+ = 72.1%
Entered secondary	Age 15 - 24 = 10.4%	Age 25+ = 4.3%

% illiteracy = 10 - 14 years = 2.9%; 15 - 19 years = 2.1%; 20 - 24 years = 3.6% (1960)

Structure

Education is free and compulsory for children between the ages of 6 and 14, and pupils may stay until sixteen at senior schools or the senior departments of all-age primary schools. In 1966 there were thirty-seven government-run primary and senior schools, two aided denominational schools and seven private (unaided) elementary schools. There were also four government and one private secondary school. Pupils can be prepared for GCE 'A' level.

There is one technical and one commercial school, and St. Kitts contributes to and is served by the Leeward Islands Training College in Antigua.

has one medium wave transmitter. Radio Anguilla, with one medium wave transmitter, is owned and operated by the Foreign and Commonwealth Office of the British Government. In 1965 there were 6,000 sets; 100 per 1,000 of population. Several other Caribbean stations are also received.

PROVISION FOR EDUCATIONAL INNOVATION

There is collaboration in regional educational development projects in which the University of the West Indies coordinates activities and is assisted by agencies such as Unesco and CEDO.

BROADCAST COMMUNICATIONS FACILITIES

Radio (1973)

Radio ZIZ, located in St. Kitts, is part government and part commercially owned and

ST. LUCIA

GENERAL INFORMATION

AREA 238 sq. miles POPULATION 110,142 (1966 estimate) PER CAPITA INCOME \$EC423.3

EDUCATIONAL PROFILE

Statistics

Public expenditure on education = \$EC1,604,000 in 1965 = 4.4% of GDP
(Currency: East Caribbean dollar; \$EC4.80 = £1 sterling 4.12.73)

Less than primary	Age 15+ = 71.4% (1963)
Completed primary	Age 15+ = 24.9%
Entered secondary	Age 15+ = 3.4%
Entered tertiary	Age 15+ = 0.3%

Teacher training (1969) primary level students 90 staff 12
Students at university abroad in 1968 = 71

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Structure

Legally, school attendance is compulsory, but as there are not enough places at present for all children to attend, the law is not enforced.

The government's Education Department is responsible for the educational system, which consists of primary and secondary schools, many of the primary schools having senior departments also, which take children of secondary age. Some of the schools are aided by government funds, others totally supported by them. There are also a number of private schools. In 1966 there were thirty-nine primary and three secondary schools. Many of the schools are denominational (usually Roman Catholic).

A two-year course is run at the Teachers' Training College, which takes about fifty students each year. Some of the graduates from this college receive further training from the University of the West Indies at Mona in Jamaica, where there is an Education Department.

BROADCAST COMMUNICATIONS FACILITIES

Radio (1973)

Radio Caribbean which is a commercial station broadcasting from St. Lucia in English and French. It has one medium wave transmitter.

Television (1969)

In 1969 there was an experimental transmitter and 1,500 receivers were in use, 14 per 1,000 of population.

PROVISION FOR EDUCATIONAL INNOVATION

There is collaboration in regional educational development projects in which the University of the West Indies co-ordinates activities and is assisted by agencies such as Unesco and CEDO.

ST. VINCENT

GENERAL INFORMATION

AREA 150.3 sq. miles POPULATION 89,129 (1970) PER CAPITA INCOME \$EC363

EDUCATIONAL PROFILE

Statistics

Public expenditure on education = \$EC1,397,000 (1967)
(Currency: East Caribbean dollar; \$EC4.80 = £1 sterling 4.12.73)

Less than primary	Age 15+	=	72.4%
Completed primary	Age 15+	=	21.4%
Entered secondary	Age 15+	=	5.9%
Entered tertiary	Age 15+	=	0.3%

Teacher training (1970) primary level students 471 staff 25

Structure

The school system consists of elementary or primary schools, both public and private. Secondary schools are either public (two in 1965) or aided and private. There are also two unaided, fee paying secondary schools. There is no special provision for pre-school education (1970).

Primary education is free but not compulsory. 'Primary' refers to 'all age' elementary schools, which take children from 5 to 15 years, as well as primary classes proper (5 to 11). Secondary education is therefore provided in the senior departments of some primary schools as well as in the secondary schools. There are two government grammar schools; one for boys and one for girls. Technical education is provided in many secondary schools, and there is also the Technical

Centre, whose curriculum includes mechanical drawing, woodwork and metalwork.

There are five pupil-teacher centres (1965). The St. Vincent Teachers' College offers a one-year course to locally certificated teachers. A new teachers' college, offers a two-year course for both primary and secondary teachers.

Higher education is available at the University of the West Indies, and students also go overseas. The University has agreed to establish a centre for higher education in St. Vincent. Adult education is also the province of the Education Department, and the Extra-Mural Department of the University. The co-operative division of the Agricultural Department is also involved. Some of the classes prepare students for GCE; others are of a more liberal nature.

BROADCAST COMMUNICATIONS FACILITIES

Radio

The government broadcasting station, Radio St. Vincent has two transmitters, one on medium wave and one on long wave.

PROVISION FOR EDUCATIONAL INNOVATION

Apart from the five pupil-teacher centres, there is collaboration in regional educational development projects in which the University of the West Indies co-ordinates activities and is assisted by agencies such as Unesco and CEDO.

APPENDIX I

SOURCES OF TRAINING WITHIN THE COMMONWEALTH

AUSTRALIA

Australian Broadcasting Commission

Head of Secretariat
Australian Broadcasting Commission
145-149 Elizabeth Street
GPO Box 487
Sydney
N.S.W. 2001
AUSTRALIA

The ABC provides courses in Educational Broadcasting (Radio) and Farm Broadcasting (Radio). These alternate each year. The 1973 course was Farm Broadcasting. The courses are arranged in collaboration with the Commonwealth Government of Australia. Fellowships are awarded under the various international aid programmes.

BRITAIN

British Broadcasting Corporation

Head of Liaison
Overseas & Foreign Relations
BBC
Broadcasting House
London W1A 1AA
ENGLAND

The Corporation runs a number of courses in Britain in TV and radio production, news writing, engineering, management, etc. for overseas participants, as well as planned attachments to the BBC under certain circumstances and on-site training courses in the studios of requesting organizations.

Centre for Educational Development Overseas

The Director
Information and Research Department
CEDO
Tavistock House South
Tavistock Square
London WC1H 9LL
ENGLAND

CEDO provides regular scheduled training courses in educational radio, educational television and audio-visual media. CEDO can also provide on-the-spot training in these fields on request. It has been proposed that during the early part of 1974, the work and functions of CEDO will

be totally incorporated into the activities of the British Council.

Commonwealth Broadcasting Conference

Commonwealth Broadcasting Conference
Broadcasting House
London W1A 1AA
ENGLAND

The Commonwealth Broadcasting Conference is able to provide information to its members on broadcasting training facilities within the Commonwealth.

National Audio-Visual Aids Centre

The Registrar
NAVAC
254-256 Belsize Road
Kilburn
London NW6
ENGLAND

The Training Department of the Centre runs a large number of short courses in most aspects of educational media and educational technology. It also runs a part-time diploma course in educational technology over two or three years.

Thomson Foundation

The Director
Thomson Foundation
York House
37 Queen Square
London WC1N 3BH
ENGLAND

The Thomson Foundation provides scheduled courses in television production and engineering for television personnel at the Thomson Television College, Kirkhill House, Newton Mearns, near Glasgow, Scotland.

Training is also available at a number of educational institutions in the UK. Advice on these courses can be obtained from the local office of the British Council. (The London Headquarters Office is at 65 Davies Street, London W1Y 2AA).

Other courses related to specific topics which may be of interest are:

(1) Educational Technology

University of London Institute of Education:
The Institute provides a one-year diploma

course in the Theory and Practice of Audio-Visual Aids which is intended for experienced and qualified persons from overseas who are already in teaching, community development or adult education, and who will be taking up duties in audio-visual training or administration. It is designed to give an advanced knowledge of the problems of communication, with provision for related practical work.
(Address: The Registrar, University of London Institute of Education, Malet Street, London WC1E 7HS.

Plymouth Polytechnic: One-year Diploma in Educational Technology and a one-year Polytechnic Diploma for post-graduate students. There is also a three-year Diploma in CCTV.

A number of short courses in educational technology are arranged by university departments of education and colleges of education. Details can be obtained from the Council for Educational Technology for the UK, 160 Great Portland Street, London W1N 5TB.

(2) Film and Television

Harrow College of Technology and Art - School of Photography: Three-year Diploma in Photography with Film and Television options. It is hoped that from September 1974 the course will lead to a degree qualification.

Middlesex Polytechnic - Faculty of Art and Design, (formerly Hornsey College of Art), London: One-year post-graduate course in Film and Television in Education - emphasis on television and the non-professional use of film.

London Film School: Special arrangements are made for official government film-makers from developing countries for training study Fellows in the Art and Technique of Film-making. Normal Diploma courses commence three times a year. Non-official candidates from overseas must normally be graduates or equivalent.

National Film School: Three-year post-graduate course, mainly in film, with places for five overseas students.

The Polytechnic of Central London: BA in Photographic Arts with option in Film - three years.

Ravensbourne College of Art and Design: Television Production and Television Technical Operations course (two-year, restricted entry). The Production course has DES Advanced Level recognition. Royal College of Art, School of Film and Television: M. Art (RCA) in Film and

Television - three-year post-graduate course. Also one-year post-graduate course (limited entry).

The following colleges of education are among those which offer courses in the mass media with reference to education as a main subject in the Certificate of Education course (three years): Berkshire College, Reading - English and Film Studies as a Certificate course (also offered for a B.Ed. Honours degree of the University of Reading; College of the Venerable Bede, Durham, Film and Television; Kingston upon Hull College, Drama with Telecommunication; Trinity and All Saints College, Leeds - Communication Arts and Media leading to B.Ed. Honours degree of Leeds University.

CANADA

Canadian Broadcasting Corporation
The Director
Overseas and Foreign Relations
CBC
1500 Bronson Avenue
Ottawa
Ontario K1G 3J5
CANADA

Except for formal technical courses which are offered by the National Training Centre in Montreal, training attachments for general broadcasting personnel are either 'observer attachments' or 'working attachments'. These are provided for 15 - 20 overseas trainees each year.

Ryerson Polytechnical Institute
The Registrar
Ryerson Polytechnical Institute
50 Gould Street
Toronto
Ontario
CANADA

A three-year course in Radio and Television Arts is open to students from all over Canada and overseas leading to a Bachelor of Applied Arts degree and a three-year course in Photographic Arts (including major options in Instructional Technology and Media Studies) and Journalism. Both these courses are open to qualified applicants from overseas.

GHANA

University of Cape Coast
Professor of Education
Faculty of Education
University of Cape Coast
Cape Coast
GHANA

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Specialized staff in Audio-Visual Aids can organize courses in this field.

INDIA

Centre for Educational Technology
The Officer on Special Duty
Centre for Educational Technology
Ministry of Education and Social Welfare
Shasti Bhavan
New Delhi 110001
INDIA

Experimental Satellite Communication Earth Station

The Director
Experimental Satellite Communication Earth Station
Post Bag No. 11
Navrangpura
Ahmedabad - 9
INDIA

The station provides a three-month training course in Satellite Communication Technology for engineers, usually with an appropriate post-graduate degree, from India and other countries. The Government of India offers fellowships to enable foreign nationals to follow the courses.

National Council for Educational Research and Training

The Director
Teaching Aids Division
NCERT
10 - 13 Indraprastha Estate
Ring Road
New Delhi
INDIA

Television Training Centre

The Director
Television Training Centre
Mandi House
Copernicus Road
New Delhi 1
INDIA

A Government of India project, in collaboration with UNDP/Unesco until August 1974, for training All India Radio's personnel in TV Production and Studio Technical Operations.

KENYA

Kenya Institute of Mass Communication

The Principal
Kenya Institute of Mass Communication
PO Box 42422
Nairobi
KENYA

The Institute is primarily responsible for training technical and programme staff for the Ministry of Information and Broadcasting in Kenya.

MALAYSIA

Malaysian National Broadcasting Training Centre

The Director
National Broadcasting Training Centre
Dewan Tunku Abdul Rahman
Jalan Ampang
Kuala Lumpur
MALAYSIA

The Centre exists primarily to train the professional staff of radio and television and members of other communications institutions within Malaysia.

NEW ZEALAND

New Zealand Broadcasting Corporation

Head of Staff Training
NZBC
PO Box 98
Wellington
NEW ZEALAND

Applications from employees of public service broadcasting organizations for courses and working attachments are made either through the broadcasting organization or at inter-governmental level. Expenses are normally met by the sponsoring organization or the New Zealand Government under various aid schemes.

NIGERIA

Ahmadu Bello University

The Director
Audio-Visual Communication Section
Department of Education
Ahmadu Bello University
Zaria
Northern Region
NIGERIA

This Section serves the needs of the University and also runs in-service courses for teachers.

PAPUA NEW GUINEA

University of Papua New Guinea

The Director
Teaching Methods and Materials Centre
University of Papua New Guinea
PO Box 4820
PAPUA NEW GUINEA

The Teaching Methods and Materials Centre undertakes research, production and training in collaboration with the Ministry of Education.

The Institute provides training for leaders of radio study groups and trains adult education teaching staff.

TANZANIA

Institute of Adult Education

The Director
University College
PO Box 20679
Dar es Salaam
TANZANIA

APPENDIX II

COUNTRY FACT SHEET

THE USE OF NEW MEDIA FOR EDUCATIONAL PURPOSES IN THE COMMONWEALTH

NAME OF COUNTRY

1. AREA
2. POPULATION (Year)
3. MAJOR LANGUAGES USED
(with approximate % of the population using each)
4. INFORMATION SERVICES
 - a) RADIO (Year)
 - b) TELEVISION (Year)
 - c) NEWSPAPERS AND JOURNALS (Year)
5. DESCRIPTION OF COUNTRY
6. TRANSPORT SYSTEMS
7. ECONOMIC FACTORS
 - i) Gross Domestic Product
 - ii) Import sources of wealth
 - iii) Per Capita Income
 - iv) Currency and sterling exchange rate
8. EDUCATIONAL BACKGROUND
 - i) Public expenditure on education (Year)
Capital
Recurrent
Total
% of GDP
 - ii) Percentage of illiteracy in the population (Year)
 - iii) Distribution of population by educational attainment (Year)
Less than primary
Completed primary
Completed secondary
Completed tertiary
 - iv) Stated aims of national educational policy
 - v) Educational structure
 - vi) Statistics for formal education - Primary, Secondary and Primary Teacher Training
For pre-Primary, Primary, Secondary, Secondary Vocational and Primary Teacher Training the following statistics were sought: No. of Pupils/Students; Age Range; No. of Teachers/Lecturers (graduates, diploma or untrained); amount spent on each level, including administration, as a percentage of the national budget.

vii) Statistics for formal education - Tertiary & Secondary Teacher Training

Numbers of teaching staff and students enrolled at University (degree-granting) were sought for various disciplines.

Numbers were also sought for staff and students in secondary teacher training institutions

For other non-University Institutions, numbers of teaching staff and students enrolled were sought for the following areas of training: Industrial and Technical Training; Training for Public Administration; Training for Community Development; Training for Broadcasting & Communications; Agriculture, and Nursery Training.

viii) Statistics for Informal/Voluntary Education - (This covers clubs, classes, listening groups and individual tuition by correspondence courses)

Countries were asked to describe the target recipient(s), give the name of the service or system, the Ministry or authority responsible, the channel(s) of communication, an estimate of the number of persons benefiting (both within the target and 'leavesdropping') and finally the annual cost of the service in local currency.

ix) Provision for Educational Innovation

Brief information was sought on the following areas of activity: Planning and development units; curriculum research and development centres, teachers' centres; audio-visual centres; educational research facilities and any other related facilities.

Countries were asked whether such units were operating, and, if so, for how long and on what main lines development was taking place. They were also asked to indicate the relationships between each facility, unit or centre.

APPENDIX III

QUESTIONNAIRE

THE USE OF NEW MEDIA FOR EDUCATIONAL PURPOSES IN THE COMMONWEALTH

A separate Questionnaire should be completed for each different project or service.

NAME OF COUNTRY:

1. PURPOSE OF PROJECT OR SERVICE.
2. NAME OF PROJECT/SERVICE.
3. DESCRIPTION AND NUMBER OF TARGETS (INTENDED AUDIENCE/USERS/VIEWERS/LISTENERS).
4. AUTHORITY RESPONSIBLE FOR THE SERVICE.
5. OTHER AGENCIES/AUTHORITIES CO-OPERATING (IF ANY).
6. HOW IS THE PROJECT/SERVICE ORGANIZED AND CONTROLLED?
7. HOW MANY STAFF ARE EMPLOYED (GIVE BREAKDOWN BY CATEGORY)?
8. GIVE BRIEF DESCRIPTION OF THE OUTPUT OF THE SERVICE/PROJECT IN TERMS OF SUBJECTS, LEVELS AND FREQUENCY.
9. ESTIMATE THE CAPITAL EXPENDITURE INVOLVED IN THE PROJECT IN RESPECT OF: (a) BUILDINGS (b) EQUIPMENT (c) OTHERS.
10. ESTIMATE THE ANNUAL RECURRENT EXPENDITURE (PLEASE GIVE BREAKDOWN IF AVAILABLE).
11. HOW LONG HAS THE PROJECT BEEN IN OPERATION?
12. BRIEFLY OUTLINE THE PROCEDURE FOR TRAINING STAFF.
13. DESCRIBE HOW STAFF ARE SELECTED FOR THIS TRAINING.
14. PLEASE GIVE TITLES AND ATTACH COPIES OF ANY PUBLICATIONS OR ARTICLES RELATING TO ANY ASPECT OF THE PROJECT/SERVICE, INCLUDING RESEARCH.
15. TO WHAT EXTENT HAVE PERSONNEL FROM THE PRESENT SERVICE/PROJECT BEEN INVOLVED IN ASSISTING OTHER COMMONWEALTH COUNTRIES IN SIMILAR ENTERPRISES?
16. TO WHAT EXTENT ARE PERSONNEL NOW ABLE (SUBJECT TO THE USUAL ARRANGEMENTS) TO ASSIST OTHER COMMONWEALTH COUNTRIES IN SIMILAR ENTERPRISES?
17. PLEASE GIVE AN OUTLINE OF PLANNED FUTURE DEVELOPMENTS. IF IT WERE POSSIBLE TO ARRANGE ASSISTANCE FROM OUTSIDE SOURCES TO IMPLEMENT THESE PLANS, PLEASE INDICATE THE NATURE OF THE ASSISTANCE YOU WOULD REQUIRE IN ORDER OF PRIORITY.
18. PLEASE ADD ANY OTHER COMMENTS WHICH YOU CONSIDER TO BE OF VALUE.

PLEASE RETURN TO: DIRECTOR
EDUCATION DIVISION
COMMONWEALTH SECRETARIAT
MARLBOROUGH HOUSE
PALL MALL
LONDON SW1Y 5HX

APPENDIX IV

THE COMMONWEALTH

Approximate Annual Expenditure on Education expressed per capita
in £ Sterling (as at 1.3.73) and as % of National Budget.

Member States (from latest available data)

	£	%
AUSTRALIA	43.3	13.3 (1970)
PAPUA NEW GUINEA	1.6	-
BAHAMAS	35.9	23.2 (1970)
BANGLADESH	.3	-
BARBADOS	12.2	21.3 (1968)
BOTSWANA	2.3	13.2 (1969)
BRITAIN	40.1	approx 20
*BELIZE	6.4	-
*BERMUDA	58.3	18.8 (1970)
*BRITISH INDIAN OCEAN TERRITORY	-	-
*BRITISH SOLOMON ISLANDS (PROTEC.)	5.3	11.2 (1968)
*BRITISH VIRGIN ISLANDS	18.7	15.0 (1970)
*BRUNEI (Protec. State)	48.2	19.0 (1968)
*CAYMAN ISLANDS	10.4	16.9 (1965)
*FALKLAND ISLANDS	28.9	12.2 (1970)
*GIBRALTAR	10.8	7.7 (1969)
*GILBERT & ELLICE ISLANDS	5.1	10.3 (1969)
*HONG KONG	8.9	22.8 (1970)
*MONTSERRAT	7.5	9.9 (1969)
*NEW HEBRIDES (Anglo-French Admin.)	5.4	-
*PITCAIRN	43.2	-
*ST HELENA	5.6	8.0 (1966)
*SEYCHELLES	4.8	11.9 (1970)
*TURKS & CAICOS	10.4	16.9 (1970)
CANADA	123.7	22.9 (1970)
CYPRUS	11.1	17.3 (1970)
FIJI	2.4	-
THE GAMBIA	1.3	15.2 (1968)
GHANA	3.6	20.3 (1969)
GUYANA	6.7	14.0 (1970)
INDIA	.7	19.5 (1967)
JAMAICA	9.6	18.5 (1969)
KENYA	2.6	18.4 (1965)
LESOTHO	1.2	19.8 (1969)
MALAWI	1.0	15.2 (1969)
MALAYSIA	8.4	15.6 (1969)
MALTA	14.0	13.7 (1969)
MAURITIUS	2.9	11.5 (1970)
NAURU	45.9	14.1 (1970)
NEW ZEALAND	44.9	12.4 (1968)
NIGERIA	1.1	-
SIERRA LEONE	2.0	17.9 (1969)
SINGAPORE	13.9	11.7 (1970)
SRI LANKA	2.1	13.7 (1969)
SWAZILAND	4.5	17.7 (1968)
TANZANIA	1.1	-

* Dependent Territories of Britain

	£	%
TONGA	1.7	16.2 (1970)
TRINIDAD & TOBAGO	11.7	17.7 (1970)
UGANDA	1.8	17.8 (1970)
WESTERN SAMOA	3.2	21.8 (1970)
ZAMBIA	3.4	21.8 (1969)

Associated States

Anguilla	4.8	10.8 (1970)
Antigua	1.9	10.4 (1970)
Dominica	3.5	-
Grenada	4.5	17.1 (1966)
Nevis	4.8	10.8 (1970)
St Kitts	4.8	10.8 (1970)
St. Lucia	6.5	-
St. Vincent	3.9	22.7 (1969)

	12.8	
MEAN		

PART TWO

A series of case studies

1. *Correspondence Education*
2. *Educational Radio*
3. *Educational Television*
4. *Centrally co-ordinated resources for teaching and learning*

INTRODUCTION

The predominant attitude which prompted the passing of the resolution which led to this present project at the last Commonwealth Education Conference in Australia in 1971 was that of apprehension. The new media had, particularly over the previous decade, made a much-heralded appearance in educational circles. In almost all member States the media had been invoked to alleviate or to attempt to alleviate educational problems. Decisions had been taken, money had been spent, but results were not immediately apparent. It was felt at the Conference that 'because of the high expenditure to be incurred and the need to share expertise in the techniques of the use of educational media ... that Commonwealth cooperation should be extended in these areas'. Specifically it was recommended that periodical surveys to obtain and disseminate widely information about the needs and facilities for the use of educational media should be undertaken. A study which would help to prevent member states from taking ad hoc decisions was subsequently planned. Attention would be paid to those projects in which the new media were being used successfully.

If the study was to go any way to meet its objectives then first there had to be an

attempt to define the term 'successful'. Hours were spent deliberating on a precise meaning for this word. Finally it was decided to define 'successful' in the most pragmatic terms possible. Success was taken - for the purposes of this project only - as referring to any project which after a number of years was (a) receiving a constant or increasing amount of financial support from its backers, whether governmental, institutional, international or from a foundation, and (b) maintaining or increasing the numbers of people making use of the service. Success, in short, was indicated by an increase or growth of the service.

As stated in the Introduction, the new media were defined as being (a) the use of television for educational purposes, (b) the use of radio for educational purposes, (c) the use of correspondence education, and (d) the use of any combination of audio-visual media designed for teaching or learning.

From the information provided from the first phase of this Study some nineteen case studies were identified for further study on the basis of the criteria given above. The Research Study attempted to

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These six case studies were chosen from the many examples of 'successful' educational radio described in Part One of this survey, because they collectively offer an interesting and balanced set of operations; they span the spectrum from formal to informal education as they emphasize aspects of educational innovation and development serviced by educational broadcasters round the world. In each of these services, whilst there is the closest professional collaboration between the technical broadcasting staff and the educationists, it is the latter who have complete responsibility for all decisions on programme series, content, format, presentation and usage - a significant point since it is they who have been given the overall national responsibility for all aspects of the educational process. In brief - these case studies are felt to offer good examples of educational value being derived from the investment made.

* * * * *

BRITAIN: BBC RADIO STOKE-ON-TRENT ADULT EDUCATION

BBC Local Radio

Radio started in Britain on a local basis and moved on to a national scale because of a shortage of wavelengths. However, the technical advances in VHF made truly local radio possible again and the BBC proposed sixty stations to operate as an additional service. The first phase of the operation was to include the establishment of twenty stations. The Government made an allocation of wavelengths and permission was granted to operate these twenty stations. Subsequent expansion has now been curtailed and 1973 saw the introduction of the first two commercially operated local radio stations.

The order and pattern of opening of the BBC local radio stations in England was: 1967 - Radio Leicester, Radio Sheffield, Radio Merseyside; 1968 - Radio Nottingham, Radio Brighton, Radio Stoke-on-Trent, Radio Leeds; 1969 - no new stations; 1970 - Radio Bristol, Radio Manchester, Radio London, Radio Oxford, Radio Birmingham, Radio Medway, Radio Solent, Radio Teesside; 1971 - Radio Newcastle, Radio Blackburn, Radio Humberside, Radio Derby; 1972 - no new stations opened; 1973 - Radio Carlisle (from Durham, which closed).

The typical BBC station serves a population of between half a million and one million persons. It costs about £150,000 capital (excluding the site) and

about £150,000 yearly recurrent costs. It originates about 3,500 hours of programmes in a year, and for the rest of its twenty hours of daily transmission uses programmes selected by the station manager from the BBC national networks. These programmes are used at will and without charge. The stations are financed by licence revenue which is supplemented by contributions in service or gifts.

The main effort of the station goes into the service of news, information and educational output at all levels. All stations offer their facilities to groups and individuals enabling local people to express themselves. One station manager has said 'At its best my station is a giant switchboard connecting the community to itself'.

Education has been a major preoccupation of BBC Local Radio from the outset. Indeed in a sense, the entire social purpose of local radio, as conceived by the BBC, may be described as educational. As education is a central concern of every civilized community, so too must any agency serving the aims of the community treat it as an area of human activity demanding special regard and support. Every one of the twenty local stations has an education producer and air-time is allocated for local educational programmes. At the beginning there was a great deal of scepticism about the need for locally produced and locally broadcast educational material. Some people thought that the existing national provision was adequate and that a local supplement could not be justified. But advocates for local educational radio saw the opportunity for a new form of educational broadcasting. There was a new range of possibilities, which would never be achieved by an extension of the BBC mainline educational provision. There was the possibility of calling upon and using directly the great funds of talent and professional skill in the teaching profession. Broadcasting needs in moderately-sized communities could be determined and accurately matched by the efforts of teachers and broadcasters working together. Furthermore, broadcasters would become more directly involved with the communities and audience that they served locally.

The Schools Broadcasting Council for the United Kingdom is an autonomous body which stands sponsor to all BBC broadcasts to schools. The SBC vested its responsibilities in locally formed Educational Panels which were to be representative of all educational interests in the areas. In practice, these Panels included both schools and further education interests. Invited for their local educational stature,

Panel members guided the stations in their educational efforts. Their specialized knowledge, local connexions and professional support have been invaluable to the Education Producer, whose task it has been to devise an output that would mirror the needs and priorities of the area. As the finances available would only be at a modest level it was hoped that a concept of co-operation and partnership between local broadcasting and local education would result eventually in the clearer realization of what educational broadcasting could achieve and so offer the chance for more funds at a later date. The productive partnership was one in which the BBC put its accumulated skills in broadcasting, its willingness to share these skills with others, an allocation of the station's general and supportive facilities and the salaried services of its Education Producer. To match this, the educational world would provide the specialized guidance, direct professional co-operation in the preparation of educational broadcasts and associated materials and in the promotion, distribution and evaluation of these products.

This scheme to make broadcasting an effective, local, educational resource started in 1967 and so older stations have now had six years to test their ideas, and the younger stations three years. Obviously, the later stations have been able to build on the experiences of the earlier ones and so have been in many ways able to move up through the gears more quickly, but acceleration and direction of travel depend for all stations very much upon the nature of local response. It is fundamental to BBC Local Radio that this should be so. Thus, there are differences of emphasis between stations. Some have a highly developed schools service, others stress adult education much more. Many stations have a range of programming which reflects a general acceptance locally of the new approach to educational broadcasting.

BBC Radio Stoke-on-Trent serves the Potteries (or the 'Five Towns' that Arnold Bennett wrote about) and its educational programmes range from those for 'adults' with a strong, local, historical and social theme, to secondary school series in French, geography, history and for primary schools French and music. This local station has strong links with the community and the Education Producer was previously a teacher in the area and has strong local connexions and interests.

From the adult education programmes of Radio Stoke a choice for study was made of two different programme series - one local history series entitled Preach the Word and one agricultural series called Milk from Grass.

'Preach the Word' - a study in local Methodism

This was a series of nine half-hour radio programmes that were devised and produced as a joint venture by BBC Radio Stoke and the Adult Education Department of the University of Keele.

Adult educational experience in Stoke-on-Trent and in other local areas showed that the recruitment of students into conventional classes as a result of radio programmes is meagre. But the Adult Education Department of Keele was not convinced that the role of radio was one of stimulation and advertisement only. The project of the programme series of Preach the Word was an experiment to determine whether, as a result of a combination of radio programmes and tutor visits to study groups, people who do not normally come to adult education classes can be prompted to engage in some sustained educational activity. They would not be meeting within the framework of the usual adult education classes but within their own organizations and making use of their own established patterns of habit. Thus the spheres chosen for 'experiment' were local history and local Methodist churches.

The basic aim of the programme series was to encourage and prompt members of the Methodist Guilds, Methodist Men's Groups, Fellowships, etc. to take an active interest in the history of their own local chapel. The experiment would have several modes of operation:

1. The study group would come together to listen to a series of thirty-minute radio programmes which would be made and transmitted by BBC Radio Stoke.
2. A visit by a tutor from the Adult Education Department of the University of Keele to the church group. During his visit he would play extracts from the broadcast programmes on a tape recorder in order to promote discussion; encourage people to look up their own local records; make recordings on the spot, or at a later date, of interesting and vivid reminiscences etc.; and generally to find and encourage key individuals who would group together to undertake some elementary local historical research.
3. Some members of groups would participate in the making of some radio programmes which would be the compilation of the results of research and personal reminiscences.

It was also hoped that a by-product of the venture, though not foremost in the

mind of the visiting Keele University tutor, would be the hope that in the future there might follow the creation of a special class which would come together to write the local history of Methodism.

The nine programmes for Preach the Word were written and presented by a Keele tutor. The production was handled by the Education Producer of Radio Stoke. The programmes were transmitted on Sundays at 4.00 p.m., with one repeat of the programme on the following Thursday at 4.30 p.m.

The first four programmes were prepared in advance of transmission and acted as the first phase of introducing the topic and providing the working materials for the group activities. A folder of supporting documents was prepared and distributed. The enclosures included:

1. an old handbill found in a chapel up on Biddulph ('Biddle') Moor relating to the conversion to temperance of a well-known hardened drunkard known as 'Old Mo';
2. Sunday School statistics showing a list of teachers and scholars for the whole of the Macclesfield District in 1938;
3. three lists of Wesleyan Methodist Churches in the Potteries up to 1932;
4. photographs of six famous Tunstall local preachers;
5. the Wesleyan Preachers' plan of the Burslem Circuit for 1839 which shows the organization of the itineraries for the various preachers to the different chapels in the Potteries;
6. illustration of the original chapel at Mow Cop;
7. some hymns and tunes from old hymn books;
8. statistics from the 1851 Census of Religious Attendance;
9. booklist.

The fifth programme was compiled from personal reminiscences recalled and recorded by members of the groups and concentrated on the 'camp meetings' held at Mow Cop. These programmes ran between September and December 1971. It was from these contributions that members of the groups including those from Boundary, Tean; Cheadle; Longton; Mow Cop; Epworth Street, Stoke; Bethesda, Hanley; Withington near Congleton; took courage to continue their own researches and studies into chapel records, to discover old memories and experiences. From their efforts four more programmes were made and broadcast in the period April to July 1972.

Not only had the study groups been able to carry out some research into local history, but they had felt strongly enough to want to make it available to other interested members. So the last four programmes had new material, making use of the voices of study group members themselves, whereas the first four programmes had been largely studio-based productions with a drama content using actors, and only occasionally the voices of local people speaking from direct experience.

How can such a programme series be evaluated? What was its effect? The interest aroused amongst the participating Methodist groups was such that the basic aim of the series, which was to encourage members to take an active interest in local history, was achieved. The creation of the last four programmes was one sign of this, but another was the Exhibition of Local Methodist History that was mounted at Radio Stoke over the weekend of 15th/16th April 1972. Everyone was invited to 'participate in the sights and sounds of old times in Methodism'. One studio was set aside for the Exhibition and visitors were not just spectators but were invited to bring their own 'treasures' as well as coming to see what other people were putting on show. Altogether a thousand or more possessions were displayed, including a couple of original letters from Hugh Bourne, a local man, the founder of Primitive Methodism, and even one from John Wesley himself. Visitors were able to hear on request, recordings made by group members from the twenty-one items collected. These included descriptions of the average Sunday School day of the period, the minutes of a meeting of the Sunday Treat Committee for 1844 at Longton, famous and unusual preachers, hymns and choruses. But according to the Education Producer, the most 'frequently requested short archive tape of the weekend was one recorded a few months previously by a very old lady on the subject of Gypsy Smith, the evangelist. It so happened that the old lady died during the Exhibition weekend, which rather sadly, but dramatically underlined the point of attempting to build a sound archive'.

In all, between five and seven hundred people visited the Exhibition which showed the interest that had been stimulated in this very modest programme series. The Exhibition closed with spontaneous hymn singing in the Operations Room of Radio Stoke - in true Mow Cop tradition (a tradition essentially of the area and of the birthplace of Primitive Methodism). Thus this was an experiment in adult education that could only succeed on a local basis.

'Milk from Grass'

This was a series of six half-hour programmes developed and produced by the Staffordshire Agricultural Development and Advisory Service and Radio Stoke-on-Trent. The objective of these experimental programmes for dairy farmers in Staffordshire, Cheshire and Shropshire was to create amongst dairy farmers an awareness of recent developments and performance levels in grassland management and to instruct them in some of its basic principles. In the radio programmes top scientific experts would use their research knowledge and expertise to evaluate the methods practised by leading local farmers.

Radio Stoke had been broadcasting a regular weekly agricultural magazine programme for several years. According to the population census carried out in 1970 there are some 20,000 farming households in the area and it was estimated that 32% (6,400) of these had access to VHF receivers. Outside the concentrated industrial areas of the 'Potteries' a high proportion of the farms is milk-producing. The size of the farms in the area ranged from twenty to three hundred acres.

The proposal for the experimental programme series for a specialized group of farmers rather than the random general farming audience for the weekly radio magazine, was made by the producer of agricultural programmes at Radio Stoke, and by two officers of the Staffordshire Agricultural Development and Advisory Service. The proposal was to test the thesis that using local radio could be the most economic means of reaching a widespread farming community. It was agreed that there would be six programmes transmitted at 7.35 p.m. on Wednesday evenings, with a repeated transmission at the same time on the following Monday:

1. Grass Varieties and Feed Mixtures
2. Fertilizing Grass
3. Milk from Grass
4. Conserved Grass
5. Implications of the European Community (EEC) for the West Midland Dairy Farmer.
6. Your Questions Answered

The two officers of ADAS were responsible for planning and writing the scripts, whilst the producer from Radio Stoke was mainly involved in the editing activities and studio procedures when the programmes were being compiled. The production sequence that was followed was:

1. decide on the subject for the series;

2. decide on the radio programme content and transmission dates;
3. carry out interviews at various locations;
4. editing of interviews and further recordings made in the studio;
5. selection of particular inserts for individual programmes;
6. final editing and timing of inserts;
7. writing of script for presenter and summary;
8. recording of programme;
9. transmission.

The same programme format was followed for the first five programmes with approximately twelve minutes of interviews given by various experts, twelve minutes of presentation given by one officer of ADAS and six minutes of final summary given by the senior ADAS officer in the area. The sixth programme was a 'live' question and answer forum which was held in the large community studio at Radio Stoke and the panel of experts was drawn from the main contributors of the series, with an audience of local farmers.

A producer was employed on a free-lance basis for the programme series and the two ADAS officers were able to give some of their time to the experiment, as well as raising finance to support the project. They were able to make a fairly accurate assessment of the time taken by each of them in the making of a thirty-minute radio programme and the pattern appeared as:

	Officer 1	Officer 2
Planning and recording	4 hrs	4 hrs
Interviewing	1 hr	-
Editing tapes.	2 hrs	-
Script writing	2 hrs	½ hr
Travel	4 hrs	1½ hrs
Total	<u>13 hrs</u>	<u>6 hrs</u>

With the aim of trying to bring the views of scientific experts with research findings and experience as well as those of more progressive and successful farmers to local farmers, a wide variety of contributors was chosen for the programmes. It was hoped that grassland practices outside Staffordshire could be described and compared with those going on nearby and that the merits, pitfalls and possibilities could be shown by the advisory staff. People interviewed on their home farms or institutions included soil and nutrition scientists, an officer from the Grassland Research Institute, managers of experimental farms, managers from industrial farms, a regional manager of the Milk Marketing Board, as well as farmers themselves.

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The two ADAS officers took part in all six programmes.

An attractive folder was printed to support the radio programmes and a selection of the relevant advisory leaflets was included, as well as a short summary of each programme. No new leaflets were printed for the experiment but stocks were ready to hand at the ADAS office in Stafford. Thus the complete folder comprised:

1. Programme summary
2. For programme no. 1:
NIAB leaflet No.16 : Recommended Varieties of Grass
No.17 : Grass for Conservation
ADAS leaflet : Grassland Practices No. 1: Seed Mixtures 1971/72
3. For programme No. 2:
ADAS leaflet : Grassland Practices No.2: High Nitrogen Grassland Practices
" " No.4: Potash on Grassland
" " Grassland Practices No.5: Phosphates on Grassland
4. For programme No. 3:
ADAS leaflet : Grassland Practices No.7: Grass as a Feed
" " Grassland Practices No.8: Zero Grazing Paddock Grazing
" " Paddock Grazing
5. For programme No. 4:
ADAS leaflet : Making Quality Hay
" " Farm Waste Disposal
" " Mechanized Handling and Feeding Bunker Silage

Reference to the pamphlets was made during the programme; it was hoped that the listener might carry out a little reading before the day of the broadcast, but the main purpose of the printed material was to supply him with more details and practical advice should he want to study the ideas further after listening to the broadcast. The folders were supplied free from ADAS/Radio Stoke on request and sixty-two copies were distributed.

Prior notification and promotion of the programme series was given over the air by Radio Stoke, in the local newspapers and in the agricultural press. Each radio programme was devised so that it could stand by itself as it was not expected that the busy farmers would be willing to listen to all of the programmes. It was Spring time and a busy season for the farming community, but there were many dis-

cussions going on regarding the need for increased economic efficiency and possible changes with the entry of Britain into the European Economic Community. The topics chosen were both topical and typical of what the farming community might be thinking and saying.

The evaluation of the experiment may be judged in various ways and at different levels. The actual interest and participation in the final programme which was of the 'question-and-answer' form with an audience of some sixty farmers at Radio Stoke who asked the panel questions that showed that these particular questioners had heard the previous programmes. Thus the short span of five weeks' transmission on a specialist subject area did appear to have a positive result.

To follow up this programme ADAS employed a researcher to carry out a qualitative assessment by post on the programme series. The Ministry of Agriculture and Fisheries held a list of all farmers on their 'current distribution list' and a simple questionnaire was drawn up and sent to every twentieth farmer on the list in the reception area of Staffordshire, Cheshire (except the Wirral) and North Shropshire.

The three questions asked were:

1. Do you own a VHF radio receiver?
2. Do you listen to BBC Radio Stoke?
3. Did you listen to any of the six programmes in the recent Milk from Grass series?

767 questionnaires were posted and 328 replies were received (a completion and return rate of 39%).

Replies to Question 1: 36% replied that they owned sets (which showed a 4% increase in ownership over the previous 1970 figure).

Replies to Question 2: 32% replied that they did listen to Radio Stoke (this showed that 10% overall of the farming households were listening which was an increase of 2% over the 1970 figure).

Replies to Question 3: 5.2% replied that they had listened to one or more of the programmes.

To supplement this survey ADAS staff agreed to carry out a qualitative evaluation by personal interview of some 53 farmers who had said they had listened (according to the postal survey (17 in number) and a further 36 who had asked for

the supplementary folders). Therefore 47 farmers in Staffordshire, 3 in Cheshire and 3 in Shropshire were interviewed.

Their comments and views can be summarized as:

Listening was not confined to any particular size of farm holding - all sizes from 20 acres to 300 acres were represented.

82% agreed that the period chosen (March/April) was suitable for the series, though 18% would have preferred it to be earlier in the year.

87% agreed that the time of transmission at 7.35 p.m. was convenient, though the remaining 13% were not consistent with their suggestions for an alternative time. Some felt that the repeated transmissions should be at a different time in the evening, and one suggestion was that the radio programme should follow the BBC television farming programme, which was transmitted at 2.00 p.m. on Sunday afternoons.

When asked to judge the programme content, the replies showed that 94% judged it 'about right'; 6% 'too elementary'; and none judged it 'too technical'. In reply to questions on their judgement of the presentation of the programmes, 51% replied 'very good'; 49% 'acceptable'; 0% 'could be improved'.

In reply to questions on their judgement of the interest level of the programme, 60% replied 'very interesting'; 4½% 'interesting'; 0% 'no interest'.

Normally two people in each farming household listened to the programmes and when asked how many of the six programmes they had heard the 53 households replied that 221 programmes had been heard - i.e. 3.7 programmes per household, or nearly four out of the six.

In reply to questions on how they used the written materials 13% replied that they used it during the broadcast, 62% used it later for reference, and 25% found it useful both during the transmission and later for reference.

In judging the various contributors to the programmes, 57% judged them acceptable, while 43% would have preferred more local representation and local examples of good husbandry and grassland management.

When asked how they found out about the radio programme, replies showed:

Letter from ADAS (Stafford)	49%
<u>Radio Times</u>	2%
<u>Local Radio</u>	34%
National Radio	0%
Others (including local press)	15%

When asked for suggestions for any future programme series, replies revealed:

Dairying	37%
Grassland	25%
Dairy Replacements	13%
Beef	8%
Cereals	6%
Sheep	5%
Pigs	4%
Potatoes & Sugar Beet	1%
Poultry	1%

(The subsequent programme series transmitted in January/February 1974 was Growing Grain and had the same programme format but made use of local knowledge and practices to a much greater extent).

A few individual comments included:

- ... would like to hear more from farm workers and stockmen.
- ... would like to have heard more from smaller farmers, not necessarily the successful ones.
- ... like to hear of local farmers' setbacks and answers to their problems.
- ... did not agree with everything said.
- ... was too dogmatic about paddocks.
- ... not enough said about hay.
- ... programmes should have been a month earlier for more time for application of new ideas.
- ... why not phone in questions at the end of the programme?
- ... it would be useful at end of the programme to refer to leaflets to be used in next week's programme, hence reading done prior to the next programme.
- ... have altered fertilizer usage since listening.

Was this last comment made by the only farmer to change? Perhaps he was a man who was easily persuaded or in the right frame of mind? Farmers are normally regarded as very conservative in their approaches and much of the comment raised in the sixth programme appeared to assert that sound practices had been established for many years and that the Staffordshire farmer need not be ashamed of his practices! But the objective of the series was to change his attitude and to evaluate his existing methods. Such changes and developments cannot happen overnight; the farming year follows logically season by season; many

a farmer wants to see it happening for himself before he tries. An interesting conversation was reported in 1974 in which the local seed merchant in the area said that sales of a certain variety of grass seed (Melle) had greatly increased during the season and that he could not understand it; he did not know, or had forgotten, that this variety had been highly spoken of and recommended in Milk from Grass two years previously. Change does take time in the agricultural community but the lesson must be remembered by programme designers and instigators that the small core of persons who are first amenable to change and will eventually persuade the greater number of others, will themselves not be able to change if they cannot get the seeds, fertilizer, skills, advice they require at the right time. If new varieties of grass seed are to be sown, then they must be readily available for purchase and not merely an entry in the catalogue.

Was it worth it? How did the radio series compare with other means? Certain standard techniques for implementing the ADAS general advisory policy are worth quoting in detail for purposes of comparison with the experimental technique of this radio series.

Comparison of Techniques.
Agricultural Advisory Service Cases:

Meetings arranged for farmers:

- a) Poultry meeting at Stafford with two speakers 'Increased Output and Profit' in October 1971.
Cost = £37 Attended 35 Cost per person £1.05
- b) 'Feeding Dairy Cows this Winter' in October 1971 with one speaker.
Cost = £48 Attended 17 Cost per person £2.80
- c) 'How Green were your Stubbles' in January/February 1971 with one speaker for four meetings.
Cost = £280 Attended 200
Cost per person £1.40

Individual Visits to Farmers:

One half-hour visit at cost of £20 per day	=	£1.25
Travel costs at 10 miles at 4.8p per mile	=	£0.48
Travel time at 20 minutes	=	£0.80
		<hr/>
Total cost per person	=	£2.53

Newspaper Articles in Local Press:

'The Leek Post & Times' carries a regular weekly ADAS article. 1,100 farmers take the newspaper and 23% of them regularly read the article (e.g. 250). The cost to ADAS is assessed at £15 per week.

<u>Cost per person</u>	=	£15 for 250 persons
	=	6.0 p.

Radio programmes: 'Milk from Grass'

Cost of the production of the six radio programmes amounted to £364. It was assessed that an audience of 1,600 listened on four separate occasions. This is based on 1970 figures showing that of 20,000 farming households in the area, 8% (1,600) listened to some of the agricultural programmes. This figure can also be interpreted as an audience of about 3,000 people since the programmes are usually heard by more than one person per household. Sample interviews after the Milk from Grass series showed that the average number of programmes heard was 4.

<u>Cost per person</u>	=	$\frac{£364}{1600 \times 4}$	=	5.6p
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THE SCHOOLS BROADCASTING SERVICE:
BRITISH SOLOMON ISLANDS

Introduction

It has often been suggested that radio is likely to be the most effective medium of educational communication in regions where there are large distances between centres of population, the communications are poor, the populations are scattered and where the per capita income is low. This is a fair description of the situation of the British Solomon Islands Protectorate. The Solomon Islands consist of a scattered archipelago stretching approximately 900 miles in the South Pacific. The total land area is approximately 11,500 sq. miles. There is a very large number of islands - several hundreds in all - only six of them of major importance. The islands are mountainous and covered with dense rain forests and mangrove swamps are to be found on many parts of the coast. There are also large reefs and lagoons around many of the islands. The climate is equatorial with heavy rainfall. The largest proportion of the Solomon Islanders live in small villages and practise shifting agriculture and

fishing. There are about forty different languages, and as many dialects, spoken in the various islands of the Solomons. Official communication is in English although pidgin English, which uses Melanesian syntax and a vocabulary derived from English, is widespread. Sea transport is vital in the islands and air communications are beginning to be developed. There are very few roads throughout the Protectorate and less than 3,000 vehicles.

The Educational System

Prior to the Second World War, all education was undertaken by the churches. Government participation in education is comparatively recent and only one of the six secondary schools and five of the 412 primary schools are controlled directly by the government at present. 223 primary schools receive no government assistance whatsoever. Almost all primary schools in the rural areas are leaf and cane structures. There is a tendency for these buildings to be replaced by permanent classrooms. It is planned that each classroom should be equipped at a cost of A\$220 with desks, a teacher's table, a classroom cupboard, a chalk-board, a display board, together with a clock, a radio and basic texts and stationery. Although development is taking place and a complete appraisal of the education system has been made by an Educational Policy Review Committee in a recent document entitled 'Education for What?' the educational system is still faced by considerable problems. The main enemy is lack of communication. Improving and upgrading the quality of education, through in-service training by conventional means and provision of resources such as books and charts, are hampered by the problems of the distances involved. It can take up to two weeks to travel from Honiara, the capital, to the most remote schools on some of the outlying islands.

Educational Broadcasting

It was against this background that a Schools Broadcasting Service was brought into being and after some four or five years of experimentation on a limited scale, a full-time Educational Broadcasting Officer was appointed in 1967.

This officer was an educational radio producer seconded from the BBC's Schools Broadcasting Department. On arrival he faced the daunting task of developing and maintaining a Schools Broadcasting Service virtually single-handed. Before this there had been very little local production of programme material and no sustained effort to tackle specific areas of the curriculum.

The production facilities were those of the Solomon Islands Broadcasting Service, which is part of the Department of Information and Broadcasting. This necessitated the sharing of studio time and consequently working irregular hours. Within the constraints of sharing, full access to all facilities was, however, available.

The adoption by the Department of Education of a standard oral English language course for use in primary schools enabled the Schools Broadcasting Officer to develop a series of programmes to back up the introduction and use of the course. Similarly in mathematics, opportunity to reinforce developmental work presented itself. Beyond these two areas however, there was little guidance available to identify the needs and requirements of the system. Where there was a curriculum in existence for a subject or level it was followed completely. Where there was innovation taking place it was supported and backed and where there was no official syllabus or curriculum, material was devised by the Schools Broadcasting Officer.

Over a period of years the quantity of programme material increased to the present level of twenty hours of broadcasts to schools each week. This includes material covering most timetable subjects and all age ranges. The production staff has doubled in number with the appointment and training of a Solomon Islander as Assistant Schools Broadcasting Officer. There is very little money available for production expenses or other requirements, such as the provision of support material. Initially most of the radio receivers used in the schools were provided through a foundation. There is no central provision for receivers nor for their maintenance.

This level of activity indicates that schools broadcasting is still at the cottage-industry stage of development. Funds are available, however, to enable the Schools Broadcasting Officer and his Assistant to travel extensively around the schools in the Protectorate. This has enabled a considerable amount of evaluation and appraisal to be carried out. The findings which the SBO reached and which he recorded in a thesis for a master's degree are worthy of consideration. This is particularly true of his comparison between investigations and evaluations of educational radio in developed areas and in the Solomon Islands and his conclusions.

In general, the SBO found a high level of acceptance of the use of radio by teachers. Attitudes were favourable. Unqualified and poorly qualified teachers particularly

allowed the radio teacher to take over their lessons temporarily. Direct teaching was resented, however, by the better trained and educated teachers. They stressed that enrichment and supporting material was their main requirement. The Schools Broadcasting Officer recorded that: 'the more highly trained and educated a teacher was, the less was his conviction that schools broadcasting helped him with his work. Such teachers still regarded broadcasts as useful or very useful, while most untrained teachers, once they had been taught how to use the broadcasts, regarded them as essential'. Training in the use of schools broadcasts is just as important a factor in the Solomon Islands as it is elsewhere. Indeed in areas where the teachers have to go to considerable personal trouble to buy batteries for the receivers, or erect aerials around the school, a favourable attitude to schools broadcasting is very important. Where teaching and learning resources are scarce, improvisation in following up the broadcast is important and is helped by training.

In common with other media and other territories, locally-produced programmes had a bigger impact and produced more favourable reactions in the listeners than did imported ones. No matter how good the technical quality of the latter, it was more important for listeners, mostly with limited backgrounds and narrow range of experience to be able to identify with the programme and its characters. Coupled with this was the need, in an examination-orientated educational system, to produce programmes which were 'on-syllabus'. Both these factors contributed to the need for local production.

As would be expected in an area in which educational materials and resources were scarce, high value was placed on the notes which were produced to accompany the broadcasts.

Another interesting and again, internationally observable, feature was that programmes were used least in areas where there was a shortage of District Education Officers and thus a lack of personal contact to reinforce the effective use of the broadcasts and to act as a link between the point of use and the production studio.

In a society where education was held in high regard, yet was at a low level of development, the introduction of schools radio produced a marked 'Hawthorne effect'. Almost fifty per cent of all teachers in the Protectorate claimed that using schools broadcasts had changed their teaching methods and techniques in one way or

another. The radio lessons provided a measure of indirect in-service training for the teachers as well as giving them access to standards of spoken English which they otherwise might never have encountered in their professional lives.

As well as programmes for use in classrooms, the Schools Broadcasting Service also produces a programme for teachers. Teachers' Tea-time is a half-hour programme broadcast each day between 10.00 and 10.30 a.m. Essentially a record request programme, this has become something of a national institution. It attracts higher listening figures than any other programme. Schools arrange their timetables to enable teachers to listen to the programme. Although it is basically an entertainment programme it is nevertheless used as a means of communication between the capital and teachers in remote areas. Teacher isolation is a major problem in the islands. That Teachers' Tea-time attracts over 3,000 letters for record requests each year is a measure of its popularity. This is an average of seven letters from each school. Although the letters which come from teachers by and large have the specific purpose of asking for a record to be played for a colleague in another school, they also include comments and views about the educational radio service. For its part, the Service has not attempted to institutionalize this programme by making it in any sense an 'official' means of communication. There have been instances when it has acted as an educational news service, but these have been comparatively few and normally for matters of major importance. An indication of the regard in which this programme is held in the Protectorate is that a Bishop made an end-of-term request for a 'pop' record to be played for all the teachers and pupils in his Diocese.

The experience of the Solomon Islands has shown that where educational aims and objectives have been identified and an attempt to reach these has been devised by developing the necessary curricula, radio is a potentially powerful resource. Where only vague syllabus outlines exist, radio does not appear to make a significant impact on the teaching methods or attitudes in the schools.

The main contribution which the Schools Broadcasting Service of the Solomon Islands makes to a study of this kind is in illustrating the potential of the medium. In a territory faced with almost all the symptoms of educational development problems - small scattered populations, large distances, difficult communications, small budgets and limited teaching resources -

radio has been used in a modest way. Communication has been established from Honiara to the schools by broadcasts; in a limited form contact between the schools and the Service has been established by personal visits. The cyclical process which is essential for effective use of educational radio has been created. Educational radio is a tool which can now be developed and used as one element in the growth and expansion of education in the Solomon Islands.

SASKATCHEWAN, CANADA: INTERNATIONAL FRIENDSHIP TAPE EXCHANGE

General

The Province of Saskatchewan has now reached the phase in its curriculum development activities where groups of local teachers are working to devise their own tactics to teach the materials developed in the larger countrywide curriculum strategies. The pattern emerging is a familiar one; of movement away from teaching to learning situations in which the teacher tends to direct the activities of his pupils in a tutorial type of relationship, and where he has assembled a whole range of resources which may include textbooks, pupils' worksheets, teachers' notes and guide sheets, pupils' workbooks, specimens, models, filmstrips, audio-tapes and audio-visual concepts developed in television or radio studios and recorded for distribution on videotape or audio-tape and filmstrips.

There is much emphasis on games which children can play to help them to understand concepts and learn facts within the curriculum. It is generally recognized that it is difficult to teach one subject in isolation. It is better to encourage learning in several directions, such as the use and extension of languages, the development of personal relationships, and the development of a sense of social responsibility and consciousness, when planning the teaching of any subject.

To promote this pattern of development Saskatchewan has created an Instructional Resources Section as an integral part of the Program Development Division of the Ministry of Education. Information concerning the structure and work of this section is contained in Part One of this survey. However, from this activity has arisen the 'International Friendship Tape Exchange' which would seem to be of interest and relevance to many Commonwealth countries.

Nature of Service

This is a project which claims to further international understanding and friendship. Audio-tapes, made by children of a class of one school, are sent by post to a similar group of children in a school in another country. This must be one of the simplest, most universally available, and potentially most economical ways of effectively encouraging understanding and friendship between children of the nations of the world.

Experience has shown that once an initial contact has been established between schools a variety of exchange activities may follow. After the initial audio-tape, exchanges may perhaps be accompanied by drawings, newspaper cuttings, slide sets, photographs or scrapbooks. From this beginning teachers and children have often exchanged correspondence and even visits and lasting friendships have been reported.

Historical Development

The overseas tape exchange began in 1959 when the then Schools Broadcasts Branch contacted a number of schools within the Commonwealth, asking them to join a project of exchanging tapes between their classes and classes in Saskatchewan. In the first year six tapes were exchanged between Canada and three other Commonwealth countries. Tapes are now exchanged between Saskatchewan schools and schools in twenty-one other countries, including a number outside the Commonwealth. The frequency of tape exchange has varied as children have grown up and staff have changed, but the average of twenty to thirty tape exchanges a year has characterized the scheme. In 1965, which was International Friendship Year, the Chief of Instructional Resources in Saskatchewan was awarded the UNESCO medal for this work.

Encouragement and guidance from a central source (within the Ministry of Education) is important if the momentum of such a scheme is to be kept going over the years. At the same time, the cost to the Ministry of this encouragement is negligible.

Working Methods

The Saskatchewan Schools Broadcasting Service took the initiative in writing to personal contacts overseas and also made its consultancy staff available to guide schools in making the best possible quality recordings. This is important since it can be difficult enough understanding a different

accent without additional complications through recording problems. The Schools Broadcasting Service has supplied free tapes to schools for these recordings and has undertaken to accept and pack and post tapes to their destinations, also without charge. On occasions, schoolchildren have been invited to the broadcasting studio to re-record their tapes if it proved impossible to get satisfactory acoustic properties within the school.

A booklet outlining suggestions for tape content, with a wide variety of subjects and treatment, together with advice on recording techniques has been prepared by the Schools Broadcasting Service.

Another important feature has been a schools broadcasting programme series called Friends Across the Seas based on the recorded exchange materials received from overseas.

Headquarters Commitment

This has been minimal in terms of cost and the time of professional staff. Clearly an enthusiastic leader is necessary to generate this activity, but this has been a relatively small part of this person's total work load. Recording quality often needs attention from headquarters staff. The commitment involved depends on the number of schools participating, but it is often possible for this officer to combine such a visit with his routine utilization and evaluation work. The work involved in packing and posting the tapes, again, depends on the number of schools involved. In Saskatchewan this additional work and expense has been relatively easily accommodated within the Tapes Library Department.

Transferability

Especially with the advent of cassette records, and the ease with which the cassette can be packed for postage, there would seem now to be little limit to the potential for the spread of this technique. Heads of schools broadcasting services who are interested in developing this type of exchange surely know each other well enough to issue such invitations. Alternatively a letter addressed to:

The Chief, Instructional Resources
Section,
Program Development,
Department of Education,
Midtown Centre,
Regina, Saskatchewan,
Canada SHP3 K2

would foster exchanges with schools in Saskatchewan. Incidentally the Editor of

the journal Educational Broadcasting International has offered to run a Schools Tape Exchange column for any heads of broadcasting services who wish to make initial contact in other countries.

THE SCHOOLS BROADCASTING DIVISION
OF THE MINISTRY OF
EDUCATION : KENYA.

Objectives

In 1963 the schools broadcasting service came into being as the country was attaining independence and was faced with phenomenal problems in the quantitative and qualitative development of its educational system. At this time the Government experienced considerable pressure to provide increased educational opportunities particularly at the secondary level which it was, in the main, unable to meet from its own resources. Self-help (Harambee) secondary schools sprang up all over the country each supported by local communities. Many of these schools suffered through inadequate financing, under-qualified teachers and unsuitable buildings. Some have now closed down, but others have kept going and the Government has considered methods of assisting them. School broadcasts, closely tied to the official syllabus, are one aspect of this help.

In the primary schools, for which the Government and local authorities accept responsibility, there are severe problems, particularly of staffing. Despite strenuous efforts in the training of primary teachers, it has been possible to do little more than keep pace with the expansion of the number of classes. Nine years after independence a quarter of the primary teaching staff were still unqualified, and of teachers with qualifications more than half had only a primary school education followed by two years' teacher education. (See the case study on the Correspondence Course Unit of the University of Nairobi - which also makes a substantial contribution to the solution of this problem.)

At the beginning of 1974, free education in Standards I to IV was granted. It resulted in some 500,000 extra children enrolling in Standard I and the necessity of employing 16,000 extra untrained teachers to handle the extra classes. This raised the percentage of untrained teachers to approximately 50%. In these circumstances the support material offered to the schools by the Schools Broadcasting Division assumes considerable importance and the need to develop radio in-servicing of the untrained element of the schools' staff becomes a priority task.

Thus school broadcasting in Kenya has two main objectives at both primary and secondary levels. The first is to alleviate situations in which there are inadequate numbers of well-trained teachers. The second is to bring relevant and tested educational support materials into classrooms where, at best, provision from other sources is often inadequate and frequently non-existent.

At the same time the very nature of the broadcast message helps to redress the imbalance of educational opportunities between urban and rural areas, and between areas of high and low population density which has inevitably been a characteristic of Kenya's educational problems in the past.

User Profile

There are some 6,750 primary schools and 820 secondary schools in Kenya. The Schools Broadcasting Division supplies all these schools with free support material such as teachers' notes and schools radio timetables. It is thought that the audience for each primary programme averages 150,000 and for each secondary programme 9,000. But the total number of pupils listening to schools programmes at some time during a week is probably as high as 700,000 in primary schools and 30,000 in secondary schools. These figures are estimates but are probably a reliable guide, against a total 1974 school population of approximately 2.3 million at primary level (including the free intake) and 150,000 at secondary level. Random visits to a scattered cross-section of primary schools in remote and urban areas in three provinces in June 1973 confirmed that there is considerable usage of the broadcast programmes in most primary schools. One exception found was an 'elitist' type of school in a larger urban centre, where high fees are paid and many of the staff are well qualified expatriates. At the secondary level, there was evidence that many schools take broadcasts off-air, although a more significant usage is probably through a taped programme service. At present most of the teacher training colleges and some 300 secondary schools are obtaining taped copies of programmes through this service. Many primary schools wish to use this service, but cannot afford the equipment. However, a recent development has been the placing of tape recorders on the Kenya Primary School Equipment Scheme Order List and roughly 500 primary schools responded immediately by ordering them. These will be supplied with recorded programme series of their choice.

All nineteen of Kenya's teacher training colleges receive free support materials. The education syllabus in use in the coll-

eges includes a section on schools broadcasts and their proper use.

Historical Development

The Schools Broadcasting Division was established in 1963 as part of the then Kenya Broadcasting Service, now the Voice of Kenya. At the beginning it was housed in an office block in Nairobi and producers had to go to Broadcasting House to record and transmit programmes. In 1965 it moved to Broadcasting House with extra accommodation provided through an additional CD and W grant. At this time, one hour of broadcasting a day was allowed for schools and ten programmes a week were transmitted during term time to primary schools. A thousand radio sets were supplied to schools at a subsidized price and these formed the first listening groups. It is reported that in the early days the service was looked on with suspicion - it was felt that an attempt was being made to dictate from the centre and to relegate classroom teachers to a supervisory role. However, over the years a bridge of understanding has been built which is enabling the central production studio to understand and meet the needs of the classroom teachers more reliably.

In 1965 the Schools Broadcasting Division became an integral part of the Ministry of Education, with the Head of School Broadcasting being directly responsible to the Chief Inspector of Schools, although the unit continued to occupy the same accommodation in the heart of the broadcasting complex. Inevitably there have been difficulties over the years and principally, that common to many developing countries, of too few resources trying to contain too many, too large problems. In Kenya Schools Broadcasting, this has been accentuated as numbers of qualified expatriate educationists, on whom the service relied in the early days, particularly for free-lance script writing, have completed their contracts and returned home. Nevertheless, the service now presents an encouraging example of systematic and purposeful development. It currently offers fifty-one schools broadcast programmes each week and there is a bank of more than 300 programme series on tape, most of which are available through the tape copying service to schools able to afford and operate tape recorders. The unit systematically reviews and updates this stockpile, but it is hoped that a period of consolidation can now be enjoyed which will allow time for the modification of the existing series and also for the systematic pre-testing of new programme series.

Programmes now cover primary school and secondary school requirements and specialist programmes have been produced for in-service teacher training. Experimental work is well advanced in radiovision and television for teacher training and significant research has been carried out into problems of educational communication by radio.

Administration

The Head of the Schools Broadcasting Division is responsible to the Chief Inspector of Schools for all aspects of educational broadcasting. He is assisted by the Schools Radio Officer, who is an experienced educational broadcaster, and who, with the Head of Schools Broadcasting, is responsible for programme planning and in-service training, as well as pre-testing, producing and evaluating his own series of programmes.

The Administrative and Publications Officer has the responsibility of seeing that all supporting publications issuing from the unit are correctly printed and despatched in time.

The establishment of the Division provides for seven radio producers, each of whom deals with separate areas of subject specialization, with a further responsibility for field work covering all aspects of classroom utilization and programme evaluation. Difficulties of local recruitment and loss of expatriate staff have meant that full establishment has not yet been reached. The promised field staff intended to promote contacts between the Division and the schools and to foster effective use of the broadcasts have not yet materialized.

Experienced producers are encouraged to develop an interest in more systematic enquiries and several valuable pieces of original research have been published by staff of the unit. However, pressure of work, shortage of resources and frequent shortage of staff have, too often, limited the opportunity for work in this vital sector. The Head of Schools Broadcasting allows himself to hope, however, that the corner has now been turned and that the future promises greater staff stability and more purposeful work.

The production staff of the Schools Broadcasting Division has accumulated largely through the accident of availability, rather than through a deliberate policy to assemble a staff of experienced broadcasters and expert teachers in the major school subjects. Future policy, it is planned, will ensure that subject areas will be covered by specialists. The Head

of the service considers that it is important for producers to understand the content of the material they are working with, even though most scripts are written by people outside the division. At the same time the unit is fortunate in possessing individuals with professional broadcasting and theatrical backgrounds and these gifts, together with the experience and skills of teachers, have undoubtedly helped to ensure interesting and viable programmes.

In the early days of the Schools Broadcasting Service recruits came from the general broadcasting service. Recently recruits have come from the teaching service. This produced a useful blend of talents, and new teacher recruits are now being given basic theory and technical training by the Schools Radio Officer. They then do operational productions under supervision, and are finally sent abroad for short, intensive training courses to CEDO, the BBC or the ABC. It is hoped that the Kenya Institute of Mass Communications will eventually be able to provide full-time training courses for all professional staff of the Schools Broadcasting Division.

Output

Air-time, from 9.30 - 12.00 noon and 2.10 - 4.00 p.m. from Monday to Thursday inclusive, at the disposal of the Schools Broadcasting Division has been arranged by the Voice of Kenya (Ministry of Information and Broadcasting), in consultation with the Ministry of Education. On some afternoons an additional fifteen minutes is given to transmit extra programmes for teachers. On Fridays transmission is only in the mornings from 9.30 to 12.00 noon. This totals twenty hours of schools broadcasting a week.

Since one of the aims of the service is to give educational support at primary and secondary level on a broad front, it is clearly impossible in the limited time available, to cover the whole of any syllabus in one subject and so a judicious selection of topics has to be made. In making the selection, an interesting and useful informal working relationship has grown between the production staff of the Broadcasting Division, the staff of the Kenya Institute of Education (which is responsible for Curriculum Development and Reform) and the Inspectorate. Scripts, indeed, are often written by members of these organizations, or by serving teachers, and the system seems to work smoothly and to everyone's satisfaction, bearing in mind the limited nature of the resources.

There is, indeed, no formal committee structure, as has often been created else-

where, to guide the educational broadcasters in determining priorities. Nor are there specialist subject committees to guide the producers, who have complete freedom to consult experts and authorities in the various subjects with which they are expected to deal. It is interesting and particularly important to note that: a) the present head of the Division, and his predecessor, are both educationists of considerable experience who, immediately prior to their appointment to the School Broadcasting Service, held positions of high responsibility in the teacher training and school inspection fields, and b) within the staff of the Schools Broadcasting Division one detects a symbiotic balance of educational and professional broadcasting experiences.

The producer is responsible for a programme series and can commission the writing of scripts by educationists. He is required to work closely with the script writers to design programmes which are educationally sound and which make effective use of the medium. The result is that the output contains something for everyone. The lower standards in the primary schools get 20 minutes of broadcasting a week, and their exposure to radio rises as they progress through the school. The sixth and seventh standards each receive 120 minutes of broadcasting a week. In the secondary schools, forms 1 and 2 are each offered 100 minutes of broadcasting a week; forms 3 and 4 190 minutes a week and the two top forms, 5 and 6, 70 minutes each a week. In addition, there are 115 minutes of special broadcasts for primary teachers and 80 minutes for secondary teachers each week.

Programmes offer something for most school subjects; English, general knowledge, geography, health, history, music, science and Swahili for primary and secondary schools, and agriculture, careers, literature and religious education for secondary schools. Programmes are designed to be fully integrated into classroom teaching situations and are accompanied by comprehensive teachers' notes.

These are sent out every term and contain summaries of the programmes and suggestions for work and follow-up assignments for the pupils. Apart from the teachers' notes, some pupils' books and teachers' books have been prepared dealing with primary science, together with series of posters in geography, history, natural history, health and language teaching. Secondary schools likewise have been provided with pupils' pamphlets to accompany many series and some poster sets. A free issue of new support materials is made to all listening schools; however, budgetary restrictions make it

necessary for primary schools to order extra materials from the Kenya School Equipment Scheme and for secondary schools to order from the School Broadcasting Service and pay for them out of school funds.

When circumstances permit, attempts have been made to pre-test programmes. The unit aims to make this a regular feature but admits pre-testing has not been carried out on anything like the scale which is considered necessary. The situation is, of course, complicated by the different conditions throughout Kenya. Thus a programme which may be well understood in the area immediately around Nairobi (and when transport is short, and time is pressing, who can blame a producer who goes to a nearby school?) may contain elements which will be incomprehensible in many of the remoter areas. The duties of the proposed team of Field Utilization Officers will include pre-testing of sample programmes in their areas.

Teachers generally lay great stress on the need for radio programmes to contain 'factual' material which is 'on syllabus'. This is, perhaps, understandable in view of the tremendous pressure which exists for children to pass examinations and the fact that rote-learning generally does tend to increase an individual's chance of passing. Therefore, at the primary level, radio lessons are generally built around a few basic facts which the expert script writers and the producers wish to press home, whilst the secondary programmes may contain much more factual material, particularly if there is a lack of suitable textbooks or other reference material on the topic. Thus the radio programmes contain elements of direct teaching but they also offer background and atmosphere against which the teacher can enliven the subject and create interest among the pupils. In short, the aim of the programme producers is to make the programmes stimulating, as well as directly educative.

Utilization

In order to assist schools with their timetabling problems advance copies of the following year's broadcasts timetable and an annual programme guide are sent out in November. There is no central directive to guide school headmasters on timetabling schedules. Consequently it proves exceptionally difficult for the broadcasters to timetable their transmissions to meet the requirements of even a majority of schools throughout the country. This is a problem which now mostly affects primary schools, since many secondary schools now use tape recorders and the tape copying service.

The work of the unit in helping to make the programmes an integral part of teaching in all of Kenya's schools, is helped by the facts that all primary schools share a common syllabus, all secondary schools follow the East African Certificate of Education syllabus in forms 3 and 4 and the large proportion of them, particularly the less well-endowed ones, follow the Kenya Junior Secondary Examination syllabus in forms 1 and 2.

However, determining the precise nature of the problems which lower the effectiveness of broadcast programmes is a matter of considerable difficulty to the unit. Shortage of production staff at the centre, combined with shortage of transport, has made it extremely difficult for producers to get out into the schools on a regular basis to see what is happening. Nevertheless, in spite of these difficulties, significant work has been done on some programme series, which offers a useful guide. The Head of Schools Broadcasting hopes that a recent increase in establishment will enable him to plan his producers' work so that everyone will be able to get out into the districts and the classrooms more often to conduct evaluation work.

In all but one of the primary schools visited during this study there was circumstantial evidence that the radio programmes were making a significant contribution to the children's educational experience. For example:

1. Provision had been made in the school timetable for programme reception.
2. The teachers' notes already showed signs of considerable use at the beginning of the first term. Generally only two copies are issued to each school and staff compete to gain possession.
3. The teachers were able to discuss the programmes and details of their contents in some depth, and often with considerable feeling.
4. Although we did not make a point of asking to talk to the children, when we were invited to do so, it was apparent that they regarded radio as being a normal, yet enjoyable, part of their educational environment and had good recall of detail.
5. Perhaps the most important observation in this series of random visits was to find on the blackboard the preparatory or follow-up work inspired by the published teachers' notes.

6. Occasionally we were invited to sit in with a class as they were taking a radio lesson. Whilst our presence undoubtedly introduced an artificial element into the proceedings, it did assure us that the teachers had 'read the drill' and could often give a good model lesson. This also established that the radio sets were kept in good order on the school premises, and enabled us to check problems of reception and understanding.

Problems which tend seriously to reduce the effectiveness of schools broadcasts include (particularly in the west of Kenya) variability in the quality of radio reception during the day time. However, when atmospheric interference prevented effective use of the broadcast, it was observed that the teachers' notes provided the classroom teachers with a programme of instruction and a series of ideas that were being incorporated into the schemes of classroom work. This is perhaps not surprising, in view of the obvious shortage of educational support material, which is a general characteristic of primary schools in the rural areas in particular.

It is a pity that in too many instances only two copies of the teachers' notes are issued to each primary school, but this results directly from a shortage of finance. The copies of the teachers' notes are distributed through District Education Officers and, as a result, they can often arrive late, particularly in the remoter areas.

The utilization drill can, of course, be learned so well that it is possible to find teachers and pupils solemnly sitting around a set and listening to an output which is so acoustically distorted as to be unintelligible. The answer lies in greater personal contact between the teachers and broadcasters, but most of the 6,750 primary schools and 820 secondary schools are to be found in rural areas separated by long distances and dirt roads. The schools are administered by a core of field officers with one Inspector in each province to deal with secondary school professional matters and one Inspector in each district to deal with primary schools. The answer, from the point of view of the School Broadcasting Division, must lie in their own ability to send into the field more of their own production staff more frequently and for longer periods, and to develop a field staff of their own. The present utilization programme centres on short in-service training courses and workshops for teachers and Inspectors. This results in a more systematic gathering of ideas and

wisdom from classrooms which is of value to the producers. The approved increase in establishment will allow this activity to be carried out on an increased scale.

Schools buy radio sets from the central Kenya School Equipment Scheme but often schools can only afford one set. Many run two or three streams and this frequently means that two or three classes have to crowd into one classroom to listen to a programme. This, of course, can result in no proper preparation and follow-up. Thus the effectiveness of a programme, which is not intended to be used in isolation from the teaching situation, is lessened. Again, in over-crowded classrooms concentration suffers. Some schools buy additional radio sets. Sometimes teachers use their own. Primary schools are, in the main, very poorly equipped. They receive only 17 E.A. shillings per pupil per year to purchase all necessary school, class and individual equipment.

Maintenance of sets is a serious problem in primary schools. District Education Officers are provided with limited funds to buy batteries and repair sets, but most complain that the funds are inadequate and few have organized viable schemes to ensure that sets are kept working.

Evaluation

This is a matter of great concern to the Schools Broadcasting Unit. The first main task is to find out where there are inefficiencies in the existing system, so that they may be corrected. This work includes observation of children's reactions to voices, language, pace of delivery, characters, programme format, as well as the level of instruction and the child's background of understanding; studies also include problems of over-crowding, poor reception, non-arrival of support materials, repair and replacement of faulty sets, of battery supplies and so on, together with the teacher's understanding of his own role and the way in which he should use the material. These and many other matters of detail are all vital links in the communication chain. If the Unit is to contain these problems, it must be able to send staff into the field on a routine basis and to conduct on-going logistic evaluation.

Here it is important to note the comments of the Head of Schools Broadcasting, who in writing of 'feed-back' states:

Apart from our own observations, which are necessarily limited to small numbers of schools, we need to hear from the receiving schools themselves opinion

of our programmes and suggestions for their improvement. This feed-back from the recipient is vital if the service the teachers want is to be provided. However we have yet to find an effective way to get information and suggestions which we need. Various methods have been tried. Evaluation forms were included in teachers' notes but only a minute percentage were completed and sent in. We sent the forms out separately through District Education Officers and Provincial Educational Officers, but this method was hardly more successful. Now we ask field officers to select a representative 5% sample of their schools to whom more comprehensive report forms are sent which when completed are to be sent back to us through field officers.

This method has proved to be fairly effective, but it is obvious that teachers need to be trained to make critical evaluation of programmes.

The second main aspect of evaluation concerns the far more difficult problem of trying to assess, in more absolute terms, the contribution which the broadcasts are making to the educational development of the child. Where this is being attempted in other countries it is certainly proving to be a time-consuming and expensive operation, both in terms of cash and of human skills, without necessarily offering a reliable guide to administrators who have to decide on the allocation of scarce resources. At the present state of our knowledge, it seems that a reliable guide to a programme's effectiveness must be found in the enthusiasm with which teachers and children greet the programme. The 'coefficient of enthusiasm' is perhaps best gauged by experienced educationists, but even here there is a worrying lack of critical observation and comment available.

Economic Analysis

There is a danger in trying to assess the effectiveness of such an operation in terms of cost alone.

By far the most important element is the combination of broadcasting and educational skills and experiences which reposes in the senior staff. More recent recruits to the unit are in the process of receiving broadcasting training to complement their educational background. It is realized that a patient investment has to be made over the next few years in helping them to achieve high professional standards, for it is judged that only in this way will educational radio broadcasting develop to cont-

tribute effectively to the solution of Kenya's educational problems. This will become increasingly important as the general standard of teaching and of the quality and quantity of educational support materials available to teachers in the remoter schools improves. A successful educational broadcaster has to combine two distinct professional disciplines.

Providing such factors are understood, it is possible to examine the operation in cost terms. The service is operating on a recurrent expenditure of Kf30,000 in 1973/74. Buildings and equipment, the purchase of 1,000 receivers for subsidized issue to schools and 300 for free issue plus the purchase of some 4,000 radios from other school sources have cost about Kf150,000 since the service began ten years ago. The annual cost of the broadcasts to schools works out, therefore, at around Kf45,000 per year. This is something less than Sh.1.25 per year for every child who receives the programmes in schools. This costing ignores the transmission contribution of the Voice of Kenya. The national radio service has been established mainly to disseminate information within the context of national development and to provide entertainment. This is the responsibility of the Ministry of Information. During the day, when the adult population is working and children are in school, it is entirely logical that the Ministry of Education should use this facility for the public benefit. Most of the technical equipment and all technical services are provided to the Schools Broadcasting Division at no cost to the Ministry of Education. As more schools use the broadcasts, the unit costs could fall to 40 cts. per child per year. If this money was spent on textbooks and other enrichments to the classroom situation, it seems clear that the benefits enjoyed by each child would be far less significant.

Future Plans

Apart from increasing field operations, the Head of School Broadcasting is trying to find ways of providing all schools with tape recording or play-back machines and to extend the use of the tape copying service. Thus the Schools Broadcasting Service is probably veering towards being a production centre providing educational support material of which audio-tapes will be the main element in the immediate future, placing less reliance on broadcast transmissions.

It is not surprising, therefore, to find that the unit is already working hard to provide pupils, especially in isolated rural schools, with more visual experiences

of the world outside their own immediate environment. Apart, therefore, from continuing to supply pictures in the form of charts and booklets, two pilot projects in radiovision are being undertaken. Programmes on the physical geography of East Africa are being prepared and tested in fifteen schools in 1974. A further radiovision series in science, related to the new curriculum materials, is already well into the prototype and pre-production testing stage.

An experimental start is being made with television programmes. ETV programmes designed to be broadcast to teacher training colleges are being prepared in upper primary English, primary modern mathematics and primary science, and are due to be evaluated over the next two years.

In its long term planning the School Broadcasting Division is examining the possibility of joining with the Correspondence Course Unit of the Institute of Adult Studies of the University of Nairobi to form a Mass Media Centre which, with support from other departments, would be better positioned to tackle both formal and informal educational problems.

Such facilities could do much to assist the 'self-help' secondary schools, where there is a shortage of learning materials, equipment and trained teachers, and could lead to an 'open school' service with a series of self-contained programmes at each level. The Mass Media Centre would play a significant role in the production of support materials to complement the work of the Curriculum Development Unit.

Transferability

Encouraged by the Commonwealth Broadcasting Conferences in 1970-1972, the Schools Broadcasting Division has been active in investigating avenues for professional co-operation with other countries. Programmes have been exchanged with Uganda, Zambia, Nigeria and the Seychelles, and discussions on co-productions have taken place between the Head of the Educational Broadcasting Unit in Zambia and the Head of School Broadcasting in Kenya. They have found that there are considerable similarities between the educational systems and requirements of the two countries, and that there are important and significant differences. For example, at the primary level, areas of correlation are difficult to isolate because the Zambian curriculum is more integrated than the Kenyan, and the language course developed specifically for Zambia is very much the core of the whole primary course. This means that direct exchange of programmes is impossible.

The discussions revealed that much could be gained by both services through co-operation and exchange of script materials.

For example, at primary level the exchange of stories and dramatized programmes for interest and language reinforcement seemed feasible. A proposal was also made that the science producers in Kenya should travel to Zambia to discuss problems of producing science programmes for radio and to examine the possibility of a joint production exercise for science programmes. Further, Kenya is investigating the possibilities of producing special radio courses for in-service teacher training in new mathematics. This has now reached an advanced planning stage and such a course would be of use in Zambia, so further investigations are being made into the possibility of co-production by the two countries.

Indigenous music is another fertile area for exchange, particularly as there is a growing desire in African countries for its cultural development.

At the secondary level the educational systems differ in the two countries. Zambia has a five year course to 'O' level, compared with Kenya's four. The Zambian course at junior level has perhaps a more leisurely, but often a deeper approach. At a later stage however, the work in Zambian forms 4 and 5 and Kenyan forms 3 and 4 has much in common. Consideration is therefore being given to co-operation in producing support programmes at this level, particularly in history, geography, English language and for literature set books.

The Head of Schools Broadcasting, Kenya, reports that 'it became clear ... that we (Kenya and Zambia) have much to offer each other, and that such bilateral co-operation should be fostered. However, whilst working in pairs might be the way to start the co-operation, eventually it should lead to multi-lateral co-operation. If Zambia and Kenya can help each other, even greater benefits would result if all Commonwealth countries of Africa were involved. Through exchange of educational broadcasting materials, we should be able to foster an increased awareness and understanding of each other, as well as improving programme authenticity and quality'.

EDUCATIONAL BROADCASTING
AND TELEVISION SERVICES,
ZAMBIA

Introduction

Educational broadcasting in Zambia started on an experimental basis in 1952. The service in its present form started in 1965 with the introduction of regular schools' television and radio programmes. In the early days the service was organized and run largely by expatriates but is now firmly under Zambian direction, although a number of expatriates now work alongside their Zambian colleagues in tackling the problems of maintaining a high volume of programme production which is a characteristic of the current operation.

The service provides educational radio and television programmes to support the work of teachers in primary and secondary schools and general educational programmes for adult listeners at home and attending night-school classes. Through the educational radio service in particular support is given to the work of the Correspondence Course Unit of the Ministry of Education.

The service must be considered against the educational problems which Zambia currently faces. Until the last years of federation (1962) there were very few opportunities for Zambians to obtain secondary education (less than 2% of children attended primary schools). The fruits of this policy are to be seen in the currently small numbers of academically qualified Zambians which results in an acute shortage of secondary school teachers at a time when the demands of the secondary school system are particularly severe. As a stop gap operation heavy reliance has had to be placed on recruiting expatriate teachers. These have come in considerable numbers from many parts of the Commonwealth and each brings a little of his own country's educational character to the Zambian situation. Thus apart from generally helping to raise the educational standards of the country the Educational Broadcasting Services, because of their power of instant communication, have a role in helping to maintain a uniformity of standard throughout the country. This is a traditional role of educational broadcasting in developing countries, particularly where there has been

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an educational imbalance between urban and rural areas. In the present state of Zambian educational development, however, it seems a factor of considerable importance.

The Ministry of Education has since 1968/69 supported a Curriculum Development Unit which produces educational materials more relevant to Zambia's present needs. Clearly one aspect of the work of the Broadcasting Unit is to produce additional materials to support the curriculum development work as and when these new materials become available. Indeed it is already clear that in the field of English language teaching there is an excellent working relationship between the course designers in the Curriculum Development Unit and the schools radio producers responsible for English programmes. Hopefully as course materials are completed in other subject areas this pattern of co-operational development may be followed to the country's advantage. Teacher orientation and training is implicit in the work of the Radio and Television Units. The Educational Television Unit, whose programming can only be received in those areas with mains electricity supply ('along the line of rail'), sees its responsibility as adding enrichment which is otherwise unobtainable in the classroom situation to sound teaching practice.

Indeed there are signs that the Broadcasting Unit is moving towards an educational media service. There is an audio-visual section which comes under the Head of Educational Broadcasting and which is responsible for the distribution of films, filmstrips, records, wall charts and magnetic tapes of the radio lessons. Plans are in hand to introduce a radio tape copying service for schools which will be of particular value to the secondary schools and for the ETV Unit to expand an activity which it has only been able to undertake on a limited scale in the past - the local production of educational films.

Users

There are 1,366 primary schools and 110 secondary schools in Zambia. Over 4,000 radio sets have been issued to 1,423 schools and over 300 television sets to 170 schools by the Ministry of Education and there is also evidence that in some schools teachers use their own radio sets to listen to school broadcasts with their classes. A recent survey indicated that 59% of primary schools used the programmes regularly and less than a quarter never used the programmes. Among secondary schools almost 60% never used the programmes; 30% used them occasionally and only 10% regularly.

Another survey attempted to examine viewing habits for ETV. This was conducted in April 1973 and revealed that about 73% of the schools equipped with television watched the programmes regularly but that, numerically, secondary schools represented a small proportion (4.6%) of the total number of viewers and that the numbers of children (from the target audience) watching any one programme series varied from approximately 14,000 (science for upper primary) down to 50 (social studies for secondary schools). Even among the programmes designed specifically for secondary children there was generally a significantly greater usage among the primary schools (the exception being French for senior secondary students which clearly had no appeal at primary level).

There is evidence that a very large number of primary schools is deriving considerable benefit from the service. Where there is an ETV service, this is their first choice as radio is largely ignored. In other cases the radio is extensively used, but there is a significant number of primary schools that complain of unsatisfactory reception and it is still too early to see how the newly installed transmitters and aerials in Lusaka have affected this position. In all cases, and even when neither radio nor television are used in the class, considerable help is gained from the teachers' notes.

Secondary teachers are far more critical of the service. Their complaints mainly concern problems which could be described as administrative - timetabling, reception quality, repair of receivers. Generally, the quality of the programmes was praised. There is however a serious problem in Zambian secondary schools due to the high turnover rate of expatriate teachers, combined with the variety of educational attitudes that they bring from such widely different backgrounds as India, Ceylon, Ghana and the UK.

Administrative Structure

The Educational Broadcasting and Television Services in Zambia are the direct responsibility of the Ministry of Education and Culture. Textbook facilities are provided by the Zambian Broadcasting Services (responsible to the Ministry of Information, Broadcasting and Tourism). The programme production responsibility rests entirely with the Ministry of Education.

An Educational Broadcasting Council - a statutory body under the Chairmanship of the Ministry of State for Education - advises the Ministry of Education on policy matters concerning the service.

The executive responsibility rests with the controller of Educational Broadcasting who is assisted by two Heads of Section, one of whom is responsible for the Educational Television Service (which is based in Kitwe) and the other is responsible for the Educational Radio Service and the Audio-Visual Aids Library, (both of which are based in Lusaka).

Currently there are eleven education radio producers. Most producers are responsible for three programme series per week and also have an additional administrative responsibility. Producers also present programmes.

There is an officer in charge of the Audio-Visual Aids Library who has additional clerical assistance to help him with packing and despatching.

In the Educational Television Service there are nine producers who also share the responsibility for presentation of programme series. There are two graphic artists, one person who shoots and edits film, another who is responsible for the film library and a photographer who is also responsible for all sound recording and helps with filming. Again most members of staff undertake some additional administrative responsibilities and there are other people (about four) who offer assistance and do clerical work.

On the production side the Heads of Section are assisted by Subject Committees, a senior producer acts as secretary of the committee that deals with his own subject and there are representatives of the inspectorate, the Curriculum Development Centre, training colleges, school heads of departments (selected by the inspectorate). For foreign language programmes the Embassy concerned is also often invited to supply a representative.

The Educational Broadcasting Council considers and approves the Departmental estimates for educational broadcasting and all Heads of Department within the Ministry are represented on it. The Council generally meets once a year.

The Subject Committees meet once a term and the general pattern of their work is to review the programmes that have been transmitted and to consider future plans.

The Audio-Visual Aids Library

The Audio-Visual Aids Library is the resource centre repository for audio-visual aids used by the educational radio service, the educational television service and its services are available to

the entire school system. Also, unfortunately, it is geographically remote from the Educational Television Production Centre at Kitwe which has tended to develop its own resources centre to support educational television production. Thus the main focus of activity of the Audio-Visual Aids Service is in support of the schools' radio programmes; a fact which is reflected in the administrative structure. The officer in charge of the Audio-Visual Aids Library is responsible to the Head of Educational Broadcasting and not directly to the Controller. Most of the visual aids have been imported; indeed, the AVA section does not have the facilities to produce and distribute visual aids for the Zambian school system. This is a matter of considerable concern to the Controller who is planning a development which will, in particular, support the important work in curriculum development which is going on in a centre a few hundred yards away. The officer in charge has, in fact, received a full course of training in the production and use of audio-visual aids at CEDO and it is noted that plans for future educational development in Zambia include the creation of an educational services centre which will bring together the present AVA library with the Zambia Library Services, the Correspondence Course Unit, the Curriculum Development Centre and other units working in a similar field under the former Commission for Technical Education.

Staff Recruitment

In general, the problem is not one of an 'Establishment' which limits the number of persons who can be employed by the Service, but one of finding individuals with the right qualities to justify the time and expense of training them to become educational broadcasters. Salary scales are slightly more attractive than the ordinary teaching scales, as the Service is able to offer a 'Lecturer' grade. Most teachers would regard it as promotion to be permitted to join the Educational Broadcasting Service. Although the Educational Broadcasting Units are housed within the broadcasting complex and the staff work alongside their colleagues in the Zambia Broadcasting Services, the morale of the educational broadcasters remains high - as well it might since they are members of a team better qualified, both in academic terms and in professional broadcasting ability, than are the members of the general service.

Thus it is possible to advertise vacancies within the Ministry of Education and to make a very careful selection from all applicants. It is a general rule that only teachers are considered for appointment to the Educational Broadcasting Service.

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Technicians with appropriate skills are in extremely short supply. This causes working stresses in the production studio and it is greatly to the credit of all concerned and their sense of responsibility, that reliability of output is maintained. The major weaknesses observed were at the reception end of the system in supplying a service for the maintenance and repair of receivers.

The service was fortunate to obtain the services of a Research Fellow from the Institute for African Studies at the University of Zambia whose work helped to pinpoint a number of problem areas. His work is dealt with more fully later.

Staff Training

It is accepted that no newly recruited production staff, whilst they are qualified teachers with considerable experience, have experience in the broadcasting field. Thus initially in-service training is given on the job by the other members of the production team. At present staff have been trained either as radio or television producers and after their initial training in Zambia arrangements have been made for them to attend courses overseas (with, for example ABC, BBC and CEDO).

The Controller of Educational Broadcasting hopes, in the future, to develop a team of educational broadcasters who are equally competent in a radio or television studio and, especially at the primary level, able to tackle a range of subjects. At the secondary level he considers that he must continue to maintain a cadre of specialists. He is aware of an urgent need for more training, particularly a high level of in-service training.

Training is a major problem since the quality of all programmes hinges on the competence of the producer. Plans are in hand to run a series of national training courses in Zambia for educational broadcasters using senior local staff and by inviting contributions from external agencies.

An equally important aspect of training but one which is frequently overlooked, is the need for educational broadcasters to be involved in training of new teachers. In Zambia arrangements have been made for one of the senior producers to be loaned to each of the eight teacher training colleges for three or four days during each course to deal with aspects of educational broadcasting and particularly those relating to utilization. There is need for more face-to-face contact between teachers and producers in the form of seminars,

workshops or conferences during the school vacations, when specialist producers and specialist teachers can get together and discuss in depth the whole rational approach of educational broadcasting. Again, shortage of finance has combined with pressures of work to prevent this happening in Zambia in the past.

Working Method

Air time for educational radio transmissions has been allocated by Zambia broadcasting services each weekday from 10.15 a.m. to 12 noon, from 2.00 p.m. to 3.15 p.m. and 6.15 p.m. to 7.30 p.m. Educational television transmissions take place on Tuesday, Wednesday, Thursday and Friday of each week between the hours of 8.50 a.m. and 12 noon and from 2.00 p.m. to 4.30 p.m.

Within these broadcasting hours the production of programmes is entirely the responsibility of the Ministry of Education and the priorities are decided by the Educational Broadcasting Council and the Subject Committees.

In radio the subject experts are asked to outline scripts for programme series and these are then turned into programmes by the producer responsible. The most successful radio programmes are probably produced in the English language field where an excellent working relationship exists between the subject specialists in the Curriculum Development Centre and the production staff in educational radio. Success depends to a large extent on the ability of individuals to respect each other's professional competence and for both to take a pride in the finished product. Generally, experience has shown that straight talks do not have as great an impact as interviews, dialogues and dramatizations.

Considerable work goes into the publication of support materials but lack of funds has meant that only teachers' notes have been produced and distributed recently.

A major complaint of all producers is that they have lacked the opportunity to observe class reactions to their programmes. Only recently has a start been made in producing prototype programmes and observing classroom reaction to them before embarking on the production and transmission of whole series.

Both radio and television studio equipment is now so old that breakdowns are frequent and it is often only through the exceptional devotion to duty of a few out-

standing engineers that regular programme transmissions are maintained. In ETV a heavier production burden falls on the staff of the Unit particularly as no recording facilities exist. Every programme goes out live - and many are repeated three times a week. This is, clearly, a wasteful process and the devoted efforts of the staff to maintain the high qualitative and quantitative programme output certainly merit the support which efficient workable equipment, including a videotape facility, would give them.

Educational radio broadcasting transmits for nineteen hours each week, of which just over six hours are broadcast out of school hours and in the evening so that they may be used by independent students and those following the correspondence courses.

Educational television offers twenty-one hours of programming a week. What must surely be one of the most encouraging responses that a television producer can have was observed in the reaction of upper primary school children to a series of programmes dealing with creative activities and art. In many schools visited the rooms were festooned with examples of the children's creative work which had been inspired by these programmes. Classrooms had been transformed into interesting and colourful environments where one sensed that something which was very important in educational terms was taking place - and this pattern was repeated in school after school after school.

Utilization

It is here that the picture frequently becomes discouraging. Fortunately the quality of the programmes, both in radio and television, has often overcome many of the obstacles created by an inability to attend to vital matters which may be bracketed under the generic title of 'Utilization Considerations'.

These include:-

1. The ephemeral nature of the broadcasts and allied problems of time-tabling.
2. Quality of reception.
3. Repair of radio sets and supply of batteries.
4. Theft of radio sets.
5. Personal contact between production staff and the 'users' - through liaison visits, workshops, in-service training courses, etc. and a mutual understanding of their respective and complementary uses.

Each of these represents one aspect of a serious problem that has to be resolved if educational broadcasting is to fulfil its potential, and each has implications in terms of cost and increasing effectiveness. These matters are, therefore, further considered later. Here let it merely be observed that much of the valuable work that is being done by a hardworking staff is being negated by factors which could, and doubtless soon will, be overcome. However, it must also be recognized that a significant portion of the output of the production units appears in the form of support material - mainly teachers' notes. These are invariably well used and make a significant contribution to the educational picture. Indeed one is often tempted to speculate that perhaps the most important contribution that educational broadcasting units are making, particularly in developing countries, lies in the permanent material rather than the ephemeral broadcasts. In Zambia shortage of money unfortunately inhibits production of the types and quantity of support materials that the members of the broadcasting unit would wish to produce. Also in the case of radio support material, printing orders have to be placed with the Government printer where they receive a low priority in comparison with the needs of other Government Departments. The ETV Service, because fewer copies are required, has settled for its own reprographic service which produces an acceptable result, economically, and to a time schedule that meets everyone's needs. But apart from these elements, utilization is the area which needs most attention because it is quite clear that much of the potential value of the broadcast transmissions is being lost and for reasons which could, in the main, often be avoided.

The distribution of support material to the remoter schools presents a considerable problem. Postal services are used and material is accepted free as Government mail. However the service is unreliable and the production centre cannot be certain that the material is getting to the schools in time. An attempt was made to distribute the materials through educational officers in districts but this was found to be even more unsatisfactory.

It is important to note that some secondary schools have their own tape recorders which they are using in connexion with the broadcasts. At present a limited tape copying service is available on an experimental basis, but a tape copying machine has been ordered and when this has been installed a full tape copying service will be offered to all schools.

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The problem of maintenance and repair of sets is a major one and no ideal solution has yet been found. Amongst the ideas currently being investigated is the feasibility of a mobile repair workshop which could tour, on a routine basis, provincial headquarters and other centres where repairs might be carried out. Another possibility is the creation of government workshops at each provincial centre. However, the fundamental problem is a shortage of technicians able to repair even simple electronic equipment.

Theft of sets is a major problem in many areas of Zambia which baffles the authorities. Instances have occurred where thieves have removed safes built into the walls of schools, and blown them open with explosives or where heavy steel reinforced doors have been broken open. Some schools have been broken into with such regularity that the only solution is for members of staff to carry home with them, every evening, anything capable of being stolen and to keep it under their personal custody.

Evaluation

Over the years evaluation cards have been used, but most producers felt that these did not really meet their needs. The Controller of Educational Broadcasting is convinced that the only satisfactory way of creating a bridge between the classroom and the production studio is by increasing personal contact. He has pressed for an increase in staff to enable his producers to tour the schools, including the remoter schools, and systematically cover the whole country. This system was introduced from the beginning of 1973 and the reports that are being brought back to headquarters are most encouraging in that problems are being identified and assessed so that action can be taken to correct them. The nature of these problems will be described in the section on research. At present each radio producer spends between seven and ten days a term visiting schools. But although staffing now permits this to be done there are still problems in meeting costs for local travel and subsistence.

The inspectorate also has instructions to evaluate programmes and assess the impact of radio and television, but primarily evaluation is regarded as a responsibility of the production team.

Finance

It is always difficult when facilities are shared with another service to estimate the proportionate costs. It seems sensible to consider only those costs which

fall directly on the Ministry of Education as a result of using this facility. The Ministry has invested 130,000 kwacha in buildings for the educational broadcasting staff (radio and television), a further 150,000 in equipment for the radio and television production units and for the Audio-Visual Aids Library, as well as 70,000 kwacha for radio sets and 60,000 kwacha for television sets.

The total salary bill for the staff of the Schools Broadcasting Service is quoted at 90,000 kwacha per annum.

Figures are not available for other forms of recurrent expenditure - production materials, maintenance and repair of radio and television sets, travelling expenses and other charges. Very rough estimates of cost effectiveness show that at the primary level it cost the Ministry of Education 0.20 of a kwacha per year for each child that watches a complete television series. At the secondary level it is nearer 6.0 kwacha per child per year.

For radio similar estimates indicate that the primary level figures are less than 0.08 kwacha per child per year listening to a programme series and less than 1.0 kwacha per child per year listening to a programme series at secondary level. The Schools Radio Service's evening programmes for adults have been excluded from these approximate costings.

There is a lack of precise information and possibly the figures for television are too low whilst the radio figures may be too high.

Research

An important survey was conducted during October 1972 by a Research Fellow of the Institute for African Studies in the University of Zambia into the use of educational radio in Zambian primary and secondary schools (published as Research Report Number 6). The purpose was to obtain basic data on radio sets and tape recorders issued to schools, their number and condition.

Enquiries were made about reception conditions, whether school broadcasts were used and how often. If they were not used, the reasons were asked. This part of the survey was conducted by a questionnaire distributed by post to Heads of schools. The response rate was better than 50% for both primary and secondary schools.

(A further survey is to carry on from this point to inquire into questions of

relevance, use, attitudes of teachers and also into production problems concerned with the speed at which the presenters speak and the suitability of types of spoken English for different target audiences).

The conclusions drawn in this work are now being substantiated by the reports brought in from producers on tour since this system was introduced at the beginning of 1973. Many of these observations apply to other educational broadcasting situations and thus it is not inappropriate to summarize some of them here. It seems that the secondary schools replies may be honest whereas some of those from the primary schools try to please the officials by writing 'the right thing'. Heads of secondary schools are far more critical of reception conditions. Primary school Heads report a far higher usage than secondary Heads.

Some report that radio sets are sent away for repair and are not returned for many months. Many Heads report that teachers use their own radios in the classroom.

There are two main reasons why tape recorders can be of benefit in the use of school broadcasts in the classroom ... flexibility in arranging school timetables when these do not have to be drawn up with broadcast schedules in mind. ... and secondly by using pre-recorded tapes it is possible to overcome the problems of poor reception conditions. Many teachers find it an even greater advantage that tape recorders, unlike radios, can be stopped and restarted.

Reception is a serious difficulty in many parts of the country.

Secondary schools not using broadcast lessons often make use of the taped programme service provided by the educational broadcasting unit by post.

In primary schools the most common reason for non-usage is absence of a radio set followed by poor reception conditions. Secondary schools give the major reason for non-usage as the problem of timetabling followed by reception difficulties.

The most popular programmes in primary schools are English, social studies and science. At secondary level English is the most popular subject for school broadcasts and history and geography seem to be the least used.

Many questions still remain to be answered, of course, concerning the children's

understanding of the programmes and the contributions that these make to their learning situation. It is to be hoped that further research facilities will eventually be granted to enable some of these important questions to be answered.

Future Plans

There is first of all the problem to make the existing service more effective. Much has already been written about the work that has just been started to increase the capacity of the unit to help with problems of utilization in school and to carry out ongoing evaluation of programmes.

Repair and maintenance of radio and television sets will continue to receive attention. No simple solution is apparent since the problem, basically, reduces to one of shortage of manpower with the necessary skills. The long term solution depends, thus, on the availability of adequate training facilities for electronic engineers and technicians, and a salary scale which will attract suitable individuals. In the meantime a method must be found of optimizing the available resources.

500 radio sets will have to be issued to replace the sets that are now broken beyond repair and also to increase the number available to schools.

The coverage of the television service is to be extended down as far as the southern border and plans are also well advanced to introduce a larger capacity tape copying service to reproduce radio programmes for schools.

The problem of recording educational television programmes has yet to be solved although film, it is thought, may have advantages over videotape. This is a question which needs careful consideration.

But overall the most important development for the future lies in the central role which the new curriculum materials are to play in the educational system. Mention has already been made of the educational services centre which is to bring together, amongst other units, the Curriculum Development Centre itself and the Audio-Visual Services Library of the Educational Broadcasting and Television Service. This should then be given the capacity to assume an ongoing production role to supply schools with support materials as they begin to use the new curriculum materials in the classes.

At the same time thought is also being given to the role of the Curriculum Development Centre and the working relationships which it has with other depart-

ments. It is interesting to note that a proposal has been submitted for the formation of a Central Curriculum Council 'to consider broad curriculum issues' and 'to make recommendations to the Minister' on the aims of Zambian education in the context of the national philosophy'. It is recommended that the Controller of Educational Broadcasting should be a member of this Council. It is also proposed that there should be a number of curriculum committees looking at points of detail and responsible to the Curriculum Council. It is recommended that a senior member of the staff of the Educational Broadcasting and Television Service should be a member of each of these.

The case study of educational radio in Kenya outlines areas of discussion between its educational broadcasters and those in Zambia as they searched for ways in which the two services might collaborate.

ZAMBIA: RADIO FARM FORUMS & LITERACY BROADCASTING

Introduction

In remote villages listening groups are formed of people with a common interest in farming, or in developing literacy skills. With the Radio Farm Forums a Chairman and Secretary, who control the day-to-day affairs of the listening group, are appointed. The positions are honorary and they receive no pay. An extension worker (a paid civil servant) supervises the activities of a number of these groups. Groups listen to topical farming programmes broadcast by Radio Zambia at a set time each week in their own local vernacular. Discussion takes place after the broadcast and a detailed report form is then completed by the Secretary and the Chairman in triplicate. Copies are posted to provincial headquarters and to Ministry Headquarters in Lusaka. These reports are systematically analysed. Thus in headquarters an up-to-date picture exists of the listening pattern in the field and of the attitudes and requirements of farmers. This is used as a guide in designing programmes and a two-way channel of communication has been established.

A similar pattern exists with the literacy broadcasts, but the activities of each study group are guided by a literacy assistant who acts as a tutor to the group.

Objectives

The Head of Rural Information Services states that 'he aims to disseminate all necessary and relevant farming information to commercial as well as subsistence far-

mers, including cattle owners and villagers, so that Zambia becomes self sufficient in most commodities grown in the country'. Within the Ministry of Rural Development, there are many departments, including agriculture, co-operatives, veterinary and tsetse control, water services, marketing affairs and community development. He sees the role of his department as supporting the professional activities of other departments within the Ministry. While the staff of the Rural Information Service are generally sufficiently experienced to be able to use their own knowledge, judgement and initiative on most informational matters, they can and do refer to specialist officers when they are in doubt.

Whilst a significant level of rural information is channelled through the Radio Farm Forums, it is important to realize that this is but one element in a systematic information dissemination service, which also uses newspapers, journals and booklets and organizes agricultural shows with, of course, the main responsibility resting on the field extension staff. However, field extension staff are thin on the ground. They are also often junior in the service and therefore lack the depth of experience necessary to influence practising farmers and they are often denied an essential element of transport to enable them to move around to spread their effectiveness. The Radio Farm Forums programmes supplement the extension service. Authoritative information is broadcast and by promoting discussion between farmers, the degree of their understanding is increased and they are often encouraged to act positively.

At the same time, the Radio Farm Forums provide a machinery for the expression of group opinions which, providing it is sensitively and responsibly handled can do much to reduce the sense of isolation which is, surely, a contributory factor to the apathy which frequently characterizes attitudes in remote rural areas.

User Profile

The Radio Farm Forums are divided into three categories. The main Forums are organized at agricultural camps and have all been supplied with radio sets by the Government. They meet under the direct supervision of the Agricultural Extension Officers. There are some 500 scattered, more or less evenly throughout the country. Self help Forums are sponsored by the Co-operative Department among individual co-operatives or in groups of individual farmers. The latest available figures show that there are seventy-four of these forums, again fairly well distributed through the

farming areas of Zambia. Aided Forums are those run at the sub-centres of the Community Development Department by its officers, using radio sets loaned by the Agriculture Department which also assumes responsibility for the training of the chairmen and secretaries. The latest available figures show fifty-five aided groups meeting regularly.

This gives an apparent total of 630 groups meeting regularly (March 1973). To these groups 1,186 radio sets have been issued by the Rural Information Services. Groups average a steady attendance figure of about fifteen members.

In the course of a series of visits to Farm Forums in the rural areas (over a period of three weeks in June 1973) it was possible to identify a pattern of 'areas of high activity'. In these the most significant rural development work was taking place. Some element had spurred the local people to realize that they could do much to improve their own conditions of living. There was a recognizable atmosphere of progressive attitudes. It was difficult to identify what precisely had caused this in the first place. Certainly local leadership, (chiefs, headmen and elders) had played a key role, and not surprisingly it is in these areas that one notices the extension workers and sometimes other agencies concentrate their efforts - understandably since it is here that their advice induces a higher response. It is in these areas also that the Radio Farm Forums are an important element in the social pattern.

For the literacy broadcasts produced by the Department of Community Development, there were reported to be 440 listening clubs, again fairly evenly distributed through the country, but with an average attendance of about ten members. In literacy groups visited it was noticeable that nursing mothers predominated. In most groups some pre-school age children were also 'getting a head start

Historical Development

The present pattern of rural broadcasting in Zambia was developed from the work of the UNESCO Mission in 1966 which surveyed the existing broadcasting facilities in terms of adult educational needs in rural areas. From this a detailed plan was submitted to the Government and a pilot project introduced at the end of 1966 in a vernacular language which was effectively understood in four provinces. (The population of Zambia is 4½ million and may be classified into seventy-three different tribes using some thirty different dia-

lects in which seven main languages are recognizable. English is the official language.)

Broadcasts to farmers started in early 1967 and the pattern chosen was that of the Radio Farm Forums, originally developed in Canada, and already proving themselves to be valuable in India. A study of the impact made by the Radio Farm Forums in the pilot project area led to an extension of the project to cover the remaining areas of the country in two stages, one in January 1968 and the other in July 1968. The operation covered the whole of the country by the end of November of the same year.

The project was careful to integrate the radio experience into the life of the community and into the general pattern of rural development problems. Posters, publications, press releases and agricultural shows were carefully designed to reinforce each other.

In 1969 a pilot project in literacy broadcasting was introduced by the UNESCO adviser in rural broadcasting, working in conjunction with the staff in the Department of Community Development. This programme was slowly extended through 1970 and 1971 and by the end of 1972 there were reported to be 414 listening clubs, again with substantial numbers in all administrative regions.

Whilst the listening returns analyses show that there are constant changes in the listening pattern from group to group and area to area, apparently corresponding to the seasonal variations of farming activities, they also show that some groups have lost interest (and had their radios taken away) and new ones have come into being. Thus numbers are kept at a fairly constant overall level.

At present, the main concern lies in making the existing system work more effectively. This calls for substantial staff training at all levels as well as the deployment of more resources.

Administrative Structure

The Head of the Rural Information Services is responsible to the Permanent Secretary, Ministry of Rural Development, for the efficient running of his department. He ranks equal with the heads of other departments in the Ministry, with whom he must have an easy personal and professional relationship. His main responsibility is to find out how best his department can support their work without distracting their

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attention from their specialized professional responsibilities.

In headquarters he is served by the staff whose responsibilities include:-

1. Analysis of the report forms that come in from the listening groups after every programme;
2. Collation and interpretation of data;
3. This may be described as reacting to the data and may take several forms - questions may require answers by specialist officers, other matters may best be discussed by a group, perhaps the group might include members of the original forum which raised the question;
4. All of these and alternative possibilities are likely to involve radio production work. There are eight programme producers in headquarters: each specializes in one or two vernacular languages. There is also a team of seven assistant translators.
5. At other times the questions raised may be more fundamental and form the subject of a special publication which will subsequently be translated into the vernacular languages and distributed through the extension services.
6. Other questions may form suitable articles for publication in the monthly farming magazine (Progress) or the more prestigious quarterly journal (Farming in Zambia) or in articles for the press.

A Provincial Rural Information Officer is stationed in each of the provinces as a member of the Provincial Rural Development Team. His responsibilities are to assess the informational needs of his specialist colleagues on this team and keep the Head of the Rural Information Services informed of appropriate action. The work of supervising the activities of the individual farm forums also falls largely on the Provincial Rural Information Officer. He receives a copy of each group's report, completed after every broadcast, and is best situated to take immediate action, should this be necessary. Sometimes the Provincial Rural Information Officer will have an assistant. Another important part of this work lies in making field recordings to be sent to Lusaka for incorporation in programmes.

At the village level a group of farmers wishing to form a forum will have been organized by the Agriculture (or Veterinary) Extension Staff, assisted by the village headman. Two important considerations at this level are security of the radio set - which generally means that it will be en-

trusted to a civil servant when it is not being used by the forum - and adequate communication facilities by road and postal services if questions are to be answered promptly. In the more remote areas, these ideals cannot always be met.

The members of the group are selected by the Extension Officers on the basis of their interest in agriculture and other aspects of rural development and their general enthusiasm. The co-operation of women is sought in view of the importance of their role in agriculture. The Chairman chosen is usually an elderly man who commands the respect of the villagers whilst the Secretary is generally chosen from the ranks of the younger literate men. Experience has shown that these appointments are often critical and that it is as unsatisfactory for the villagers to elect their officers as it is for the Extension Officer to appoint one. A selection' compromise seems to be the answer.

The Extension Officers (civil servants) have the ultimate responsibility to the PRIO for organizing regular meetings, maintaining attendance levels and effecting prompt action by the department in response to farmers requests for aid originated through the forums.

For the literacy work, an officer of the Community Development Department has been seconded as a Literacy Broadcasting Officer to work under the Head of Rural Information Services in headquarters. In provincial headquarters, the Provincial Community Development Officer has a senior Literacy Officer on his staff who is responsible for sending to the Literacy Broadcasting Officer at headquarters materials that can be incorporated into programmes. In each district there is a District Literacy Officer with a staff of local Literacy Officers who are responsible for the supervision of the separate literacy classes.

The Radio Farm Forum Project has been part of the Zambian Government's four-year development plan. Once the project was launched and its operational success was apparent, arrangements were made to absorb the qualified staff into the Civil Service.

Staff Recruitment

One of Zambia's big problems lies in the difficulty of recruiting adequately trained personnel to meet the many requirements of a rapidly developing country. This is true in the case of Rural Information Services. The present Head of Rural Information Services was himself a Provincial Agricultural Officer and therefore has a sound knowledge and understanding of the profes-

sional requirements of his colleagues in the field, particularly in terms of information services support. However, staff recruitment is one of his main problems and he finds that he has to take a long-term view in recruiting untrained personnel, giving them as much in-service training as possible and then, if suitable, sending them for further training.

Staff Training

Short seminars and training courses have been conducted in the rural areas for chairmen and secretaries. Other short field courses, concentrating particularly on the use of portable tape recorders have been conducted for provincial and field staff. Professional staff are sent to an agricultural college for a three-year training course if they show promise. Specialist broadcasting training is obtained through the Australian Broadcasting Commission, the BBC or CEDO. Plans are well advanced to increase the level of specialist broadcasting training.

In the early days of the project a script writing seminar was held for about thirty-five persons. The results were disappointing and no talent was unearthed. This was attributed to the fact that writing in general, especially in Zambian languages, has not yet been well developed in Zambian society. Moreover script writing for radio involves not only study, research and labour, but also a knowledge of the special techniques of radio broadcasting. It has also been suggested that the payment offered to script writers is not sufficient; however, particularly in the early stages, this factor did not stop interested individuals trying. The practical solution to the script writing problem has been found in the preparation of background material on each topic. These 'modules' can then be slotted into a 'programme outline' by the headquarters staff.

Production Procedure

While planning programmes, the needs of farmers in differing areas and their specific problems are kept in view through the Provincial office, and the Extension Officers of the regions and departmental experts are consulted. Sometimes it happens that topics suited to farmers in one area are not directly useful to others speaking the same languages. In most cases, however, the majority of the farmers still report the programmes are interesting in a general knowledge sense. Care is taken to see that as many subjects as possible of common interest to all areas in the same language region, are included in the schedule. Generally, con-

troversial subjects of general interest are sought. It is occasionally necessary to insert into this framework special programmes to deal with sudden emergencies - foot and mouth disease, for example.

Lists of topics are given final approval by a committee chaired by the Head of Rural Information Services. Programme schedules are drawn up for every language group twice a year, showing the dates, subjects and places of recording, types of presentation and any available accompanying visual aids. The first schedule covers the period for January to June and the second from July to December. They are prepared well in advance of the dates of broadcasts (three months is the aim) and sent out to Forum Centres. Experience shows that it is necessary to begin the preliminary research six months before the beginning of the period covered by the programme schedule.

Transmission times are allocated by Zambian Broadcasting Services as follows: Mondays at 4.30 p.m. for 30 minutes: Tuesdays at 4.30 p.m. for 30 minutes: Wednesdays at 4.30 p.m. for 30 minutes: Fridays at 4.30 p.m. for 30 minutes: Tuesdays at 3.30 p.m. for 30 minutes: Tuesdays, Thursdays at 4.00 p.m. for 30 minutes. These times are used for the Radio Farm Forum broadcasts. Another series of programmes called Farmers' Notebook are broadcast at 7.30 p.m. and a farmers' Radio Spot programme is broadcast most mornings at 6.55 a.m. Different vernacular services are broadcast on different days. The literacy programmes are broadcast on Thursdays at 7.30 p.m.

The actual time on the air of farming programmes totals eleven hours fifteen minutes per week. The breakdown shows:

1. Rural Radio Farm programmes in seven languages, each of thirty minutes.
2. Radio Spot in eight languages, each of five minutes, repeated in English every evening.
3. Farmers' Notebook in eight languages, each of fifteen minutes.
4. Zambian Land and the People - two programmes in English, each of fifteen minutes.
5. Rural Question Time - programmes in seven languages, each of fifteen minutes.
6. A Weekly Diary programme in English of fifteen minutes, repeated four times a week.

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Air time is a scarce commodity as the Zambian Broadcasting Services have only two channels available for transmission of all programmes in seven languages and a number of ministries require time on the air.

Production

The general format for a Farm Forum programme includes a topic which is examined for the first half of the broadcast followed by discussion of questions which have been raised by previous broadcasts. As often as possible the producers try to obtain and record the participation of members of some of the listening groups in the programmes. This is done by the Provincial Rural Information Staff. They record 'programme inserts' which are despatched to headquarters where the Rural Information Service has its own studio facilities. Nearly all of the illustrations recorded on the farms are unscripted and considerable patience is required on the part of the producer.

Experience has shown that features, documentaries, dramatizations and panel discussions are more attractive and interesting to Zambian farmers. Typical topics include: maize stooking; Turkish tobacco harvesting, stringing and curing, preparation for sale; cotton picking; cattle feeding; winter ploughing; fireguards to protect paddocks, grainbins and kraals; bush fires; lifting ground nuts; poultry house building; seed selection; maize storage; stumping; poultry chick breeding.

Other programmes have been devoted to speeches made by the Minister of Rural Development on important occasions. Where possible, programmes are recorded three to six months in advance. Special hints from the programme producers include the following advice:-

- (a) be sympathetic to farmers, yet avoid a patronizing attitude;
- (b) avoid a tendency to speak too fast or indistinctly and watch out for the overlapping of voices;
- (c) answers to questions should preferably be obtained from experts. Great care must be taken in the translation of their answers which must be accurate, but simple and clear;
- (d) when wrong or inadequate answers have gone out on the air these have been quickly picked up by listeners. When this happens acknowledge the fact gratefully.

The questions raised in the Forums are answered either on the air or directly in writing. They are also compiled, edited and published in the form of small pamphlets in the languages concerned, together with pictures, charts and other materials suitable to each subject. These pamphlets are used as reference materials for literate farmers and also extension officers.

Utilization

The motto of the Forums is Listen, Discuss, Act. Generally the Forum meetings are held in agricultural offices, houses or shelters built specially for the purpose. Community Halls, tobacco sheds and the open air are alternatives.

An enquiry into the activities of the twenty-nine Farm Forums in one province over the period April, May and June 1973, showed that the average weekly attendance was fifteen members with as many as ten guests extra sometimes being allowed to attend (the largest group had ninety-one members with up to twenty extra sometimes attending). Fourteen of these groups met regularly (making due allowance for the odd weeks when funerals or other communal activities intervened). At the other end of the scale, four appeared to be virtually defunct and seven seemed to be urgently in need of considerably more supervision - which could not be given because of shortage of suitably qualified staff and adequate provision for transport.

In the same area there were nine literacy groups with between seven and eleven members in each group (although one had only three) and meetings were held very irregularly. The best group held five meetings in the three-month period and the average was three. The reason for this disappointing turn-out was almost invariably that people were preoccupied with the agricultural matters during this period. Best groups are given recognition at the end of the year. They are given vegetable seeds and fertilizers as an encouragement.

Undoubtedly Forums act as an excellent agency for the transmission of knowledge. Group discussions help considerably in generating understanding, especially when the group is well led and guided. This essential quality of good leadership encourages the Forum to become a decision-making body, capable of advancing the development of the community.

The proceedings and views of the Forum must be accurately recorded by the secre-

tary and the smooth running of the group carefully nurtured by the extension officer. The latter has to deal with problems concerned with the supply of radios, their maintenance and supply of batteries, as well as reporting on problems of reception and understanding. All these points need careful attention if the communication chain is to remain effective.

The farmers in the listening group must believe that the central body responsible for producing the programmes is authoritative and really interested in their welfare. Preliminary notice is sent to the secretaries of the main points to be included in each programme so that Forum members may be informed well before the broadcasts and can make a point of attending when matters of particular interest to them are to be included. Through carefully sifting questions and answering points raised by different groups in turn, personal contact is built up into a sensitive two-way traffic in information. Programmes have to be convincing and advice sound and relevant.

A suitable locally made radio was selected after consultation with the Chief Engineer of the Zambian Broadcasting Services. The requirement was for a set which was both inexpensive and yet effective in all the regions of the country (which required a short wave reception facility). Additional problems were created by the nearness of foreign stations which necessitated a fine tuning arrangement. With bulk purchases, the price per set came down to just over 16 kwacha (£1 sterling).

Radio maintenance has produced serious problems. Arrangements for the maintenance of radio sets are still not adequate, although various schemes have been tried. Provincial officers are supposed to hold a surplus of 10% of the sets issued against breakdowns. Non-functional sets are sent from province headquarters to Rural Information Headquarters in Lusaka where a certain amount of repair work can be done. An arrangement has been made by the manufacturing company in Livingstone to repair the more seriously damaged sets, which results in inordinate delay and often further damage to the set in transit. There are private agencies in some of the larger towns which undertake repairs to radio sets, but they are extremely expensive. Again these repairs can take a long time and despatch frequently involves more problems.

The self help Forums are the worst hit of the three groups since their sets are owned by individuals or the cooperatives, and the heavy charges levied by private repairers may be difficult to meet.

Consideration has been given to the establishment, as an integral part of the Zambian Broadcasting Services, of a central workshop in Lusaka which could set up subordinate offices in provinces where radio sets belonging to the different departments of Government (and perhaps the co-operative societies) could be repaired. A model for such a service already exists in the pool transport system which has workshops in all the provincial headquarters. However, this scheme has not so far been implemented for a number of reasons, particularly the extreme shortage of adequately trained technicians and the low wages offered.

Evaluation Routine

The feedback system is a most interesting aspect of the Rural Broadcasting operation. A detailed report is composed jointly by members of each listening group after every Farm Forum session. A copy is posted to headquarters where it is carefully scrutinized. The reports, written in local vernacular, are translated by a special team. Thus, the senior staff, responsible for the overall direction of the programme, have an accurate and up to date picture of the country-wide reaction to every programme. There is a danger in this system in that it tends to work automatically and if the bulk of reports are consistently favourable in tone, complacency among the programme producers can set in. That it has not, would appear to be due largely to the leadership of the unit.

Whether the service helps to increase agricultural and livestock production is a question at present impossible to answer. Where there are so many factors contributing to an increase, or decrease, in farm yield how can the effect of this one small element be identified? However, in that farmers generally feel themselves to be a neglected minority whose crop prices and other vital matters such as market demand, seed and fertilizer supply, availability of loan capital etc., are decided by a far off and unsympathetic Government, there is no doubt that this service is making an important contribution to the morale of the farming community. What might, perhaps, be undertaken one day is a survey of activities which individual farmers claim were inspired by Farm Forum broadcasts.

Problems

The obvious inefficiency of some of the components obscures any attempt to assess the overall effectiveness of the operation. Its effectiveness could be increased significantly if more staff of high quality were available, if appropriate training could be offered to staff at all levels,

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and if more effective supervision were possible. Amongst other factors, the severe shortage of transport (which seems to bedevil the activities of many government departments in the field) means that only a relatively small number of Forums are receiving the outside supervision that is necessary. These problems unfortunately are all too common throughout Zambia in all sectors of development.

Forums visited in connexion with this survey were in the main those most frequently visited by members of the extension staff. These were impressive but a number of pointers indicated that many other groups could not be visited with any useful frequency by the supervisory staff. In such a situation, of course, groups will continue to meet and secretaries will continue to submit returns, for failure to do so may result in their radio set being withdrawn and this piece of equipment is a vital link with the rest of the world. However follow-up does not take place since there is no one to provide the personal link in the two-way communication system.

Other factors which appear to have a bearing on the overall effectiveness of the rural broadcasts are:

1. There were frequent complaints about reception. Yet in those areas where complaints were made the survey team was able to obtain adequate reception on the standard sets supplied by the Ministry of Rural Development. Possibly the new transmitters and aerials now installed by Zambian Broadcasting Services are more effective than the old ones. On the other hand the team may have been lucky with atmospheric conditions. There is a need for a systematic survey of reception conditions and listening habits in rural areas (a survey of this type has been conducted for ZBS by the University in urban areas).
2. It was alleged that language problems can constitute the main barrier to successful communication. It is impossible to broadcast in all tribal vernaculars and therefore many listeners must tune into a programme broadcast in their second language.
3. There were many complaints (undoubtedly aired for the team's benefit) of the failure of Government to practise what it preached. Most frequently agricultural loans were used as examples, but there were also complaints about marketing arrangements and difficulties in the supply of animal food-stuffs and fertilizers.

(Zambia has recently had to re-route all her main external supply lines, and this has imposed considerable difficulties on all sections of the economy.)

4. In many areas postal services were reported to be poor.
5. Some farmers have to walk up to five miles to the agricultural camp or the community centre where the Forum meetings are held. In one sense, this speaks highly for the motivation of those who do attend. At the same time it is easy to understand that some may be reluctant to undertake this journey at the end of a day's work - especially in bad weather.

Against these difficulties, two facts seem to be of importance. First, the professional specialist officers at the Ministry of Rural Development consider themselves well served by the rural information services - although, of course, this did not stop them wanting more.

Second, a regular listening pattern has developed over the years, and a reliable channel of communication exists between the Ministry and many of the farmers which is immediate and reliable.

Financial Implications

The annual vote for the National Farming Information Services (including personal emoluments) totalled something under 186,000 kwacha for 1973. For this investment, apart from the Radio Farm Forums, the farming community enjoys thirty-nine district agricultural shows and eighteen provincial agricultural shows a year and a contribution to two trade fairs. There are also two publications, a monthly, Progress, and a quarterly, Farming in Zambia, both of which are quality productions and contain much useful advice and information. Most of the staff are involved in all of these activities to a greater or lesser extent. One estimate, based on viewing returns, averaged the number of farmers currently benefiting from the rural broadcasts at 16,000 (the potential adult listening audience actively concerned with agricultural matters is probably nearer a million). On the basis of the former figure, the cost to the Ministry per farmer listening is something under 6 kwacha per annum, which includes the cost of printing and distributing the two journals and the booklets arising from the programme questions. Against this relatively small investment must be set Zambia's urgent need to become self-sufficient in food-stuffs and to diversify her present range of crops

Perhaps the effectiveness of educational radio should be judged by the success that it has had in achieving defined objectives. However, the objectives of most educational radio services are stated in such general terms as to make it impossible to attempt any overall quantitative evaluation. Yet surely in all services there should be a continuing appraisal of effectiveness simply to ensure that the expense is justified in terms of benefit and that alternative strategies for the deployment of the same resources would not be more beneficial? This does not seem to be done as often or as thoroughly as might be thought appropriate. Thus imperfections have been allowed to develop within educational broadcasting systems, each of which tends to lower the overall effectiveness of the service. Even small inadequacies have a disproportionate effect, as each tends to reduce the reliability of the service as far as the user is concerned.

Individuals within the systems generally are aware of these problems - which indeed are common factors in several of these six case studies. The solutions are known, yet in the developing countries in particular, the necessary additional resources apparently just cannot be spared. This is a pity since time and again it was clear that only a relatively small, additional amount is required to enable the whole system to bring significantly greater benefits. At the same time note must be made of the high level of personal commitment which so often characterizes the work of individuals within educational broadcasting services. This (not peculiar to radio alone) is an important factor in the degree of success which this form of communication is obviously achieving.

When resources of money and skilled personnel are scarce, problems cluster around particular areas. The most obvious is providing training in script writing and production techniques. Teachers, agriculturists, illiteracy workers who are highly skilled in their own disciplines and yet are untutored in the special techniques necessary to enable them to use radio as a tool to extend their own effectiveness, are frequently called upon to produce or assist in the production of programmes. In the circumstances they invariably rise to the challenge, yet it is clear that the whole process of communication would be far more effective if more facilities for this type of training were available to more people.

Perhaps the greatest general problem area lies in creating direct links between the users and the production studios, so that there is a two-way flow of information and particularly so that the programme pro-

ducers know what the real requirements are at the reception end and the extent to which these are being met. In countries where enormous distances along poor roads, or between islands, have to be covered, these problems of 'liaison' (which can be joined with utilization and evaluation problems) require special provision to be made in terms of staff and travelling facilities. In any such plans it should be remembered that programme producers also need to travel extensively to see how their own productions are being received. Initially it is desirable to test a prototype programme with specimen audiences. However even once a stockpile of programmes has been achieved it is still necessary to reassess and remake them on a continuing basis and to discover through personal visits and contacts how best this can be done to meet the changing requirements of educational situations.

The case studies itemized factors which have come to light through field liaison work and which have rendered broadcasts useless. Amongst these are inability to understand the language used; inability to follow the speed of delivery; radios not working and unable to get them repaired; unable to get replacement batteries; interference from foreign stations jamming reception and others which have certainly lowered the effectiveness of the broadcasts; the support materials not arriving in time; programmes in series not following the same sequence of topics as teachers have been trained/instructed to follow or as is contained in standard textbooks; sound effects not understood by listeners.

Perhaps the most significant factor to derive from this section of the survey is that in many of the developing countries teachers and pupils are so starved of educational support materials of any kind that they will often make prodigious efforts to overcome weaknesses in the broadcasting system in order to make use of the educational radio programmes. Again because of the ephemeral nature of the broadcasts it is the support materials which have greatest significance. The teachers' notes are frequently used as normal lesson guides, the broadcasts themselves becoming events in the calendar by which teachers measure their progress through the term's and year's work. The corollary would seem to be that educational radio services should devote a greater proportion of their budgets to the production of semi-permanent materials. In this sense the acquisition of tape recorders by schools and the development of tape replication services by the educational radio units are seen as part of a trend towards using the production facilities of a broadcasting studio to create materials which in future, will be increasingly dis-

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tributed in re-usable form by non-broadcast means. This aspect is considered more fully in Chapter 4, which deals with centrally-produced recourses. Many educational radio services are producing visual materials specifically to support programme series - Kenya has produced series of charts, so has Zambia. Kenya is experimenting with 35mm filmstrips linked to cassette programmes. Saskatchewan Department of Education is producing audio-tapes and radio-visuals on a regular basis and, incidentally, has reduced actual broadcast time to twenty-seven minutes each school day. Again problems of producing printed support materials for teachers and pupils to a demanding time schedule is making a number of educational radio units consider setting up their own multi lith printing capability.

The benefit derived by each country from educational radio has to be seen against

the background of that country's needs. As the educational system develops so do teachers require different types of support. It is clear that unqualified and poorly qualified teachers are happy to allow radio broadcasts to take over their lessons. Better qualified teachers resent any suggestion of direct teaching through radio and, indeed, the more highly trained and educated a teacher is, the less he needs to draw upon the direct support which school broadcasts can offer and the more he will tend to look at them as another resource upon which he can draw to find the most effective way of stimulating the interest of his pupils. Producers need to be able to 'tune' themselves finely to these specific needs and to produce a product which the teachers can integrate easily into their general lesson plans.

EDUCATIONAL TELEVISION

Of all the media included in this study, television has aroused most expectations and hopes and has attracted most attention. This was particularly so in the late 1950s and early 1960s when there was a rapid - almost mushroom - growth of national television services around the world. At that time extravagant claims were made on its behalf. It was seen as the universal panacea for all educational ills. It appeared to offer many attractive features - the ability to synthesize all existing audio-visual aids in one medium; the ability to use the scarce resources of top quality teachers by having them appear on the screen; the ability to replace unqualified teachers by a television set; the ability to ensure uniform educational standards throughout a country; the ability to share and exchange programmes with other countries. All these aims were expressed by enthusiastic advocates of television. Unfortunately, and all too often, this enthusiasm has come from politicians or individuals on the fringes of education. That television is an effective medium of communication is not in doubt - the figure of about 350 million television sets currently in use throughout the world more than justifies this statement. What is in doubt is how this powerful medium can best be used for educational purposes.

The experiences of the past ten years have shown that to be effective for educational purposes, television must be planned, developed and used in ways specific to the needs of education. Broadcasting structures and patterns can be irrelevant and wasteful. Educational television should be seen in its own right and not as an adjunct or as so often happens, the poor relation of general television. The features which make television the vitally important communication medium which it is today - its immediacy, its wide coverage, its universality of input and output through the satellite system, its appeal to central authorities, are not necessarily those which can contribute to its educational effectiveness.

In this study, three situations were selected where television is the main element or core of an educational strategy. Reference is also made in the conclusion to the educational television activities of the joint radio and television operation of the Ministry of Education in Zambia.

It is appreciated that television is used in projects included in other studies, but there it is often only one element in a wider approach. The case studies cover the use of television at primary, secondary and tertiary levels. All are now established services and it is possible to identify various factors which have contributed to their effectiveness.

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HONG KONG: EDUCATIONAL TELEVISION SERVICE

Introduction

Hong Kong is very small (400 sq. miles) but the most densely populated territory in the Commonwealth. For a number of years the emphasis on education, at least in the primary sector, was quantitative. Priority was given to the provision of primary school places for all children. This objective involved three main types of school: those run by the government; those operated by voluntary bodies but assisted financially by the government; and those run and financed by private bodies and individuals. There are some 750 government and government-aided schools and 504 private institutions with a total enrolment in the primary sector of just over 723,000. Free primary education was introduced to all government Chinese primary schools and the majority of aided primary schools in 1971. The aim of the six-year primary course is to provide 'a good general education appropriate to the age range and the particular environment of the children'. Most schools teach in Chinese - the Cantonese dialect - with English introduced as a second language in the second year. Almost all government and aided schools and some private schools operate in two sessions - from 8 a.m. to 1 p.m. and from 1.30 to 6.30 p.m.

The dominating factor of the entire primary school system is the final examination for entry into secondary school which is taken in the Primary VI class. Because of the prominence given to this examination, primary schools still tend to be examination-orientated. Both teachers and pupils, backed by the very strong

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support of the parents, give emphasis and application to those subjects which are likely to produce the 'best' results in their secondary school entrance examination. As a result, Hong Kong is less 'developed' in terms of primary education than some other member countries, in regard to the introduction of new or more progressive methods and techniques.

Into this situation educational television was introduced in 1971. This was the result of a long and detailed planning process whose roots went far back into the history of education in Hong Kong. In the immediate post-Second World War period, the BBC was invited to send an expert to report on the possible development of radio for educational purposes, and this report was produced in 1947. In 1949, due to a tremendous influx of immigrants, the population went up from around 600,000 to over two million. This necessitated a major school building campaign and from then onwards the financial resources of the Department of Education were largely channelled into this building project.

Towards the end of the 1950s when it was felt that the teaching of social studies and civics should be developed in the schools, a working party was set up to reconsider the original report for the establishment of a schools radio service. At that time thought was given to placing this service within the government-controlled Radio Hong Kong broadcasting operation, rather than operating under the Department of Education. However, for a variety of reasons plans for this educational radio service were postponed.

Around 1964 the Government of Hong Kong was studying the implications of introducing a wireless television service in addition to the wired or cable television service which was then in operation. A senior officer of the Department of Education was granted a six-month UNESCO Fellowship to study the uses then being made of television in a variety of educational situations. (Japan, USA - California, Washington, New York, Boston and Hagerstown - Canada, the United Kingdom, France, Italy, Egypt and India were included in his study tour.) Although this study enabled plans for the introduction of an educational television service to be put forward again in 1965, official interest in the project waned.

Following the acceptance of recommendations made by a Government Working Party on broadcasting in 1967, it was agreed in principle that there would be an Educational Television Service, but not an educational

radio service. It was not until 1969 that final approval was given and finances made available to begin planning and building the ETV station. A period of intensive preparation followed, which enabled the service to begin transmissions to schools less than two years later in September 1971.

Although a considerable period of time elapsed between the initial awakening of interest in the potential of television and the first transmission to schools, this time was used to refine the various plans, ideas and theories put forward. Latterly, and most importantly, it was used to create a favourable climate of opinion among those teachers who would be using the service.

Objectives

In the plans for the establishment of the Service it was agreed that its prime purpose would be to improve the quality of education at the primary level. In the initial planning stages, a number of key policy statements were laid down and have been followed. The most important of these - both from the point of view of the effectiveness of the ETV Service and of their possible information value to others are:

1. If there was to be a television project, it must be properly and professionally conducted.
2. Pilot projects using temporary accommodation in unsuitable premises were ruled out as likely to be blind alleys.
3. There was to be no compromise on the question of control or shared control. The Service was to be an educational television service controlled by the Department of Education. It would be directed and controlled by educators who were trained in television techniques.
4. All staff of the Service were to be full-time members of the Service and on a permanent basis, not on secondment or on contract.
5. Where necessary, outside professional consultants were to be used and approval for this was obtained.
6. The Director of the Service was given freedom in selecting his deputy.

The Educational Television Service drew on the experience of a large number of countries. The Service freely acknowledges that in some instances ideas were borrowed and others rejected, and in other instances

local solutions were pursued.

Since a basic premise of the Service was that, if it were to exist it should do so at the professional level, the facilities of the ETV Service match those that are available to the two commercial television services in Hong Kong.

It was recognized in Hong Kong that quality is never cheap, but nevertheless, economy, without sacrificing quality, has conditioned the planning of ETV. The ETV Production Centre is a custom-built two-studio two-storey building occupying some 12,000 sq. feet between the two commercial television stations. Together with the studios of Radio Hong Kong it forms part of a very tight and coherent broadcasting complex.

Working Method

A sine qua non of ETV planning for Hong Kong has been the close integration of ETV lessons with syllabuses and timetables actually in use in the classrooms, and this was confirmed by extensive surveys of professional opinion. Committees were set up to draft ETV syllabus outlines which were directly related to the syllabuses in use in primary schools and which would concentrate on topics specifically requested by teachers in the course of ETV surveys. At the same time seminars for teachers from the primary schools were conducted by the Service during school holidays. Before the Service began transmission, over 6,000 teachers had attended these seminars and had been brought into contact with the operation of the Service.

All ETV programmes have been locally made and have a marked local flavour. Though the fifteen-minute television programme is the focal point of the lesson, the Service has produced workbooks on all subjects for every pupil watching the programmes to be used before and after each television lesson. Together with the television lesson, they form a teaching package which contributes significantly to the quality of the overall instruction.

After the decision had been taken to produce television programmes for the primary sector, a survey showed that Primary III was the most acceptable level at which to begin. A number of sound educational and organizational reasons were put forward by the teachers for this decision. The experience of the first three years of operation of the Service has confirmed this decision. Opinion was also canvassed as to the most appropriate subjects. The response confirmed the desire of the schools to receive solid instructional material

directly related to the work of the schools, rather than enrichment programmes. The subjects chosen were in the basic areas of Chinese language, English language, mathematics and social studies. With the exception of English language programmes, all are taught in Chinese. At first one programme a week in each of the four subject areas was produced and transmitted. As the service developed in the second year to take in Primary IV, a further four series of programmes were produced, and at present programmes in the same subject areas are being produced for Primary V.

Present Operations

Programmes currently go out to levels Primary 3, 4 and 5 on a total saturation basis. Transmission begins at 8.10 a.m. and continues until 11.45 a.m. Then it resumes at 1.10 p.m. and continues until 3.55 p.m. Unlike some services, programmes are put out 'end-on' with minimal breaks between and schools make the necessary adjustment to their schedules to receive these programmes. In the morning session there are thirteen transmissions, and in the afternoon, ten.

The transmission system is rather unusual. Although the production facilities are owned, operated and staffed by the Department of Education, the transmission facilities are owned by commercial services. The ETV Service is allowed free transmission as a condition of the licence by which the commercial services operate. Programmes are recorded on videotape in the ETV Services and then relayed by coaxial cable to the neighbouring commercial television services for subsequent transmission through their transmitters. Television coverage in Hong Kong is virtually complete, although there are a very few areas in the outlying islands and near the Chinese border where coverage is perhaps less than perfect. The two stations transmit the ETV television programmes during the day between 8 a.m. and 4 p.m. with a lunch-break at noon.

One of the unique features of the ETV Service is the number of television receivers made available to primary schools. The target is one television receiver for every two classrooms in government and government-aided schools. This means a provision of up to ten receivers per school. There are almost 3,000 receivers at present in use in the education system and this number will increase as the level of programming goes up through the system. Receivers are distributed to the schools by commercial organizations which have entered into a contract with the Department of Education. The receivers are essentially domestic 24" models with normal

controls modified by the provision of an extra loudspeaker, special stand and lockable case for security purposes. The firms which supply the receivers are also responsible for their maintenance on a contractual basis. The suppliers work on the assumption that each receiver will have a life span of about eight years and on this basis they charge an annual maintenance fee of HK\$90. per year per set. Prior to the awarding of these contracts, technical specifications were drawn up by the Educational Television Service. The receivers cost about £100 each with up to another £50 for the additional accessories, installation costs; and the cost of installing an internal distribution system within each school.

In spite of this contractual system of maintenance, the effective working of television receivers has presented something of a problem to the ETV Service. This was felt to be due to poor standards of installation and subsequent maintenance and also to a measure of ill use and lack of confidence in use by the teachers. It was felt that the receivers could well withstand the climate, which sometimes exceeds 30°C with more than 95% humidity, as long as they were used regularly. The inefficient maintenance service initially provided highlighted the need for the ETV Service to have competent engineers able to respond immediately to complaints from the schools. The schools tend to use the ETV Service as their first point of contact in the event of breakdowns. In an attempt to improve efficiency the engineers from the television service check the installation of the receivers in the schools before their acceptance. It was felt by the ETV Service that ideally a small section of three or four people acting as 'diagnosers' or 'trouble shooters' and who would be a contact between the schools and the contractors would improve the efficiency of the operation.

The technical standards of transmission are very high and in the opinion of the station engineer are at least as high as those prevailing in Japan or in the United States. Certainly the evaluation returns show that physical conditions of reception do not present a major problem.

Programme Production

A distinctive aspect of the ETV Service is that the producers work in teams. For each subject area there is a team of three producers working with three full-time presenters - who also act as research assistants and floor managers. Each unit is responsible for the production of one programme series a year - a full series consists of

thirty programmes, split into two terms of fifteen each.

The programme committees plan the programmes. The senior producer from each production team acts as the chairman of these committees and the chairman is responsible for inviting members to participate. A typical committee will consist of around twelve people, with representatives from the inspectorate, teachers, headmasters, teacher training colleges and/or the universities. The committee considers the syllabus for the appropriate level and draws up a framework of programmes to match this syllabus. Programming planning takes place about a year before transmission and the programme committee meets up to ten times during its planning activities. Once the planning committee has defined the teaching objectives and has broken those down, according to their place in the syllabus, responsibility passes back to the production team. The senior producer allocates units of work or programmes to members of his team, who go through the usual production process. In addition, the producer is responsible for producing and editing the workbooks for the pupils and the notes for teachers.

Each producer has a work load of around ten new programmes a year and associated notes. He will probably also be required to remake four to six existing programmes. Taking leave into account, each producer produces a programme every three weeks. A measure of the care and intensity of preparation and professionalism which goes into each programme is indicated by the fact that each fifteen-minute television programme is preceded by about four hours of studio rehearsal and recording, which in turn have been preceded by some eight hours of rehearsal and preparation outside the studio. Each programme is completed at least six weeks before transmission. In addition to his production duties, each producer is required to visit a school at least once a week. Producers are also required to participate in the seminars for teachers conducted during the long vacation. All the senior producers are members of the Department of Education's Curriculum Planning Committee. Indeed, within the context of curriculum innovation and development, the Educational Television Service and its production staff are major instruments for change.

Each producer is allowed a budget of up to about HK\$500 for programme fees, scripting fees and acquisition of material. These programme budgets are not, however, apportioned on a strict pro rata basis, since certain subjects may require more expensive materials or a greater use of

film, for example, than others. Petty cash is readily available for production expenses and this contributes to efficiency. The financial control and method of working is more akin to that of many broadcasting services rather than to the more cumbersome channels of government service.

As regards the provision of transport, the Service has its own van which can accommodate up to 14 people. The producers have their private cars registered to make them eligible for mileage payments on official duties. Where necessary, application can be made to the Government Transport Pool for transport that cannot be provided by the Service, for example a large van or heavy lorry to transport equipment or props.

User Profile

There are some 380,000 children in all P.3, P.4 and P.5 classes in Hong Kong. The number of children viewing which is accurately calculated, based on the number of work books sold to pupils, is 330,000. This means that 87% of the total potential audience in these three classes is actively making use of the service.

Although government policy is that the schools should make use of the Educational Television Service, viewing is compulsory only in government schools. A study of the schools with classes at P.3 level showed that 100% of government schools, 99% of aided schools and some 50% of private schools used the Television Service. These private schools can be divided into two main categories:

1. The non-profit making schools - run by missions, etc. Almost 100% of these take educational television.
2. The profit-making schools:
 - a) Those housed in what could be termed proper school buildings. This group makes considerable use of ETV;
 - b) those that are housed in tenement flats or other small cramped one or two classroom situations. Significantly this group does not make much use of the television service.

Each child in P.3, P.4 and P.5 views four programmes a week in the main subject areas, and these programmes, together with the associated pupils' workbooks and teachers' notes make up learning packages occupying at least four periods. Since there are some thirty-seven periods in a week, the television service contributes

around 10% of the total teaching time in the school system. However, there are many schools in which ETV programmes are viewed more than once, and in these schools the service contributes more than 10% of the total teaching.

Staff

The staff who were originally appointed to the ETV Service were selected from the teaching profession. At present, producers are equivalent to inspectors and the assistant producers are equivalent to assistant inspectors. New production assistant grades were created for film, graphics and technical staff. This system has led to the ETV Service being staffed by highly qualified and experienced personnel - graduates with post-graduate qualifications, with teaching experience and very often with inspectorial or lecturing experience. This situation although leading to a high quality of professional output in itself, nevertheless does create problems of internal promotion. The ETV Service, although very much part of the Department of Education, is nevertheless a highly specialized and somewhat separate unit from the rest of the Department. There is a feeling that producers working with the Department could perhaps find themselves passed over for promotion. This is a problem common to all specialist activities.

Although the Service is staffed by highly qualified and experienced production personnel, although the technical support facilities are of very high order and the general administration back-up is fully adequate, the Service does not have significant provision for the supervision and editing of the pupils' workbooks which form a vital part of the integrated teaching package. It may be that additional appointments in this area would further strengthen the effectiveness of the operation.

Evaluation

Because of the compact nature of Hong Kong and the short distances involved and also because it was felt that the producers should be in direct contact with the users, no separate structure for evaluation was set up. The evaluation of the programmes is carried out on a five-pronged basis. Each producer is expected to visit at least one school each week to see a programme which he or his team has produced. Inspectors in the Education Department evaluate the professional content of ETV lessons in weekly reports, and assess student response to ETV in routine inspections of schools. The Service also uses compre-

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hensive evaluation forms which have a remarkably high (90%) response rate. Finally the programme committee itself evaluates the programmes and produces comments.

As well as maintaining the overall effectiveness of the programmes, the main practical outcome of this process is to identify those programmes which need to be remade - normally between 20% and 30%.

Financial Implications

The Department of Education has a total expenditure in 1973/74 of some HK\$ 700 million. This does not include expenditure on tertiary education, nor does it include capital expenditure. The Educational Television Service has at present an annual budget of some HK\$3 million which is made up of some HK\$2.4 million recurrent expenditure and HK\$0.6 million capital expenditure.

It must be noted however, that the use of television is not designed to replace the teacher but to improve the quality of teaching. The cost of the Educational Television Service is in addition to the other costs of the Department of Education. It is only against improvements in the quality of the system that the ETV costs can be set. No economies in teaching personnel have been made.

The total costs for the building in 1970/71 including air-conditioning, amounted to some HK\$3.2 million and the total equipment costs, including the stock of videotapes, were in the region of HK\$4.08 million. The total recurrent costs of staff salaries in the first year of operations were estimated at some HK\$1.6 million.

Capital expenditure is largely devoted to the purchase of television receivers. Government and government-aided schools were provided with approximately 1,000 television receivers in the year 1971/72. In the first year this cost some HK\$0.98 million. Each television receiver serves two classes in primary schools, but, because these are bi-sessional, i.e. morning and afternoon schools, each receiver serves two schools and hence four classes.

Future Developments

In keeping with its stated policy of being 'an organic, continuous process' the ETV Service has formulated an ambitious and far-reaching plan for development. The next stage of growth will be the provision of programmes for the top class of the primary cycle, P.6. This will then complete the range of programming for primary schools, as it is not intended to have programmes

for the first two years, P.1 and P.2. The first main objective of the ETV Service will then have been achieved.

The top primary class, traditionally examination-orientated in syllabus content and teaching approach, will provide a severe test for the ETV Service. The difficulties are appreciated and the Service is adopting a different strategy in its programme formulation. The television lessons will not necessarily follow the same approach - either in number, treatment or as regards the supporting material as those for P.3, P.4 and P.5. There will be an attempt to find a 'local' solution to this specifically 'local' problem.

Going beyond the primary system, considerable planning has already been undertaken on the introduction of television into secondary schools. A detailed survey was undertaken in all secondary schools to assess the desirability of having a service and attitudes towards it. This produced an 82% response - with the private non-assisted schools having the lowest response at 71%. Analysis of the responses has led to recommendations being drawn up for a phased introduction of ETV into the first three years of secondary school from 1975/76. The subjects to be covered and the duration and frequency of programming have also been identified.

It is already apparent that the secondary schools will present considerable administrative and organizational complexities. The variations between schools in their timetables, teaching cycles and the problems raised by summer/winter timetables, all militate against effective utilization. In order that these difficulties can be overcome, it is proposed to provide schools with video-cassette recorders in addition to television receivers. This will enable schools to record the programmes and play them back at their own convenience. Although video-cassette recorders cost more than receivers, it is assumed that the provision of a recorder will cut down the number of receivers required in each school and so reduce the total costs.

Anticipating a decision to expand the service to secondary schools, the ETV Service was forced to consider the problem of the acquisition of additional studio equipment and facilities. Conscious of the trends away from the continuing manufacture of monochrome equipment of professional broadcast quality, the ETV Service is proposing to acquire colour equipment. It is appreciated that it may be some time before funds are available to equip all schools with colour receiving equipment, but the proposal is seen as a safeguard

against obsolescence, even before the new equipment has been ordered.

THE SINGAPORE EDUCATIONAL TELEVISION SERVICE

Introduction

Almost without exception in every world-wide study of the use of television for formal educational purposes, reference is made to the ETV Service in Singapore. Although by no means the largest ETV Service - measured by the yardsticks of capital expenditure, recurrent budget or staff numbers - it has attracted considerable attention and commendation throughout its existence.

All educational innovation must be considered within the national context of the countries in which it is created. The entry in Part One of the Study provides a skeletal framework. Suffice it to say that Singapore is a small (225 square miles) island with a population of some 2,150,000 - 50% of whom are under the age of twenty. One of the major goals stated in the policy of the Ministry of Education is 'to provide the knowledge and skills necessary for the economic development of the country'. In order to meet the demands of its rapidly industrializing society, an 'improvement in the quality of education at all levels' has now been given top priority.

In 1956/57 an Audio-Visual Department was set up for the first time in the Teachers' Training College. This Department was mainly concerned with training teachers in such skills as the making of models for classroom use and the operation of projectors. The emphasis was on making and using teaching aids. At that time there was also a small educational radio service - under the control and operation of the Ministry of Culture. It was generally felt that this never provided a sufficiently effective educational service.

During the period between 1963, when the proposal for an ETV Service was first put forward, until its inception in 1966, it was widely believed that there was an urgent need for relevant, locally-based, instructional materials. This conclusion was reached during the consideration that was given to the educational system and its relevance to national needs following independence. After an appraisal of the alternatives, educational television was felt best able 'to collate and present materials related to the local environment'.

The Singapore ETV Service is still situated in the campus of the Institute of Education (formerly the Teachers' Training College), and it records ETV programmes on videotape for subsequent transmission by the national service, Radio Television Singapore (RTS). Transmissions are on Channel 8 between 7.50 a.m. and 5.30 p.m. during week days and between 10.00 a.m. and 11.15 a.m. on Saturdays. These transmissions can be viewed by members of the public on their domestic receivers as well as by school audiences.

The ETV Service is a branch of the Ministry of Education and is fully financed by Government. Salaries, production costs and other payments are met from the education expenditure of the Republic. In 1972, the last year for which figures are available, the recurrent expenditure of the ETV Service was S\$479,000 as against a total expenditure on education of S\$230,000,000.

Administrative Structure

The general policy of the ETV Service is formulated by a Committee composed of members appointed by the Minister for Education. The Chairman of this Committee is usually the Deputy Director of Education, and the Secretary of the Committee is the Head of the ETV Service. Among the members are the Director of Broadcasting or his representative from the Ministry of Culture and members drawn from the Ministry of Education, secondary school principals, the Adult Education Board and similar organizations.

This Committee, which normally meets at least once a year, advises the ETV Service on the following: the level of programming; subject areas; frequency of transmission; selection of language of instruction of school broadcasts; the convening of sub-committees and working parties to discuss syllabuses, evaluations, etc.

Under this Committee are a series of subject-based sub-committees with the specialist subject inspector acting as Chairman. Members of these sub-committees are drawn from principals of schools, lecturers from the Institute of Education, heads of departments and teachers. The producer from the ETV Service is normally the Secretary to this committee. Each committee discusses the content of each series and advises on the method of approach to be used in the programme. From this point onwards it is the responsibility of the ETV Service in general, and the producer of the series in particular, to ensure that the programmes are recorded

and the supporting materials, such as notes for the teacher, are ready in time. The role of the producer within the Service is that of 'an educational communicator', that is, someone highly specialized in the techniques of production but not necessarily a subject specialist.

The total staff is about fifty, including the Head of the Service and the Deputy Head. There are some sixteen production staff, eleven in the engineering section and nine in the graphics and photographic section. The remainder are concerned with administration and support services.

Training of Staff

Singapore has evolved techniques and set standards in the selection and training of the staff of the ETV Service that make it almost unique in the field of educational broadcasting. In most countries initial selection and recruitment of personnel is random and haphazard. Selection for particular posts normally occurs before training. The dangers inherent in such an approach are obvious - the skills required for effective ETV production are not necessarily those possessed by a good classroom teacher, an effective inspector or an able headmaster. To select staff on criteria other than aptitude is likely to be counter-productive. Aptitude can best be ascertained during and after training. Final selection is best made after training.

Prior to its inception, the Singapore ETV Service invited, through notices sent to all schools, practising teachers to apply for training. Only teachers up to thirty-five years old, with good qualifications and at least five years' teaching experience were eligible. The applications were then screened and most of the applicants were called into the Service and given tests designed to measure their visual, creative and writing skills. The most successful of these were then given training in an intensive series of courses designed to select those showing the greatest aptitude for educational television production. It was only after this process that identification and selection of staff took place. These people then received further training - subsequently reinforced with study visits and fellowships to overseas ETV organizations.

Having built a very solid nucleus of production staff after the original training and selection process, the Service can dispense with formal recruitment. Potential producers are now invited to join the Service - normally from the ranks of the

many part-time script writers or presenters. These script writers and presenters (who are also full-time teachers) are also subjected to scrutiny by the Inspectorate before being appointed. Since the ETV Service has equivalence with the teaching profession in terms of salaries and gradings there is seldom any problem of mobility either into - or much more rarely out of - the Service.

Although the recruitment of supporting staff such as graphics artists and photographers is handled by the Public Service Commission, nevertheless all candidates receive special practical aptitude tests devised by the ETV Service before being confirmed for selection.

The recruitment and training of script writers is one of the major problems of the ETV Service. Regular script writing courses for teachers are conducted as a selection device or a 'talent-spotting' technique. These courses, which are normally over-subscribed, are held in the teachers' own time.

The presenters of the ETV programmes are also teachers who have been identified - through rigorous auditions - and trained. The presenters, the actors and supporting players are drawn from schools. The ETV Service maintains a register of possible presenters and actors. Teachers from this register are called in to participate in the programmes as and when required.

Programme Production

For each series, a producer has the services of one production and research assistant. The scripts which form the basis for all the programmes are usually written by practising teachers and courses in script writing are conducted regularly for teachers. The producer, working with his or her production assistant, converts these scripts into camera scripts. The producer has final and absolute responsibility for the production, although in terms of programme content and approach, the Chairman of the sub-committee takes responsibility.

Each producer is responsible for the production of one-and-a-half to two series of programmes each year. Each series normally consists of twenty-eight programmes. This gives a work-load of around one programme per week per producer. This, although a heavy burden by most standards, is in fact a reduction from that met in the early days of the Service. The production load per producer normally consists of one completely new series and a remake of an earlier series. This would usually involve

revising anything up to 50% of the original series. After two years of use, it is the practice for the whole series to be remade - although some series, such as a recent one on junior science, have had a life of three years.

All the programmes are recorded in the rather small (24' x 30') studio of the ETV Service and three hours of studio time are allocated for each programme. This means that the studio is working constantly to full capacity and any unforeseen difficulties in terms of technical or production problems invariably result in considerable overtime work for the entire production team.

The facilities which are presently available for production are extremely limited. In the small studio there are only two cameras - both of which are fitted with turret lenses. The ETV Service does not have sound filming facilities. All locally shot film must be of the sound-over type. It is not at present possible to edit the videotapes effectively.

Against this background, and with a minimum of staff, the ETV Service produces a most impressive range of programmes, in terms of both quantity and quality. In one example which was screened, a programme from a new series for teaching Chinese as a second language, extensive and effective use was made of almost all the resources available to the television medium: film inserts - both specially shot and library material; dramatization; animations - both captions and diagrams; models; photo-captions - both locally shot and from library sources; and the judicious use of a presenter.

The Ministry of Education has installed one TV receiver in each school (both government and government-aided) in the Republic and a number of schools have acquired additional receivers to cater for a larger number of classes. The ETV Service now produces programmes from the first form of primary school right up to pre-university level. The extensive range of subjects covered is shown below.

ETV Service - Semester II, 1973

<u>Subject</u>	<u>Language</u>	<u>Level</u>
Social Studies	Malay	Primary 5
Social Studies	Chinese	Primary 5
Social Studies	English	Primary 5
Science	English	Primary 4
General Activities	Chinese	Primary 2
General Activities	English	Primary 2
Health Education	All Streams	Primary 3
Art	English	Primary 2

<u>Subject</u>	<u>Language</u>	<u>Level</u>
Mathematics	English	Sec.1
Mathematics	English	Sec.2
English as 2nd language		Sec.1
English as 2nd language		Sec.2
Chinese as 2nd language		Sec.1 & 2
Science	English	Sec.1
Geography	Chinese	Sec.2
English		Sec.2
Technical Education	English	Sec.1 & 2
General Paper	English	Pre-University

Transmission of programmes is repeated, up to eight times during the week, to help overcome timetabling difficulties.

In spite of its somewhat limited resources, the ETV Service does work in co-operation with the Adult Education Board and with TV Singapore in transmitting programmes in the early evenings for out-of-school audiences. In particular, the ETV Service is involved in teaching adults 'adult English'. The supporting commentaries for these programmes are either in Chinese or in Malay.

Support Materials

As part of the plans for the development of the ETV Service into an Educational Media Service, there has been increasing emphasis paid to the range of instructional materials produced to support the ETV programmes. Each school receives its supply of teachers' notes and supporting materials on the basis of one set per class using the TV programmes together with one additional set for the library.

The range of materials which the Service provides includes:

- a) teachers' notes;
- b) teaching charts in colour showing experiments in considerable detail e.g. technical drawing charts;
- c) language tapes - especially for language drills;
- d) pupil workbooks; e.g. workbooks designed for use on an experimental project in programmed learning in biology;
- e) booklets for adult education - particularly on leisure activities e.g. the booklet accompanying a series on playing the guitar;
- f) overhead projector transparencies, e.g. those produced to accompany a series on technical education;

- g) multi-media kits which include booklets, posters, slides, cassettes, and most importantly, stencil masters which are designed to be used by schools for subsequent duplication. These multi-media kits are contained in well-designed and attractive packages.

The production of these materials is the responsibility of the producer and his or her assistant, although specialists may be called in to advise wherever appropriate. The recent attachment of the Media Section of the Ministry of Education to the ETV Service has greatly strengthened this side of their activities. The present policy followed by the ETV Service in producing support materials is that only prototype material is developed by the Service. Commercial firms are then commissioned to produce the material in bulk. The budget for producing this material is in the region of S\$29,000 per annum which represents almost 30% of the total production budget. The expenditure on support materials is increasing year by year.

Evaluation

The ETV Service maintains an elaborate evaluation procedure which, although not measuring the amount of learning taking place, does provide the Service with an accurate picture of the reactions to the programmes transmitted. The basis of the evaluation procedure is an elaborate series of questionnaires which have been designed by the ETV Service in conjunction with the Inspectorate of the Ministry of Education, the Economic Research Centre of the University of Singapore and the Electronic Data Processing Unit of the Ministry of Finance. Of the 500 schools in the Republic, one quarter - or around 125 - are sampled each week. Every school is supplied with eight questionnaires to be completed by the teachers who have watched the ETV programmes. The return rate is in excess of ninety per cent. The returns each week are first checked by a member of the ETV Service. Any information of outstanding or immediate importance is then relayed to the producers. The forms are sent to the Electronic Data Processing Unit in order that the information they contain can be fully analysed. This analysis is then published regularly in the quarterly journal of the ETV Service 'ETV Singapore'.

In addition, members of the Audio-Visual Inspectorate, the ETV production staff and the general inspectorate periodically visit schools and watch classes using the ETV programmes. The ETV Service conducts seminars for the teachers using television in order to assess their opinion on prog-

ramme content, syllabuses and utilization. The producers of the programme series together with the specialist inspectors, attend these seminars in order to answer the queries raised by the teachers and their principals.

In Term One, 1973, the number of pupils viewing the programmes ranged from a maximum of 25,357 for a Primary 1 programme, through 9,000 to 2,000 in secondary forms 1 and 2, and going right down to some 617 viewers at pre-university level. A study of the detailed evaluation responses indicates overall satisfaction with the programmes in terms of both technical quality and educational value.

In general, teachers' attitudes towards the Service and using television as an educational resource are favourable. Primary levels 2, 3 and 4 use it most and it is at these levels that the teachers are most favourably disposed towards it. It appears that the greater the pressures caused by examinations at any level in the system the less favourable are the teachers' attitudes towards using television as a teaching resource.

Effective utilization of ETV is very much more than ensuring that the school children physically see the programmes - it involves viewing in a climate and situation conducive to learning.

Instructional Materials Library

As a complementary service to the ETV operation there is an Instructional Materials Library which is mainly concerned with distributing 16mm and 8mm film to schools. Schools pay S\$60 per annum for membership of this Library or S\$100 for two schools (the morning and afternoon schools) housed in one building. Members of the Library are entitled to receive the multi-media kits from the media service free of charge.

Singapore Educational Media Service (SEMS)

At present plans are under way to develop the ETV Service into an Educational Media Service which will strengthen the work already started by ETV. This new Service will work towards the development of a wider range of educational media and media resources which are directly related to the school curriculum. Such media are expected to play an important role in the overall qualitative improvement of education. A major step in this development programme was the integration of the Ministry of Education Audio-Visual Inspectorate into the Educational Television Service. The procedures for the purchase and maintenance of audio-visual equipment were simplified.

The next stage in increasing the effective use of audio-visual materials was the development of a more positive attitude in both the Inspectorate and the schools. This was achieved through an intensive series of thirty-two meetings where all principals were brought together for discussions with the Audio-Visual specialists and other representatives of the Ministry. The next step is to formulate policy for providing in-service training in audio-visual utilization for teachers. In addition to co-operating with the ETV Service on television programmes, the audio-visual unit of SEMS will have its own production facilities.

Plans for Future Development

As far back as 1968, Dr. E. J. Meade Jr. of the Ford Foundation was able to state in a report that 'the present ETV Service is overloaded with work'. Dr. Meade also stated: 'the Service has a modest (all too modest, I must report) technical facility and operating budget'. Since then, both in terms of the work load carried by the members of the ETV Service and the quantity of output with the use made of available transmission time, the Service has reached saturation point. No more time is available for transmission. Every available slot in the morning session, i.e. eight transmissions, and every slot in the afternoon session - a further eight transmissions - is filled from Monday to Friday, and there are five transmissions on Saturday morning, making a grand total of eighty-five programme transmissions per week. Expansion can now only take place by either reducing the number of repeats or by adding a new channel for transmissions.

Following the preparation of the paper 'Educational Development in Singapore' by the Joint Singapore/UNESCO Study Mission in 1971, a further document has been produced, entitled, 'New Development Project Proposals for the Singapore ETV Service - Third Paper'. This Paper outlines proposals for a significant development of the ETV Service. In association with the Centre for Production and Training for Adult Education Television (CEPTA) there would be a physical move into newly constructed premises and also a professional move into new areas of activity. In addition to the creation of the Singapore Educational Media Service, the new proposals would enable the Service to extend its range of targets throughout the educational system from pre-school through the formal school system into the areas of adult and non-formal education. Industrial training and non-degree university education are also fields that may be tackled. These far-reaching proposals will involve major developments in terms of facilities. The Service will move into a custom-built

studio complex with some 75,000 square feet of floor space. There will be four studios with full colour television facilities; the Service will have its own transmitter; and an increase of staff will bring the total up to 110. In terms of production it is planned that by 1975 a series of 'integrated programmes' will be designed to support the introduction of a new primary curriculum. It is also planned that these developments will allow for the production of several series of programmes aimed at the general public with the youth audience being the specific target. This proposal is phased over a period up to early 1976.

UNIVERSITY OF GLASGOW TELEVISION SERVICE

Historical Background

Glasgow University is one of the oldest educational institutions in the United Kingdom having been founded in 1451. Through its seven faculties of arts, divinity, engineering, law, medicine, science and veterinary medicine it provides tuition for just under 10,000 students.

Most of the University buildings are in an area of about 50 acres situated fairly centrally within the City of Glasgow, which is an important industrial and commercial centre with a population of just under one million, but with an immediately surrounding population of about two and a half million. In addition to the central University precinct there are two major teaching hospitals, a number of related hospitals, a dental teaching hospital and a veterinary college spread throughout the city and its suburbs.

At a time of growing awareness in British tertiary level institutions of the potential of closed-circuit television as a teaching medium, the University of Glasgow set up a Senate Committee on Closed-Circuit Television in 1963. Preliminary consideration of television's teaching potential was encouraged by the attachment of an American educational broadcaster to the University as a Fulbright Scholar. At the same time the University appointed a Chief Technician to instruct and assist in the use of the limited equipment which had been acquired. There is no doubt that the later growth of the service owed much to this decision that professional and technical assistance should be offered to academic staff in their use of television.

During an experimental period of around eighteen months or so, television was tried out by several departments - ranging from

biochemistry through engineering and modern history to extra-mural lectures on fine art. On the basis of this experience, the University Court decided that a central Television Service should be established. This Service was to be responsible for meeting the television needs of any teaching department which required its facilities.

The first step was to appoint a Director to the Service. The importance of this appointment cannot be over-emphasized. The Director appointed had been a BBC television producer but, significantly, had been before that a university lecturer in psychology and education.

It was to the advantage of the Service that virtually no equipment had been bought and that only experimental work had been attempted. There was no need to adapt earlier systems, nor to unscramble temporary or other arrangements. The Service then undertook what was an obvious - but often overlooked - step. Using a combination of questionnaire survey and personal meetings, a study was made of the exact nature and extent of the demands which existed in teaching departments throughout the University. It was only on the basis of this information that it was considered possible to devise a system which would meet these needs with efficiency and economy. A pattern of development for the Television Service was then drawn up.

A permanent and fully equipped studio, with adequate videotape and telecine facilities was built to complement older facilities.

It was necessary to provide a central pool of television equipment for use primarily as a visual aid within the conventional university teaching situation. It was felt that this equipment should be capable not only of recording simple lecture and laboratory work, but also more involved situations, such as psychiatric interviews and bedside teaching. A cable distribution system was installed throughout the University.

A mobile unit, equipped with videotape recording facilities, was provided to meet a wide variety of overflow and relay situations and to collect teaching materials outside the University.

Throughout the planning stages, it was felt that the Service should be equipped to professional broadcast standards. This decision, of course, produced initial difficulties in arriving at an acceptable level of expenditure.

As a result of these developments, there was a steady growth in the number of departments using television and the range of work for which they were using it. Amongst the earliest users were psychiatry (for the relay of clinical interviews), geography (for overflow lectures), pathology (as a visual aid in the autopsy room) and chemistry (for recorded laboratory demonstrations). Less than two years after its inception, around sixteen different departments were making use of the Service. To support this growing activity, the staff, facilities and budget of the Television Service also increased.

Development of the Service

After two years of this level of activity, the Television Committee was reconstituted as a Joint Committee of Senate and Court of the University, with a senior professor as its Convenor. At this time the University Grants Committee - the UK agency responsible for advising on the funding of universities - stated in a memorandum that they envisaged the University of Glasgow, jointly with its neighbouring University of Strathclyde, as becoming a 'high activity' centre in the field of audio-visual aids, to give a central service to each university and to specialize in the medium of television. It was hoped that this centre would carry out research into the value and most effective use of television in university teaching and research and that in co-operation with other major centres of university activity, would plan research, offer training and produce material for inter-university exchange.

Within a year over thirty different departments were making use of the Service and the range of uses was categorized into eighteen separate types.

To provide this service it was found that the studio and mobile unit, which were now fully operational, were required to work to full capacity. There was an eight-channel distribution system installed throughout the main university campus and, with the phased acquisition of videotape recorders (beginning with three one-inch recorders in 1965 and rising to the current holding of sixteen, together with a two-inch videotape recorder obtained in 1967) the Service is able to meet most of the demands placed upon it.

With a total staff of 24 and an annual budget of about £74,000 which is about 0.7% of the total University budget of £10.7 million, the Television Service is now regarded as an accepted and integral part of the teaching activities. The pro-

blem of acceptance and recognition of the contribution of a television service to the work of a university by the academic and teaching members of staff has been central to its effectiveness in many institutions. The practice of the Television Service in Glasgow to give considerable attention to the recruitment of production staff has gone a long way to overcome this problem. In general, the producers are graduates who, because of their own background, are able to establish contact and gain acceptance at a professional level with their academic colleagues.

The Uses of Television

In the University of Glasgow, as in other similar institutions, there has been considerable debate about the relative values of the two main functions of television in teaching. It would perhaps be wrong to suggest that improvement in quality has always been the sole target. It is in the shadow of quantitative problems that the Television Service has been most urgently pressed into action - the need for 'overflow' lecturing or the pre-recording of lectures for repeated reproduction. In the mid-1960s there was a widely held assumption in the United Kingdom that cameras and videotapes might justify their costs by this relatively mechanical multiplication of lecturing capacity. It has never been the Glasgow view that television finds its ideal use in the relaying or recording of the straight lecture. Nevertheless practical problems have arisen within the University where television reproduction provided either the temporary or the long-term solution.

Lectures-by-Television

There have been three main, but significantly different, approaches to the lecture-by-television. The third of these was developed largely in the University of Strathclyde, but since the Television Service forms part of joint Audio-Visual Services for the Universities of Glasgow and Strathclyde and since this work is of considerable interest in its own right, it has been included in this study.

The simplest version of the lecture-by-television is the 'overflow' situation. As early as the autumn of 1965 a crisis situation caused by an unforeseen explosion of student numbers in the Geography Department involved the help of the Television Service. The lecturers still found themselves face to face with a large class in the lecture room while the proceedings were relayed live by television to a second lecture room. Various types of difficulty - staff illness or shortage or, timetable

clashes - have been resolved by television overflow, either live or recorded.

The use of television in this way has not been universally acceptable, but in general and as far as academic results are concerned, there is no evidence that students receiving their lectures by overflow perform any differently from those who see their teacher face to face. Student reaction to relayed lectures has varied considerably. In some departments it has been consistently observed that, given freedom of choice, more students go to the television room than to the originating classroom. In another department there was criticism initially that the television coverage paid too much attention to the lecturer and not enough to his blackboard work. This criticism underlined the fact that television overflow - however routine and mechanical it may appear - demands sympathetic handling by a director whose first responsibility is to select and present to the student those elements in the total classroom situation which are at any one moment most likely to contribute to the teaching and learning process. In this classroom situation the lecturer's own style and delivery remain relatively unaffected, because he is as conscious of the students in front of him - and their reactions - as of the television cameras.

The second approach to the lecture-by-television is where lectures are given in a television studio and relayed or subsequently replayed in classrooms. This activity happens relatively infrequently. Several departments have used this approach to solve a temporary problem and seldom for more than a term at a time. Although reasonable satisfaction was obtained in most cases, the Service did encounter significant problems in using this technique in one instance - in fact, that occasion has been described as 'the most unsuccessful and most unpopular venture in which we have participated'. A series of thirty lectures was given in the studio and transmitted live to two large lecture rooms. There were two important factors which are considered to have contributed to this lack of success. The teaching staff involved (being anxious to have some form of student reaction) arranged to have a small audience of eight to ten students in the studio. The effect upon the lecturers seems to have been that they adapted their style to the small group, conveying a sense of exclusion to the much larger, remote groups. This, combined with the absence of staff supervision in the viewing rooms, produced bitter resentment in the students who felt that they had been 'deserted' by the teaching staff and that apparently preferential treatment was

being given to the selected few in the studio. Although this was an isolated case, it has acted as a firm reminder to the Television Service that the television lecture cannot always be used as a substitute for more traditional methods and for direct contact with students.

The third approach to the lecture-by-television is best illustrated by the work of the Mathematics Department in the University of Strathclyde - which is serviced by the joint Audio-Visual Services of the two universities. Strathclyde is a university with a technological bias and almost all first-year students are required to take mathematics. This placed a very heavy teaching burden on the Mathematics Department. It was decided that television would be used as a contribution to solving this problem.

Mathematics lectures are recorded in advance in the studio; there is no audience and the lecturing technique is direct-to-camera. Although there is no attempt to convert the lectures into 'television programmes' there is a substantial use of captions, models, animations - and occasionally - film inserts. The lectures are recorded and replayed to students in groups of about a hundred. Each recording consists of two or more sections of about twenty minutes' duration. Between these sections there is a break of several minutes used as a question and answer session under the guidance of a member of staff. Although these recorded lectures form the central core of the first year Mathematics Course, a set of detailed notes and weekly tutorials given by staff members to small groups are also essential and integral ingredients.

On the basis of more than five years' experience, it was recorded that:

our main difficulties appear to have been overcome and the system, in which the direct teaching of mathematics to all first-year students is done by television, is running smoothly. We are satisfied that the students are receiving courses in mathematics which are at least as good as anything they had in the past and in many cases better. We have achieved very little saving of staff time, but we believe that the staff have been used more effectively. One big economy has been in the time of specialists, in particular of statisticians. Our very limited number of statisticians would have been quite unable to deal with the very large number of students requiring courses in statistics, without the aid of television.

Student reaction has been generally favourable. In commenting on the advantages of the system, students stressed that provision of printed notes made it possible to give full attention to the lecturer; that the notes are superior to those a student could make himself; that the classes are in general better behaved than in other lectures; that all students are treated exactly alike; that pre-recorded lectures make efficient use of the time and that alternative viewing times are available. From this it can be seen that student reaction is not narrowly confined to the television element. It is seen as an advantage of the television lecture that good detailed notes and more tutorial time can be provided. The release from purely repetitive lecturing has enabled these features to be developed.

Simple Visual Aid Uses

Within the University as a whole there is considerable use made of television systems as simple visual aids. A single overhead camera used to magnify and distribute detail of dissections, a camera used in conjunction with a microscope, are typical uses. As might be expected, the departments which make use of the Service in this way are those such as Botany, Zoology and Dental Anatomy. In the experience of the Department of Agricultural Botany, it has been found that using television has reduced the time in illustrating dissections by about 20%. The student's attention is more specifically directed to the material than when working with a demonstrator beside him. Both macroscopic and microscopic work can be shown easily and effectively. The students in this department say they like television and are benefiting from it. Although in another context it has been shown that the demonstration value of television for microscopic work is far superior to that of blackboard diagrams or projected photomicrographs alone, the best results were achieved by a combination of television and projection illustrations.

Relaying the Interview

A large proportion of the work of the Service is devoted to what is basically the relaying or recording of an interview situation. The interviews vary substantially in content. They range from the intelligence test administered to the pre-school child, to the bedside interview and to clinical demonstration. The Psychology Department uses television in test and interview situations and regards it as having a number of specific and positive advantages and no handicaps. It is invaluable for an interviewer or tester to have a record of his own behaviour and techni-

ques for objective study. There is an obvious advantage in being able to cater for a large 'eavesdropping' audience which need not in any way inhibit or embarrass the subject of the test or interview. Television techniques of this type have been found to be particularly effective when dealing with children who very quickly accustom themselves to the presence of the cameras.

The television techniques used in psychiatry are similar to those used in psychology. The clinical demonstration and the bedside interview between doctor and patient belong to this same category of activity. Recorded material has been found to be more effective than the somewhat uncertain and variable quality of live material. When used in the course of lectures, recorded material reinforces academic information with clinical examples.

Mobile Unit Work

The Mobile Unit of the Television Service is a custom-built unit with four cameras and capable of a considerable degree of sophisticated use. Varied activities have been undertaken which can best be described as providing additional material for undergraduate teaching which it would not otherwise be practical to offer at all. A study of industrial training methods compiled in a Clydeside shipyard; an objective observation of the use of a language laboratory in a secondary school; geriatric case histories compiled in the patients' own homes; observations in infant classrooms and in clinics for disturbed children are a few representative examples.

It is in the field of medicine that the Mobile Unit probably makes its most important contribution. The Department of Renal Medicine was able to videotape an interview with a patient undergoing regular dialysis treatment while he was actually attached to the artificial kidney. The Radiology Department uses the Unit to overcome the difficulties of shortage of accommodation and staff, and dangers of ionising radiation. The Mobile Unit has made over 30 videotapes for the teaching of clinical cardiology. These tapes have been used for undergraduate, postgraduate and in-service general practitioner training. The experience of the Department of Veterinary Pharmacology has shown that 'a high degree of expertise is desirable if the finished product is to be wholly acceptable. Ideally the demonstrators should rehearse carefully each stage of the programme before starting to make a recording'.

Special Uses

As well as the representative examples above, there are also some individual uses

which are worthy of mention. The Departments of English and French have used the studio to record excerpts from plays which are prescribed texts for literature courses or are in some other way relevant to the teaching course. The School of Social Study makes re-use (with permission) of recordings made in other departments in order to study examples of a wide range of interview techniques. The School believes that the teaching of interview techniques can only be carried out by demonstration. The School also makes use of television in therapeutic community work.

Quantitative Aspects of Television

Although careful and accurate records have been kept of the work and output of the Television Service, it is very difficult, if not misleading or dangerous, to attempt to draw any blanket conclusions about costs or cost-effectiveness. As has been shown, the uses of the Service are so varied and the range and nature of the programme material so wide that comment can only be made on the separate uses of television. Simplest to assess are the costs and effect of 'visual-aid television'. This means that the Service installs, maintains and retrieves the cameras which form the central pool of equipment. The experience of the Service is that by using television cameras there is a reduction of something like 20% in demonstration time.

It is relatively simple to calculate the time involved in a straightforward, live overflow lecture. Even a conscientious academic will rarely spend more than 30 minutes discussing an hour's lecture. Here the major contribution of time comes from the television unit. Up to 10 hours of technician time (because several cameramen may be involved) and perhaps 1 hour 30 minutes of production staff time would be required. Although the overflow situation does increase the 'productivity' of the system, within Glasgow University this technique has largely been used to solve some quite acute and relatively short-term problems of staffing or timetabling rather than as a deliberate attempt to reduce costs.

In comparison with the overflow situation, where the lecture would have taken place anyway, the direct teaching approach of the Mathematics Department in Strathclyde University presents a very different set of figures. Here, although no great degree of sophistication was attempted, the lecture was planned to be delivered direct-to-camera and to be closely related to students' printed notes. This involved considerable planning and preparation. For one teaching hour, the lecturer spent between 7 and 10 hours preparing his material,

discussing it with the producer and rehearsing and recording it. The producer required 7 hours to discuss, plan, rehearse and record and the graphic artist required 13 hours. There were 21 hours of technical staff time involved in setting and lighting, rehearsing and recording. Against this expenditure of man-hours must be set the fact that some of the tapes have been produced for a potential audience which will never be less than 3,000 students. And this makes no mention of the qualitative effect on the teaching system.

The recorded demonstration presents another set of figures. A typical 15-minute recording of demonstration and instructions for laboratory work in the Department of Natural Philosophy required 12 hours of academic staff time, 12 hours of producer's time, 6 hours of graphic artist's time and a total of 30 man-hours of technical staff time. This 15-minute recording could have about 80 transmissions in one year and have a life of three years. The use of such recordings replaces 48 hours of demonstrator time per week for a period of 20 weeks in each year. It should be appreciated that using tapes for this purpose does not represent a loss of contact between student and supervising staff; in fact staff effort, released from repetitive demonstration, is available for more productive forms of supervision.

In the area of recording interviews, costs and the consumption of time can be extremely variable - the location and the hours in which it is accessible are the controlling factors. An 'average' figure for the simple two-camera coverage of a bedside-teaching situation lasting one hour may involve 10 technician man-hours, 2 - 3 hours of manual staff and 2 hours of producer's time. On the other hand, medical teaching which is prepared 'as television' in the studio may take far more time. One 6-minute recording of a specialized medical topic, involving a good deal of specialized equipment and precisely synchronized activity in the studio required 40 hours of technician time and about 4 or 5 days of producer's time. The two senior cardiologists who were involved had spent days on planning and preparation and each spent a complete day during the rehearsals and recording in the studio.

At the most expensive end of the scale a complete mobile unit was sent for several days at a stretch to record group therapy work in an outside institution. The final ratio was 50 technician hours and 10 producer hours for each hour of material. These figures are very modest when compared with those of the most ambitious of the studio presentations for the literature

departments. A 50-minute recording of The Duchess of Malfi required 218 technician hours; 79 hours of designing and set construction; 28 hours of assistant producer time and at least 50 hours of producer's time.

These last two undertakings are exceptional, but still part of the total picture. Projects which are expensive in time have to be scheduled outside the academic term when other pressures would make them impossible. The value of a centralized service for the whole University which can use otherwise slack periods in the teaching year is here apparent.

In the University of Glasgow, television is regarded as a central service and in that sense is available 'without charge' to teaching departments. The allocation of resources is on a day-to-day basis by the Director, under the guidance of the Television Committee. Where there have been external requests for material and other facilities, charges are made at cost.

Research

Although the Service has not undertaken any programme of formal research there has been continuous observation and assessment of the various uses of television. In addition to staff assessment, students' opinions and attitudes have also been canvassed and measured. In the University, television has often been seen as offering the solution to a practical problem; because television has obviously been a solution and because the problem has been an urgent one, the obvious line of action has been to go ahead with the use of television rather than to create comparative situations which would yield quotable research findings.

One general point which has emerged time after time in comments from teachers in all faculties is that there is virtually no situation in which television should be regarded as a sole medium of instruction. It is a satisfactory medium for the lecture - but only if there are other contacts with the student. It may carry a whole course of lectures, but only where there is an integrated system which includes the issue of printed notes and regular tutorials. As a visual aid television has not superseded the blackboard and projected illustrations, but has taken its place along with them.

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The first, and perhaps most important, common factor in these studies is that in each case the television service is fully under the control of the education authority and forms an integral part of the

education system. There is no division of control or loyalties. Staff are employed on a full-time basis by the education authorities. Technical as well as production staff are involved, although in the case of Zambia, engineering and other studio staff are provided by the national broadcasting service. In this type of situation 'service' has its full meaning, as all activity can be directed to the needs of the educational system.

Although television is often described as a mass medium and viewing figures of over 500,000,000 have been recorded for occasional international events, this study would seem to indicate that it is most effective when used over a comparatively small physical area. There appears to be a number of reasons for this. The first is technical - it is easier, more reliable and cheaper to cover small distances than large ones. The second is more far-reaching and is concerned with the need to make provision for effective classroom utilization and evaluation. Television provides a one-way flow of information to the classrooms. A mechanism to provide contact between the users and the producers must be created, wherever possible, by personal liaison. It is much easier to establish an infra-structure to achieve this in compact areas. A third factor, related to the first two, is that of maintenance of receivers. Whatever system of maintenance has been devised - and the need for a system is important - it has been found that whenever breakdowns occur, users first make contact with the television service. It is important that the service can then respond rapidly. Here again small distances make for easy communication and action.

The realization that 'educational television' is much more than equipping and manning a television studio is a lesson to be gained from the services which have been studied. Production is important but just as vital - if not more so, since this is the justification for its existence - is reception. Responsibility for this has been accepted fairly and squarely by the services. The provision of receivers with arrangements for their maintenance and installation is most important. An authority which commits itself to establishing an ETV service without ensuring adequate provision for receivers in its own schools betrays a lack of confidence in its judgement to use television. Hong Kong has provided one television receiver for every two classrooms and up to ten receivers per school.

The scale of activity is also important. If a service is so restricted in its output that it makes no impact on the educational problem which it has been set up to

solve, then its existence should be queried. Television is capital-intensive and output should be as high as possible. In this respect all three studies showed that saturation point had almost been reached in terms of available facility, studio and transmission time.

Although television programming was the main element in the projects described, their effectiveness has not depended on this alone. Nowhere was television used in isolation. In Glasgow University, the human presence was important, in Zambia the supporting notes were eagerly sought and used - even when the television programmes were not taken. Hong Kong produces both teachers' and pupils' booklets for all programmes and Singapore is developing an ever-increasing range of supporting materials. This trend is fully reflected in the Chapter on Teaching Resources. The time has passed when the 'television programme' can be considered as an educational entity. Taken out of its educational context and without its supporting material it is no more relevant or valuable than one piece of a jigsaw puzzle. Because of this it is extremely difficult to compare the 'quality' of television programmes from different services. One noticeable feature which the services showed was their insistence on as high and as professional standards of equipment and operation as were consistent with funds available. It was felt that if the technical quality of output were sub-standard, this would devalue the professional content.

In all the services studied, with the exception of Zambia, the output was exclusively of local production to meet local needs. International transfer of complete programmes was not considered satisfactory - particularly at the primary and secondary levels. Modest use was made of film inserts acquired from outside sources, but in general it was felt that whenever possible local resources should be used.

Because its products are open and exposed to comment, an ETV service requires competent and capable staff. The services see recruitment and training of staff as being of major importance. The identification and appointment of the senior personnel who have developed the services have undoubtedly contributed in no small measure to their success. The influence of staff on developmental activities - particularly executives - is difficult to quantify or describe but is nevertheless consistently present in successful projects. It is a factor which planners should not overlook.

The demands of running an ETV service are not those of running other departments or

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activities in educational systems. Administrative procedures which are adequate for most purposes can easily choke and stifle their work. It is noteworthy that each of the services has been able to devise procedures which allow sufficient freedom of action and latitude in expenditure to enable them to carry out their work effectively.

No matter how much money, time, care and effort is put into the creation and production of television programmes, all is wasted unless they are used in the classrooms. Classroom utilization is of crucial importance. It is this area above all others that demands most attention. It is here that weaknesses invariably occur. Even at university level, the relaying of a live lecture to an adjoining room needs

the presence of some form of supervisor. The attitudes of teachers are an important factor in effective utilization. This is fully appreciated by the services studied which have all made extensive and intensive efforts to 'involve' the teachers. Contact through courses in utilization, visits to schools, visits to the studios, through professional associations and committees, through journals and leaflets and also through regular use of evaluation forms has been established and maintained. It is worth noting that here again, small distances assist considerably.

It is appreciated by these ETV services that the best way to ensure that their work is effective is to make it attractive, relevant and useful to their colleagues.

CORRESPONDENCE EDUCATION

The most striking feature to emerge from any study of correspondence education is 'the vigour of this branch of adult education in spite of official neglect and scholarly disapproval'. Although correspondence education has attracted comparatively little attention in a large number of countries, from educationalists, official governmental bodies, a number of countries has made full use of its advantages for a long time. Australia and New Zealand have had correspondence education systems for more than fifty years. A study of Part One of this Report along with information from other sources makes it apparent that there is a large and growing interest in the use of correspondence education. This interest ranges from using correspondence education at early levels in the education system up through secondary, tertiary and into adult education. There are millions of people who do not have access to formal or conventional educational institutions. There are those who live in isolated areas; those in countries where educational establishments cannot cope with the numbers who wish to enrol; those who are physically or otherwise handicapped; those who have dropped out of the educational system but who wish to return to it; those whose education was interrupted and shift workers in urban areas who cannot attend an institution at regular hours.

By the very flexibility with which correspondence education can be adapted to the needs of the individual, it is possible for it to serve a wide variety of purposes. It has been shown that correspondence teaching is effective in all subjects which can be taught by the lecture method alone; indeed even in subjects in which practical demonstration or laboratory work are important, there has been a measure of success, particularly when the correspondence tuition has been reinforced by other techniques.

One of the many reasons for studying by correspondence is to gain professional or vocational qualifications which enable the student to increase his earning capacity. Here correspondence education for in-service teacher training is of considerable significance; there is a long history of its use for this purpose. This is perhaps one of the most effective areas in which correspondence education has been used.

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CORRESPONDENCE COURSE UNIT OF THE UNIVERSITY OF NAIROBI, KENYA

Introduction

In 1964 the Kenya Education Commission (led by Professor Ominde of the University of Nairobi) recommended inter alia a 'combination of lessons by radio with an approved correspondence course', and suggested that if the required facilities could not be provided by the already established commercial correspondence colleges 'it may...be necessary for the Ministry itself to enter the field of education by correspondence...'.
'

Private commercial correspondence colleges had already begun to exploit the large market of adults for whom no other opportunity of secondary education existed. Clearly, it was appropriate for government to offer a non-profit-making correspondence course to meet this requirement. Additional powerful reasons arose through the imbalance of educational opportunity, created by scattered populations, poor communications and lack of trained teachers, and the need to create a sense of national unity amongst disparate ethnic groups. Statistics indicated that about 64% of the children aged between 7 and 11 were getting into primary schools. However, given a number who repeated their years, and others who dropped out, it could be that roughly 45% of this age group did not get into the formal school system. In wealthier areas, with high population densities and where the influence of Christian missions had been well established, the rate of attendance could have been as high as 80 - 85% but in other districts the rate was perhaps as low as 35% - which means that 65% of the young people did not get into the primary school system at all, and at the secondary level an even more serious problem emerged since this is the sector which provides most of the 'middle management' leadership in a newly independent country.

It was argued that an effective radio correspondence instruction system would help to increase access to schooling in less favoured areas and by making further education more widely available, it would enable citizens to advance themselves within the structure of society.

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Two years after the publication of the Commission's Report, the Government of Kenya sought technical assistance from USAID for the establishment of the Correspondence Course Unit (CCU) in the Institute of Adult Studies of the University of Nairobi. In 1969 the team from the University of Wisconsin, who had helped establish the unit, completed their work and withdrew, and responsibility for the work of the CCU was handed over to the University of Nairobi in March 1971. The CCU is now an integral part of the Institute of Adult Studies.

The primary objective is the in-service up-grading of primary school teachers. Unqualified teachers, who have had only seven years of elementary schooling, can obtain a recognized trained teacher's grading (P.3), if, after completing a correspondence course, including attendance at short residential courses, they successfully pass an end of course examination. Trained (P.3) teachers, who would normally have had seven years of primary education followed by two years of teacher training, can themselves be upgraded by passing a national examination (Kenya Junior Secondary Examination, KJSE). The Correspondence Course Unit offers a KJSE Preparatory Course for this.

As a subsidiary objective, the Unit also enrolls other adults for courses leading to the KJSE Certificate. This is popular with staff of both government and private organizations who seek promotion.

In the future the Unit intends to develop courses leading to higher certificates including first degrees.

User Profile

By April 1973 7,185 unqualified teachers and a further 2,464 other adult students had enrolled for courses.

An analysis indicates that school teachers comprised the majority (90%) with other students coming mainly from the armed forces, the police and prisons department and from the Kenya co-operatives. A 'typical student' is between 21 and 40 years old, male, married, and has more than four dependants, including members of his extended family. His house has no electricity and he owns very few books. He may have access to a very small library, but it is probably miles away and impossible for him to use regularly. He does not regularly buy a newspaper, but he does own a radio which is his principal source of news and information about the world outside his own small community. It is mainly for this reason that radio pro-

grammes prepared by the CCU and broadcast over Voice of Kenya are used to supplement the correspondence instruction. It has been established that a large proportion of the enrolled students make a point of listening to the radio programmes regularly, although many of them may be working through their lessons well ahead of, or behind, the radio schedules.

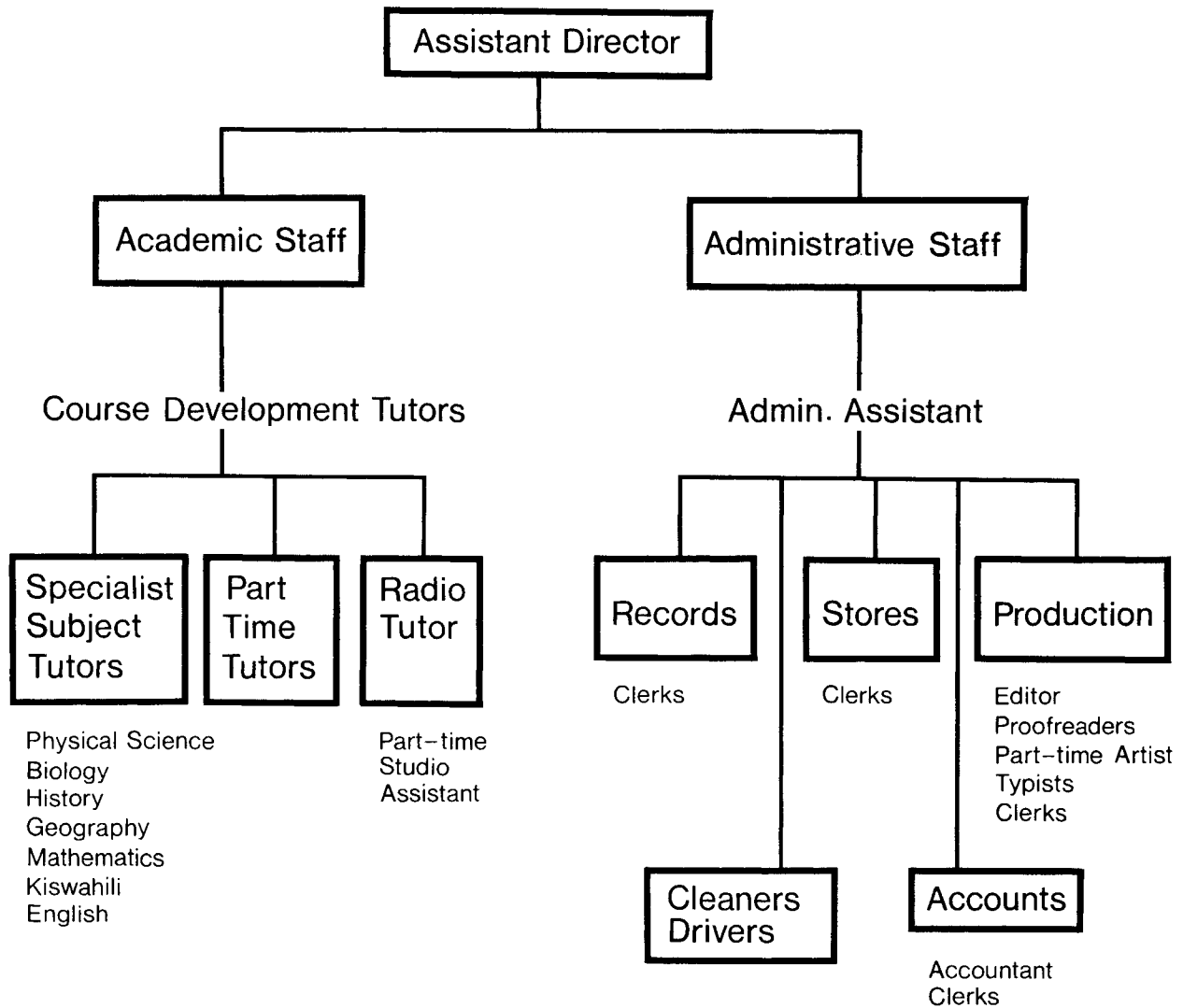
The Unit has long realized that, in addition to the enrolled students, many others have been using its study material in less formal ways. It is difficult to estimate the number, but there is evidence to suggest that about 20% of students pass on their material to other people. Further evidence of wider public benefit can be gleaned from surveys conducted in 1969 and 1970 by the Voice of Kenya, which claims that when CCU broadcasts are 'on the air' roughly 400,000 adult listeners have their radios on. The CCU treats these figures with considerable reserve. It has, nevertheless, considered it worth while to modify the radio programmes slightly and introduce a more flexible format to cater for those listeners who are not studying for examinations, but find the programmes interesting and informative.

Administrative Structure

The Unit is considered to be an important instrument for national development and its areas of activity are determined by the Ministry of Education and co-ordinated into the national development plans by the Government. The Assistant Director, who is in charge of the CCU (he is assistant to the Director of the Institute of Adult Studies of the University, who has overall responsibility to the University for the administration of the Unit and the maintenance of high academic standards), is the Ministry's principal adviser on all matters relating to correspondence education.

The following organogram indicates the division of responsibility between the academic and administrative staff. The executive head of the Unit is a qualified graduate teacher with practical experience of problems of adult education at university level. He is a keen broadcaster and also needs to draw heavily upon his very considerable managerial ability.

He is aided, on the academic side by the course development tutor, who is also a well qualified teacher, experienced in adult education and the correspondence field. He is responsible for course planning, development and programme evaluation. He organizes residential courses, is in overall charge of the counselling of



students and is also responsible for the work of the specialist subject tutors who are qualified and experienced teachers with training in correspondence education. Each, in turn, is responsible for his own course writing and revision, and the specialist professional aspects of implementing the course, including the organization of residential teaching opportunities, the supervision and training of part-time tutors and the co-ordination of activities with the radio tutor.

The radio tutor, specially selected and recruited for his broadcasting experience and skills, has to work with subject tutors and is then responsible for the production of each radio lesson. Transmission facilities are provided by the national broadcasting organization (Voice of Kenya), and this radio tutor is responsible for liaison between the two organizations. The radio tutor is also responsible for all mass media implications in forward planning of projects.

Part-time tutors, of whom fifty are currently employed, are expected to mark and comment on students' written assignments and return them within forty-eight hours. Marking standards are supervised by each subject tutor who is also responsible for general supervision and training of the part-time tutors. Part-time tutors are responsible also for their students' course evaluation and participate fully in residential teaching.

On the administrative side an administrative assistant, an editor assisted by proofreaders and part-time artists, and an accountant, with supporting secretaries and ancillary staff are needed to keep the Unit going.

Subject tutors and all other full-time staff are appointed by the University Appointments Board. Part-time tutors are appointed by the Head of the Unit, with the approval of the Board. This is an internal

arrangement made to speed up the appointments of the part-time tutors, script writers and proofreaders.

Training in course writing and in radio scripting and presenting is carried out on the job by the staff of the CCU. Assistance is also given by the Voice of Kenya and the Kenya Institute of Mass Communication (which specializes in television, radio and film production training). Specialist training has also been undertaken by the University of Wisconsin (USA) and by CEDO in London. Training needs are identified by the Head of the Unit in consultation with section heads and study leave is granted regularly by the University to the academic staff.

Programme and Courses

The one-year programme offered to unqualified teachers is their only means of upgrading. The candidates are carefully selected from among those who have been teaching for over three years and have given evidence of ability and motivation. Enrolment is open throughout the year. The programme is controlled by a separate institution - the Kenya Institute of Education - through their field officers and the courses proceed in stages which together form an integrated and complete training course. Four subjects are given, each with a total of 72 lessons. The residential sessions held during the school vacations are compulsory and the final examination is conducted at the end of the year. It is a rigidly controlled single-purpose and 'closed' in-service programme and quantitatively has proved to be highly successful in terms of completion rates of assignments, which must be within the year, and pass rates in the final examination. The total number of courses offered since 1969 (five years) is 21,355 (an average of three subjects per student).

In 1973 the CCU offered the following subjects at KJSE, (both Form I and Form II) level: biology, English, geography, history, Kiswahili, mathematics and physical science, each with a total of 72 lessons. These courses cover the entire range of academic work normally done in two full years of study in secondary school. A total of 12,853 courses has been offered to date, with an average of five per student. The CCU emphasizes that its courses are not examination crammers and that its programme involves a much wider field through the planned and systematic selection, preparation and presentation of teaching materials, as well as reinforcing and assessing what the student has learnt. The following elements are used: (a) correspondence

study guides, textbooks and other teaching materials such as maps, mathematical instruments, science experiment kits, etc; (b) supplementary radio broadcasts covering the material in one or more lessons of the study guide; (c) marking of students' lessons; (d) occasional face-to-face teaching during residential courses.

All lessons in the study guide contain selective (rather than exhaustive) self-test exercises with which the student checks his understanding of the study material. Alternate lessons require written assignments to be submitted to the CCU for marking, although there is no time limit on an assignment. The student can work at his own pace, although the basic KJSE programme has been designed to cover two years.

The supervisory staff emphasize that the instructional process functions effectively through carefully establishing and maintaining contact between the student, the teacher and the Unit. Particular attention must be paid to recruitment and enrolment of students, and to the distribution of study materials, the handling of lessons and the conduct of end of course examinations.

The Unit is equipped with its own printing, duplicating and binding facilities. Other sections deal with registration, mailing, records and accounts. It has its own radio production studio where completed programmes are recorded on tape, and later handed over to the broadcasting authority for transmission. The Unit also has a small science laboratory where work is in progress to develop a capability to teach 'relevant science' through correspondence methods. A science experiment kit has been developed which accompanies the correspondence materials. The Adult Study Centre, adjacent to the CCU provides all facilities for residential courses for up to sixty students.

A study of the work of the CCU (by Klaus-Peter Treydte sponsored by the Friedrich Ebert Stiftung and completed in April 1973) indicates, however, that of the serious and enrolled correspondence course students, only 15.19% listen to the radio lessons regularly, 37.41% occasionally, 22.59% seldom and 17.78% never. The researcher drew the conclusion that 'it is right not to emphasize the radio part of instruction too much. At the present stage it can only be regarded as an enrichment programme and the study guides and textbooks combined with the correspondence (i.e. correspondence in the narrow sense) have to be self-supporting.'

However, the researcher also found that for 29.63% of students the broadcasting time (5 - 6 p.m.) was not suitable, also that 16.66% had no radio set and 5.19% found that reception was too poor.

Of those students who found the radio programmes useful, 68.52% listened at home and 8.15% listened on radio sets in schools. Again, 51% used the radio lessons intensively (listened and made notes), 20% listened and read respective passages in textbooks and study guides, whilst 28% just listened.

61.48% of the students considered the radio lessons to be very helpful, and 25.93% thought them of little help.

In the researcher's view, the evidence suggested that 'the radio lessons are a valuable instrument for enrichment of the correspondence instruction and of increasing motivation and probably establishing a verbal feedback for the student'. He stated also that the main criticism of the programmes was that they were too fast (too difficult).

Certainly there is a feeling that the broadcast programmes are monotonous in their presentation and that much can be done to change the format to produce livelier and more interesting radio programmes for the students.

The survey also revealed that at that time only 10% of students had participated in the one residential course that had then been held by the CCU. It is therefore probably too early to draw conclusions from this part of the enquiry, but it is probably important to note that many students said they could not attend because they did not have time and an equal number because they had no money. Shorter (two- or three-day over weekends) courses are now being held up-country with the assistance of the extra-mural staff of the Institute. These are designed for the students.

Problems have arisen with the postal delivery of materials. For example, assignments are supposed to be marked and returned within forty-eight hours, but in practice this often takes longer. In the survey just under half the students complained of delays in getting materials. Again, the rate of submitting written assignments was very high in the case of the unqualified teacher students. (Those submitting no written assignments were below 1% and over 36% submitted all written assignments). However, with the higher course - those studying for the KJSE - the figures were reversed and roughly one-third submitted no written

assignments at all. It is compulsory for unqualified teachers to submit at least two-thirds of the total number of assignments whereas KJSE students are not bound to submit any assignments.

Evaluation

Programme evaluation is built into the work of the Unit and is the specific responsibility of the course development tutor.

In addition to this on-going evaluation the Unit has arranged for specific enquiries to be held from time to time (Kinyanjui 1968, Nturibi 1970, and Thiede 1971 and Treydte 1973). The first three evaluations were internal and the last test was conducted by an external research fellow through the generosity of the Friedrich Ebert Stiftung. Its survey was conducted on the basis of a detailed questionnaire. Some of the findings of this enquiry have already been mentioned, but perhaps the most interesting observation of all was his estimate that the drop-out rate of CCU students was somewhere between 15% and 25%. This is a low figure when considered against the experience of others (working in Europe) who found that only about a quarter of those initially enrolling complete their course. However, the CCU students are mainly teachers, mature in outlook, and are presumably highly motivated by the immediate benefits to be derived in terms of promotions and increased salaries once they have passed their examinations. Moreover, failure may bring the possibility of their being phased out of jobs as more qualified teachers enter the profession and posts become more competitive.

Other analyses of students' performances have revealed that CCU candidates compare favourably with other candidates sitting the same examinations. For example, the average pass rates for CCU candidates were 42% in 1968, 46% in 1969 and 51% in 1970 as compared with school candidates who received 16% - 30% in the various provinces, while private candidates achieved 8% - 15% pass rates. In 1970 when the CCU achieved 51%, the highly selective government-aided schools averaged 47%, the unaided schools 20% and the private candidates 13%. In the various subjects offered by the CCU the average pass rates have gone as high as 76% in Kiswahili, 57% in English and 55% in history.

At the other end of the scale, in an analysis of reasons for failure derived from the students' own appraisal, 50% said they did not work hard enough in their study, 17% said they did not submit enough written assignments and 11% quoted lack of

sufficient radio listening. However, it is undoubtedly a fact that very many teachers tend to register for examination every year in more subjects than they could reasonably pass, in the hope that they might just collect the required number of passes to qualify for higher grading in the shortest time possible.

Given that the primary objective of the CCU is to help improve the quality of teaching at primary level, it is clearly proving to be remarkably successful in helping teachers to achieve acceptable qualifications or to improve their grading. However, realistically, the Director of the Unit reports 'encouraging as the results for the CCU candidates are, it is too early to conclude that they can indicate success. It has yet to be demonstrated that a P.3. teacher, for example, improved his performance in a classroom after being upgraded to the P.3. grade. Nevertheless for most CCU students this was the first time that they had been engaged in an organized and systematic form of study since they left formal institutions. This has been confirmed by many letters from successful students who felt that they had benefited from the correspondence courses and that they received individual and personal tutoring through the post and through the radio from teachers they probably had never met.'

It is perhaps in the programmes designed to assist unqualified teachers achieve acceptable qualifications that the effectiveness of the operation is easier to study. Since the inception of this programme an overall 82% of those who enrolled have completed their courses successfully and were awarded P.3. teachers' certificates. But, perhaps the most important current 'evaluation' is to be found in the external assessment of the Kenya Institute of Education (quoted in the 1969 Annual Report of the Ministry of Education) 'the unqualified teachers who have successfully completed the course and were issued with teaching certificates compared very well academically and professionally with those qualifying from the teachers' colleges'.

One particular advantage of the correspondence course is that the teachers can continue to be productive while upgrading themselves. Also the situation in which they learn is very much like that which they will be applying their new skills.

Certainly in the course of a series of visits to a cross-section of Kenya's primary schools, in June 1973, the teachers, and indeed headmasters, who had

obtained their basic qualifications through the courses offered in conjunction with the CCU were notable for their enthusiasm and dedication. This was in one sense not surprising, since they were of the few chosen from the many for the initial courses. But it still seemed very reasonable to assume that this additional opportunity for professional advancement had helped to give further purpose and direction to their work and lives, in the face of difficulties which many would regard as overwhelming. Consequently they were better teachers.

An observable characteristic of the CCU which seems to stem as much from the attitudes of its original designers as its present leaders, is an awareness of its pioneering role in an important sector of Kenya's development programme. The staff accept that their routine evaluations inevitably reveal weaknesses in some areas, as well as strengths in others. But, they also accept their responsibility to try to eliminate the weaknesses in a continuing search for ways of making the units work more effectively. This is particularly evident in their forward planning. The last section of this report gives an indication of the ways in which this is happening.

From 1968 when the first enrolments were accepted in the Unqualified Teachers' Programme to 1970, 82% had completed their courses satisfactorily and were awarded the P.3. Teachers' Certificate. In one year (1969), (total enrolment of 5,839 courses) the percentages of passes in the final examinations in academic subjects were English 95%, geography 96%, history 86% and mathematics 90%.

Costing

A rough calculation, based on total capital expenditure (assume amortization over five years) and total recurrent expenditure for the total number of students accepted since the Unit began in 1969, shows that the costs, for a five-year period, have worked out at slightly over Kf45 per student, or Kf13 per course. Approximately Kf100,000 has been spent on capital equipment and the annual recurrent expenditure has risen to just Kf100,000 of which Kf75,000 represents salaries and Kf25,000 materials. Against this students themselves have to pay a fee based on the number of subjects taken. This is about 50 Kenyan shillings per subject (Kf1 = 20 Kenyan shillings). There are reductions to encourage students to take a number of subjects at the same time, and students may pay their course fees by

instalments of twenty shillings a month, on top of an initial deposit). Thus it will be seen that students are in fact contributing a substantial proportion of the cost of their courses - a factor which could become increasingly advantageous to government as the inaugural work of developing new courses diminishes, and especially if there is an increase in use of the course materials.

It is interesting to compare these costs with those of full-time formal education. For example, published figures show that the recurrent government expenditure on secondary education in Kenya during 1970/73 was about Kf4.7 million. This sum was dispersed amongst about 310 government and government-aided secondary schools with a total enrolment of around 75,000 students. From this it will be seen that the per capita costs of this sector of secondary education are slightly over half as much again (roughly £63 per student) as those of the correspondence courses. (It will be recalled that in Kenya there are also about 500 'self-help' unaided secondary schools which cater for about 53,000 students, and the possibility exists of CCU materials being used to enrich the educational experiences of these pupils). The rate of success in passing the KJSE examinations is considerably higher with the CCU.

However, it is clearly dangerous to compare the formal educational schooling with the correspondence course too closely. Both, in fact, have separate and complementary roles to play.

Future Plans

Proposals have been put forward and accepted in principle for an expansion of the programmes offered by the CCU. In part this acknowledges the pressure resulting from there being too few places in secondary schools. Private and commercial correspondence colleges have exploited this large market (it is estimated that one commercial correspondence college, based outside Kenya, has over 100,000 Kenyan students paying fees approximately five times higher than those for the CCU courses), and it is therefore completely logical for the government to plan to expand the work of its own Correspondence Course Unit and particularly to include courses of a vocational and technical nature for adults already employed in business and industry.

The development of business courses dealing with office practice, principles of

accounting, statistics and typing began in 1972/73. Planning also commenced on a series of technical courses dealing with technical drawing, building, civil, electrical and mechanical engineering. The feasibility study has indicated the necessity to combine these with the use of facilities in technical schools during the evenings and vacations for the intensive practical instruction which is an essential ingredient in technical courses. This phase of the development will probably have to wait until more facilities become available throughout the country. Meanwhile it is envisaged that small business and farm management courses will be developed to meet local needs.

A special group of blind students has followed the CCU programmes. The students have listened to the radio and have had the written materials read to them by relatives or friends. The CCU forward planning includes a service to make recordings of their broadcasts available to blind students.

Apart from increasing the number of students (and considerable thought is here being given to the possibility of incorporating the course materials as learning resources in the 'self-help' secondary schools) the CCU is investigating the potential of other educational media and technologies that could improve its overall effectiveness.

In the long term it is possible that the Unit may move into the realm of degree courses for external students, and this is accepted in principle by the University of Nairobi. Initially, it is thought that the faculties of education, law and commerce will be involved and a close watch is being kept on the work and progress of the Open University in Britain, since it is clear that the experience of that organization could be of value to those who are guiding the destinies of the Kenya Correspondence Course Unit.

An alternative set of plans being examined by the Institute of Adult Studies is to provide rural education programmes through the mass media to the large captive audience of the correspondence course radio programme. Developments might integrate the use of film, radio and newspapers with organized discussion groups in various rural areas. Several institutions are cooperating in examining these possibilities.

THE NEW ZEALAND CORRESPONDENCE SCHOOL

Introduction

Although the New Zealand Education Act of 1877 stated that all children must of right receive free education, there were until the early 1920s, many children living in very isolated communities who were receiving no education whatsoever. Groups of parents of those children began to exert pressure on the Government to provide an education service. Arising from a decision by the Minister of Education, a Correspondence School was set up in the Department of Education in 1922 to cater both for the needs of those children and also for those suffering from physical disabilities which prevented them from attending normal schools. From a modest beginning with one teacher and an initial roll of eighty-three pupils, the School has developed until it has now reached its present roll of around 8,700 students (both children and adults) and a staff of around 250.

The Correspondence School, which is a State school directly under the Department of Education, is now an important and integral part of the New Zealand national system of education. In general it provides schooling for those children who for some reason or another are unable to attend a school in their own local district. Besides providing a full education for pupils of school age, the Correspondence School also provides tuition for special 'part-time' groups, including young people who because of the nature or place of their employment are unable to attend evening classes. In addition courses are provided for teachers to enable them to improve their professional qualifications. The basic means of providing tuition is through the normal postal delivery service. The School offers a wide choice of courses and subjects. However, the Correspondence School of New Zealand has always attempted to be much more than a marking or tuition service. It aims to provide the children enrolled with all the facilities of a good school and to give them a sense of belonging to, and sharing in, the ideals and traditions of a school.

Over the years this tradition has been established. The School has its own badge and uniform. It has its own motto and school song. It broadcasts to its pupils every day of the school year and holds school assemblies by radio every fortnight as well as its own breaking-up ceremony at the end of the year. There is also a school magazine, The Postman, containing pupils' poems, essays and stories, very similar to

publications produced in ordinary schools. Arrangements have been made with the appropriate authorities to provide medical inspections and dental treatment as required by pupils of the School. The teachers are subject to the same conditions of employment as other teachers in primary and secondary schools. They work to the same syllabuses and as far as possible prepare children for the same examinations and vocational ends.

User Profile

Not everyone may enrol with the Correspondence School. Pupils are expected to attend their local schools if at all possible. Before a pupil is accepted he must first satisfy the Education Board in his district that he is unable to attend his local school. There can be two major reasons for this. The pupil may live over three miles from a school or school bus route, or there may be health reasons. Enrolments on the grounds of ill health or physical disability have to be supported by medical certificates.

Children who are temporarily prevented from attending their own schools because of accident or protracted illness or any other cause may be enrolled with the Correspondence School. These enrolments are normally approved for periods of not less than six weeks and each application again requires the provision of a medical certificate. Another important and growing area of enrolment is that of pupils who are already attending secondary schools but, whose schools may be unable to supply a satisfactory course because of staff shortages or other reasons. Small schools may not have the full range of specialist teachers. Pupils have wider aspirations than in the past and wish to study a broader range of subjects. These enrolments have to be approved by the Department of Education. During the course of this study some 150 girls from an up-country girls' school were enrolled in mid-term for social studies courses. This had been caused by the unforeseen departure of two teachers from the school. Strong centralization of the New Zealand educational system enabled these girls to be accurately placed and rapidly provided with correspondence material.

The numbers of part-time students in the School are increasing and now they form a very significant part of the total enrolment. There are around 3,200 pupils in secondary schools who are attending day school full-time but taking some subjects from the Correspondence School.

In addition, adults who are unable to obtain tuition at their local night schools or who are restricted by family commitments may apply for any of the courses offered by the School. They are enrolling in greater numbers than before, largely because of an easing of the regulations for both School Certificate and university entrance examinations. In the past a minimum of four subjects was required to be taken at one examination sitting; subjects can now be taken individually.

Figures show that part-time students in the School have an average enrolment of two subjects whereas full-time students of the School have an average enrolment of six subjects. A part-time student is regarded on the basis of a complex mathematical procedure - as being equivalent to two-fifths of a full-time pupil. Therefore each teacher in this section of the school copes with fifty part-time pupils.

Administrative Structure

Almost all 250 members of staff of the School hold positions equivalent to those of full-time members of the teaching profession. Work in the Correspondence School can, and does, form part of normal teaching career development and transfer and promotion into the Correspondence School from traditional schools and from the specialist services such as the Curriculum and Development Unit, are features of the system. The secondary department has the largest number of teachers - 135 - with each teacher being responsible for twenty full-time pupils or fifty part-time pupils. Fifty members of staff are employed in the administration of the School and thirty-five in the primary department. There are twenty-five part-time tutors, mostly in the teacher education department and there is also a small number of visiting teachers. Recruitment to the School is normally conducted by advertisement in the Department of Education's official 'gazette' and almost without exception all the teachers who are appointed are trained and certificated - with a very large percentage being university graduates.

Although new recruits to the School do not need to be trained as teachers, all new members of staff receive in-service training in correspondence education during the first year of their appointment. Senior teachers and heads of departments are responsible for the work of their groups and for the continued counselling and training of their teachers.

The teacher education department also makes use of the services of senior and

experienced educationists who have recently retired. Appointments for this section are normally by invitation.

It is a strongly held belief within the School that without an efficient administration a correspondence school is unlikely ever to be successful. It has been estimated that just to enrol one pupil in this School something like twenty-five address labels must be printed and used. A system able to cope reliably and swiftly with the mechanics of enrolment, processing of material through the system and distribution, is of paramount importance. It is only now, at a comparatively late stage in the development of the Correspondence School, that the very labour-intensive system which had been in use has been replaced with the installation of a new NZ\$ 10,000 mechanized addressing system.

The integration of the Correspondence School into the fabric of the educational system means that the salaries of the staff, the costs of the buildings and materials are all inseparable parts of the larger expenses incurred by the Department of Education.

The Infant School

Courses are provided for children from five years of age and cover the first three years up to Standard I. Most assignments of work are planned to last the pupil for two weeks: ten working school days. One of the biggest problems for this section of the School is reassuring the mothers of very young children that they can cope with the task of administering the lessons, i.e. 'act' as a teacher. The experience of the School is that, in general, mothers can cope very well. Each teacher in this section has responsibility for some forty pupils. The results achieved by the School are at least equivalent to those in ordinary schools in all aspects except that of the social development of the children. Even at this level the assignment material is rewritten entirely every five years or so, but is modified annually at every reprinting. The present materials and formats were newly devised some ten years ago in response to a major curricular change.

Primary Department

The primary sections covers five years. Here the average number of pupils under the care of each teacher is about thirty-two. Each teacher is expected to 'teach' or work through two-and-a-half units per day, i.e. meeting the needs of two-and-a-half pupils. At this level radio is used mainly for

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stimulation and cross-fertilization of children's ideas. The main problem encountered at this level is that caused by the children of itinerant workers and others who are only enrolled for short periods of time. There is also a special section within the Primary Department, the Individual Programme Section (IPS), dealing with children with learning difficulties due to physical, mental or emotional factors. These include:

- (a) those homebound for physical reasons, e.g. epilepsy, muscular dystrophy, etc. and who are thus late starters;
- (b) borderline cases who are just able to benefit from courses of this type, e.g. fifteen-year olds with ability levels of five;
- (c) emotionally disturbed children - particularly those in need of a one-to-one relationship with a tutor;
- (d) exceptional children, i.e. those with an IQ of 170+;
- (e) pregnant schoolgirls of below secondary age;
- (f) young offenders.

At present there is a roll of 294 in the IPS with a staff of nine together with the Head of Department, giving a staffing ratio of around 1:29. This section has a pupil turnover of around 94% a year. Teachers in the IPS have been selected for their experience and understanding of children who are either physically handicapped or emotionally disturbed.

The Home Training Department

The Home Training Department provides developmental activities for children with special needs. This specialized section of the Correspondence School essentially deals with parents of children rather than the children themselves. The children suffer from intellectual handicaps, multiple physical handicaps which make them very frail, or with special problems such as hyper-activity or language delay. The Home Training Department of the Correspondence School acts as a resource centre for the provision of educational materials. No assignments as such are sent out, only kits and materials. The parents then respond with comments on their usefulness. Based on these comments, the flow of materials is controlled by the teacher. The materials include books, games, toys, resource materials and so on. This section is regarded as a rather specialized and somewhat separate branch of the Correspondence School making use only of the administrative mechanism of the School. The professional content of the work is very much under the personal control of the staff of the department.

The Secondary Department

Secondary pupils are given a choice of courses as wide and as liberal as those offered in a large secondary school.

There are three main groups of courses.

- (a) Academic Course: this course offers a wide range of academic subjects for pupils intending to go on to university.
- (b) Commercial Course: this course is for pupils intending to take up office work and accountancy.
- (c) General Course: there are two practical courses which cater for girls who wish to take such courses as home-craft and needlework and for boys who wish to take metalwork, technical drawing, farm practice or woodwork.

Each of the above courses leads to School Certificate in the subjects being taken by the pupil. Promotion to higher classes is at the discretion of the Principal and normally promotions are made only when the work in the lower classes has been satisfactorily completed. Pupils are also prepared for university entrance, the higher leaving certificate and Bursaries examinations.

The changes in the nature of the School from its founding in the 1920s when it only catered for primary schoolchildren has led to the stage where the secondary section has become more important. These changes have led to more attention and emphasis being given to disadvantaged children. Children enrolled at the secondary level now include:

- (a) relatively small numbers from the far outback;
- (b) those attending for reasons of illness (physical, mental and emotional including an ever increasing number suffering from school phobia);
- (c) pregnant schoolgirls;
- (d) those enrolling for social reasons - domestic problems, expulsion from school, involvement with the police, and so on;
- (e) children who are overseas.

In terms of ability most of the children in the categories listed above tend to be below average, although their level of achievement in examinations is higher than would be expected.

At the secondary level there is one teacher to twenty full-time pupils. Teachers, in addition to marking assignments, have responsibilities in organizing the numerous clubs. They are also expected to write considerable numbers of letters to their pupils. These letters are given very great importance by the School since

it is felt that they can influence pupil response. At secondary level visiting teachers are not expected to do much teaching as such, but to help students in their study and to advise them on how to use the School. 'To urge and encourage' is their role.

At this level discipline problems only arise in the non-return of assignments. The ultimate sanction is court action 'for non-attendance of school', but this is only rarely invoked. In fact, evidence shows that at least 50% of those students who have been expelled from normal schools for anti-social behaviour do very good work in comparison with their own past achievement standards. It is felt, but this has not been proved, that this is due to the personal attention which they receive, even from a distance.

In general, the results at secondary level compare very favourably with other schools and are better than those achieved in conventional evening classes.

Teacher Education Department

This section was opened in 1962 and has a roll of around 1,000 with some ten full-time tutors and fifteen part-time tutors. This section was created to provide opportunities for serving teachers to obtain a Diploma in Teaching entitling them to qualify for a higher scale of salary. In addition to the Diploma in Teaching, courses are also given for uncertificated teachers in both ordinary schools and in schools for the intellectually handicapped. In the case of uncertificated teachers they must be experienced, be willing to continue to teach and show a reason why they cannot attend a normal teacher training college.

This course lasts three years while the Diploma in Teaching course runs for one year. Students pay a course fee on first enrolment only. This fee, however, is very heavily subsidized.

The courses given in this section differ from most of the others in that they are very tightly structured, with fixed deadlines and have enrolment and examinations at fixed times. They also make use of face-to-face seminars and courses during vacations which are run by staff from teacher training colleges rather than from the Correspondence School. Students taking the Diploma in Teaching are expected to work some nine hours a week on their assignments. The courses are based on existing textbooks and the study guides for assignments are written around these. This technique differs from that used in the secondary school level courses where the textbooks are supplemen-

tary to the courses. The assignment or study guides for the Diploma in Teaching were commissioned and written by experts chosen by the Department of Education on a nationwide basis. This work is then vetted and edited by Correspondence School staff. These drafts are then pre-tested before printing. Amendment, both major and minor, is continuous. The staff for this section of the School are recruited by invitation - mainly from senior, experienced and retired educationists. It is found that students at this level are especially sensitive to criticism and liable to discouragement caused by any written appraisals of their work which are not 'encouraging'. This, again, demonstrates the absolute importance of the personal element in written communication from the School.

It is felt that this section could develop as curricular change proceeds in New Zealand. In terms of speed, efficiency and cost of implementing curricular change, correspondence education has been shown to be very effective. The staff of the Department feel that it has a value in its own right and is not a second best. In-service teacher education lends itself particularly well to the techniques of correspondence education. The New Zealand Educational Institute - the primary teachers' association or union - gives full support to the Correspondence School. This is felt to be a major factor contributing to its effectiveness.

Provision of Materials and Marking

Assignments: assignments are posted to pupils in special two-way envelopes made of green canvas. Postage on these two-way envelopes is paid both ways by the School. Books and stationery, textbooks and readers are lent free of charge to both primary and secondary pupils - although in the latter case it is only recently that a deposit has ceased to be levied. Textbooks remain the property of the School and have to be returned when the pupil leaves the School or moves to another class. There is a charge for writing materials, geometrical instruments and materials for clothing and handwork.

Materials for practical work: the School provides a range of materials probably unique in scope.

Boxes of equipment and materials are sent to pupils taking biology, chemistry, general science and physics. Experiments carried out with these can enable examination candidates to obtain the necessary practical certificates. Needlework subjects and art subjects are supplied with materials in specially designed envelopes and packages.

For woodwork and metalwork a very large range of tools is provided. Work kits containing wood, drawings, screws and other necessities are also sent out. Experience has shown that the woodworking tools travel best if wrapped up in newspaper and then put in a cardboard box rather than in a heavy, elaborate and expensive 'toolkit' type of box. These materials are despatched to pupils throughout the country by rail.

In the Languages Department of the School use is being made in a rather modest way of sound tapes. This only began some three years ago and the entire responsibility for the organizing, recording, production and technical maintenance of the facilities is the responsibility of one man. Two-thirds of all the tapes used are now in cassette form and this proportion is rapidly increasing.

It is felt there has been a tendency within the School for the marking of the scripts - or more correctly correcting and commenting on scripts - to have been much more intensive than it needed to be. This is costly both in terms of time and money. 'Overmarking' is felt to be especially wasteful where adult students are concerned, since they are capable of a measure of self-marking. There is too, of course, the basic problem common to all correspondence education of the time-lag between the work being done and its correction and return. This time-lag weakens motivation and motivation is the all-important factor in effective correspondence education. A move towards the use of a greater degree of self-marking would be invaluable. It is felt that the present period of one week between receipt of a unit of completed work into the School, its marking and subsequent despatch could not be further reduced.

Library

The Correspondence School Library has a bookstock of over 23,000 titles and, through interloan, can call upon the resources of many other libraries. All full-time secondary pupils are automatically enrolled in the Library. Part-time secondary pupils are enrolled only if they do not have the service of a local public library. To enable the best use to be made of the Library, a folder is sent to each library member in which specific requests may be made and subjects of interest noted. Books may be changed as often as wished during the term and also during the school holidays. The Librarian and his staff use their initiative in selecting and providing books. The books in the library are supplementary reading materials and are not textbooks. At any one time up to 20% of the stock is out on loan.

The Use of Radio

The Correspondence School presents a special radio programme from 9.25 a.m. every morning of the school year on the national network. These programmes answer several purposes - they serve as school assembly and school notice board. They provide the quickest and most direct contact possible between the School and pupils and are becoming increasingly important. The programmes also provide instruction in subjects such as music appreciation, French, German and Maori. Indeed in those subjects the broadcast lessons are an integral part of the instruction.

The Visiting Teacher Scheme

Since it is the policy of the School to maintain a close personal relationship with parents and pupils, in the first term of each year a team of teachers spends about six weeks or so visiting pupils in their homes. Visiting teachers make a point of visiting every pupil at least once a year. They encourage pupils to write to their teachers, not only about their work, but also about their family and other interests. In this way teachers gain an understanding of a pupil's capabilities and needs and they are often able to give that pupil more attention than he would get in a large school.

The Resident Teacher Scheme

An extension of the visiting teacher scheme is given by five resident teachers spread strategically throughout the country. The resident teacher spends most of his time visiting pupils and giving help and encouragement where needed. In addition to their visiting activities, these teachers arrange regular 'school days' and other gatherings of pupils at convenient centres. Financial assistance for pupils towards the cost of travelling to these school gatherings is provided where necessary.

The Residential School

Every November a residential school for full-time pupils in the secondary and upper primary departments is held. These schools are held for girls and boys in alternate years. The course, which is not so much to give extra teaching as to give pupils a chance to mix with others of their own age, lays special stress on those parts of the daily curriculum which correspondence education cannot supply - organized games, physical education, instruction in swimming and athletics, debates and drama.

School Clubs and Associations

Except for those in the junior school, all full-time pupils, primary and secondary, are expected to be members of the large number of clubs and associations which the School sponsors. Pupils are advised to join two clubs at most. Membership is, however, voluntary and the club activities are intended to be purely of a sparetime nature. Each club is organized by a group of teachers who share the tasks of writing to pupils, sending them books and materials and producing and circulating club magazines. The clubs and associations which the School sponsors include a Junior Red Cross, an International Relations Club, Lone Guides and Brownies, Lone Scouts and Cubs, an Animal Welfare Club, a Camera Club, a Stamp Exchange Club, a Naturalist Club, a Garden Club, a Writers' Club, a Modelmakers' Club and a Student Christian Movement.

Evaluation and Research

Although the Correspondence School had always kept records, personal files of students, enrolment figures, examination results and so on, it was only comparatively recently that a full statistically-based investigation of the School - or at least part of the School - was undertaken. From November 1971 until November 1972 the statistics of the secondary department - the largest department - were recorded and analysed. This analysis pointed up some of the major problem areas faced by the School as well as helping to identify trends and developments. It also helped to confirm a number of accepted principles and beliefs.

Without doubt one of the biggest problems faced by the Correspondence School is the rapid turnover of pupils. For the period in question only 43% of the total roll remained throughout the year and some 57% had been withdrawn by the end of the year. In some streams the numbers of students withdrawn during the year exceeded the number on the roll at the end of the year, i.e. the turnover in these groups was more than 100%. The turnover of the complete school roll was 135%: when a count was made on November 30th, 1972, there were 3,033 pupils on the roll, but since November 30th, 1971, 4,333 pupils had been withdrawn. Further examination of the statistics show that a very large percentage of pupils remain on the School roll for less than two months. These students involve the clerical staff in a considerable amount of work in their enrolment and subsequent withdrawal and they contribute to and gain virtually nothing from the School. Over 60% of students remain at the School for less than twelve months. Only some 36% of the students are

on the roll for one year or more and 27% for less than six months.

65% of the students were 17 years or over with the largest percentages being in the 31 plus and the 16 year old groups.

7,703 pupils - 85% - in the Secondary Division were part-time.

The table below shows how the major functions of the School have been extended with the proportion of students enrolled from overseas, the large pregnancy group, the rehabilitation group from the Department of Justice, and housewives seeking enrichment.

Table 1
Reasons for Enrolment

<u>Category of Reasons</u>	<u>Number</u>	<u>%</u>
Overseas	113	1
Isolation	320	4
Secondary Schools	3214	36
Pregnancy	322	4
Other medical	369	4
Expulsion	69	1
Enrichment	955	11
Vocational	2929	32
Rehabilitation	671	7
	<u>8962</u>	<u>100</u>

Because of the special nature of the function of the Correspondence School it was necessary to consider not only the number of students enrolled, but also the number of sets of work completed by those students in various class levels at the time of their withdrawal. In all groups a very large number of students complete less than three sets of their course of fifteen sets. Although there is a degree of variation between various groups it has been shown that in most cases more than half the students complete less than half their courses. The greater perseverance of the older students is, however, worthy of note.

Table 2
Number of sets completed by students
on the School roll

	<u>0 - 1</u>	<u>3.1- 7.0</u>	<u>7.1- 9.0</u>	<u>9.1- 15</u>	<u>Total</u>
Number	3060	2286	1126	2642	9114
%	34	25	12	29	100

One further element in the Statistical Survey was an analysis of examination performance of School Certificate and university entrance candidates in the Correspondence School. Students who were classified as full-time students, i.e. taking all their subjects in the Correspondence School,

and having been enrolled mainly because of distance from an ordinary school or for medical reasons, achieved a pass rate of 47.3% in their subjects. The remainder of the group who were enrolled for a variety of other reasons gained only 32.7% pass rate. The large group of part-time students who had other activities or occupations, largely composed of adults and hence with greater increased maturity and higher motivation had a pass rate of 71.3%.

In subjects which were examined both internally by the School and externally there was a high degree of agreement between the results gained in both examinations - particularly where the numbers were large.

Future Developments

Although the value of the Correspondence School is very considerable by virtue of tradition and its well earned reputation, nevertheless the word 'School' is now something of a misnomer since the emphasis of the institution is moving towards adults, teacher and special education. The original target of primary children in the out-back has largely disappeared. With the change in the original objectives, there has come a series of changes of home for the School and at present it is housed in somewhat scattered premises - nine or so separate buildings throughout Wellington. However, it is planned that a custom-designed building will be built in Wellington to house the Correspondence School. This unique building will contain the distillation of some fifty years' experience of the Correspondence School. It will also incorporate a number of developments which, it is felt, would have taken place, and indeed should have taken place, had not this move been imminent.

There is likely to be a restructuring of a number of the courses. The School will probably make much more use of the multi-media approach. The tape recordings which at present are used extensively could well have an even wider scope if students could borrow a tape recorder from the School. Television is likely to become a component in the teaching/learning process. It is hoped that assignments will be printed in colour to make them more attractive.

It is likely that the Correspondence School will have a role in the projected series of 'community colleges' designed to replace the conventional 'night schools'. It is hoped that a combination of correspondence for individualized study at home combined with occasional face-to-face contact will make for effective learning.

CORRESPONDENCE COURSE UNIT, MINISTRY OF EDUCATION, ZAMBIA

Introduction

A major problem in Zambia has been the paucity of educational opportunity at the secondary level. Until the last year of federation (1962) less than 2% of Zambian primary school children were given the chance of secondary education. Since independence the structure of the educational system has been significantly changed and emphasis has been placed on quantitative growth, at all levels and in all sectors.

At the same time important changes have been introduced to make the educational system more relevant to existing employment opportunities and this has involved great emphasis on curriculum development at both primary and secondary levels, fresh initiatives in the field of post-primary school training and the encouragement of the use of school facilities to train those who are out of school. A massive increase in adult education has been needed to help those already in employment to improve their grasp of the basic educational concepts. Much of Zambia is sparsely populated, especially outside the Copper Belt and away from the line of rail. In such a situation correspondence-based education can obviously reach many for whom the more orthodox adult educational programmes cannot be provided.

Thus the Correspondence Course Unit was established in May 1964, based on the College of Further Education in Lusaka. In 1966 it moved to its own premises in Luanshya, which is about 200 miles north of Lusaka in the Copper Belt, and more central geographically, although both are well served with road, rail and postal communication services. However, Lusaka has a far larger reservoir of skilled teachers who can be employed in a part-time capacity and these are an important element in the effective working of any large correspondence unit. Plans are now under consideration for the Unit to move back to Lusaka and to be integrated into an education services complex - a major educational development being undertaken with World Bank finance.

An advisory board has now been established, with representation from ministries, educational institutions and teachers' associations, which will maintain a continuing advisory role in the establishment of objectives and the evaluation of the performance of the Correspondence Course Unit.

The Correspondence Course Unit runs two projects. The first provides a complete extra-mural secondary education for adult learners who have completed primary education, but have missed the opportunity to attend normal secondary schools. The second, and more recent project, provides secondary education at the junior level for Zambians who have left primary school and for whom there are no secondary school places available.

Traditional methods of correspondence education are used with a number of interesting developments, particularly in the second project where 'aided study groups' have been established. Radio programmes have been broadcast to support some of the courses, and a postal library is also provided to assist students.

User Profile

The first project was developed to meet a real need, particularly among those employed as clerks, primary school teachers, police officers, etc. Between 1968 and 1970, 72% of the GCE students were government employees, of whom the majority (34%) were school teachers, with 23% from the junior and technical grades of the civil service; 11% were serving police officers and 5% were from the executive and higher grades of the civil service. Of the 26% who were non-government employees, 11% were engaged in clerical work and 6% were artisans. 2% of the total were unemployed.

An analysis of the junior secondary students carried out between 1971 and 1972 showed that 36% were government employees (teachers, police officers and clerks in roughly equal proportions), over 43% were employed in the non-government sector (4% as domestic servants) and 21% were unemployed. Of the whole group 45% were between twenty and twenty-nine years of age, 25% were younger than twenty and another 25% were in their thirties.

An analysis of the geographical distribution of students shows that in both projects roughly 75% come from urban areas, 20% from remote rural areas and the remainder (under 10%) from rural areas in the immediate neighbourhood of the regional centres.

Enrolments at the junior secondary level began at 625 in 1966 and have since averaged about a thousand a year - in 1973, 1,345 students were enrolled - with a drop-out of 45% by the end of twelve months. Full GCE courses began in 1968 and enrolments have increased significantly from 169 in 1968 to 1,313 in 1972 and 1,045 in 1973. For GCE

students the drop-out after twelve months has been about 35%.

Apart from those students who are enrolled for correspondence courses and whose activities and progress are closely supervised, the course materials have been used for various special schemes. For example, lessons have been supplied to evening classes for adult learners where they were used as supplementary material and proved useful where textbook supply was unsatisfactory. Courses in history and civics were useful for newly arrived expatriate teachers who were not familiar with the Zambian situation. In 1972 15,000 students were helped to varying degrees in this way but once the materials are made available the Correspondence Course Unit assumes no further responsibility for these students.

The tremendous response to the earlier courses, led to the concept of the more systematic type of extra-mural teaching being developed in the second project where the activities of less mature students need to be closely supervised.

The aided study groups project for primary school leavers at present works through twenty-nine centres which are distributed through the nine administrative regions of Zambia. In each region there is an officer responsible for adult education who has established such groups and acts as the local adviser. The primary school leavers for whom this service is intended are aged fifteen or sixteen on enrolment, having completed seven years of schooling with, by and large, only subsistence agriculture available as an employment opportunity. The aided study groups are still in the developmental phase with 1,430 students enrolled in 1972 and 2,000 in 1973. The drop-out rate at the end of the first twelve months was between 10% and 15%.

Administrative Structure

The Correspondence Course Unit is directly controlled by the Adult Education Section of the Ministry of Education, which decides the general policy of the Unit, following the Second National Development Plan. Its employees are appointed by the Teaching Service Commission or the Public Service Commission, its policy and administrative techniques follow Ministry of Education practice and the educational materials used are prepared in accordance with the Ministry's curriculum and the work of the Curriculum Development Unit. The Correspondence Course Unit is headed by a Principal, assisted by a Vice-Principal, both of whom have administrative and academic responsibilities and are aided by two Administrative Assistants.

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On the academic side there are thirteen full-time lecturers with editorial, sub-editorial, tutorial and course writing responsibilities. They are assisted by 115 part-time tutors who are responsible for assignment marking and tutorial guidance. Each tutor is responsible for a total enrolment of between 300 and 600 students, depending on experience.

Academic staff are recruited from the teaching profession and appointed by the Teaching Service Commission. Training is given on the job by induction from senior staff. Many of the academic staff are serving teachers working for schools in the town of Luanshya and about 84% are expatriates. Serving teachers are only permitted by Ministry regulations to undertake ten hours' additional work per fortnight. However, the Unit has been able to recruit many married women with teaching qualifications who are not otherwise employed.

On the technical side there are two printing assistants, twenty-four clerical staff and a further twenty 'orderlies' employed as duplicating assistants, collators, packers, dispatchers, etc.

Clerical staff are recruited by the Public Service Commission Open Competitive Examination. On-the-job instruction is given according to job description prepared by the Principal. Technical training is arranged as appropriate. For example, the printing staff receive specialist training by the machine and equipment manufacturers and the radio broadcasting lecturer is being sent overseas for training.

Undoubtedly problems of recruitment and staffing have played a part in inhibiting the growth and development of the Unit. The plans to move the Unit back to Lusaka will make it easier to recruit part-time Zambian staff.

Project 1

Students enrol directly with the Unit to study either a composite junior secondary course in six subjects or up to three GCE subjects. They are supplied with lesson material, textbooks and assignments which they submit to the tutors for marking. Individual guidance notes are prepared by tutors who, through correspondence, maintain a close advisory relationship with their pupils throughout the course of their studies.

The development of new curriculum materials for secondary schools is the responsibility of the Inspectorate for Secondary Schools. These materials are modified by the staff of the Unit to suit the needs of adult edu-

cation. In turn senior staff of the Unit are co-opted onto the advisory panels for curriculum development and serve as examination committee members. The language of instruction for all courses is English, although consideration has been given to courses teaching four of the major Zambian languages. Subjects offered at the junior secondary stage are civics, English language, geography, health science, history and mathematics. All these courses have been designed to increase the student's capability to contribute to Zambian society.

At the GCE level all courses follow the London Board GCE syllabus and offer commerce, economics, English language, geography, history, human biology and mathematics.

The turn-round time for the return of assignments is usually ten to fourteen days in the Copper Belt. However, it appears that students in the more remote areas may have to wait up to five weeks before their work schedules are returned.

The importance of face-to-face contact has been appreciated from the beginning of the project. Various attempts have been made to introduce this element but they have been, so far, unsuccessful. This is attributed to shortage of staff and lack of funds. The original plans called for seminars and visits by tutors to groups of students. Residential courses were also planned to be part of the Unit's activities. However, during the pilot period these were found to be very expensive and a disappointingly low proportion of the students were able to attend. In 1968 an attempt was made to enable 4,000 primary school leavers to gain secondary school education through correspondence. A ten-hour per week timetable was established with seven hours of live teaching and three hours of supervised study. The experiment was considered to be a failure and the Unit analysed the reasons as follows:

- (a) the problems of printing the extra 240,000 lessons needed per annum;
- (b) distributing this material through a poor communications system;
- (c) the hurried recruitment of 500 part-time teachers who were inadequately prepared;
- (d) the immaturity of the student body.

Whilst the final results showed little measurable success, the lessons learnt from this experiment have been taken into account in the aided study groups project, which is described later. In another attempt to introduce the face-to-face element in a practical and feasible way, the Unit currently plans to introduce a touring correspondence officer who would 'open shop'

for a few days at a time at isolated rural centres to operate a counselling service on study method. The Canadian University Services Overseas have provided an officer to initiate this work and also to carry on with the systematic evaluation of the work of the Unit.

Initially students were expected to complete a junior secondary programme in two years, but this gave rise to problems as they attempted to cope with more work than they could deal with in the time available to them. As a result 'free pacing' was introduced and an unlimited time allowed for the whole course, at the end of which students take a composite examination and may carry forward credits for subjects passed.

All students follow a graduated reading programme which is run through a postal library system. Junior secondary students are given a reading list from which they may choose books. After they have completed ten assignments, a second list is supplied from which they may choose books of greater difficulty, and a third list is supplied after twenty assignments have been completed. The books are simplified or structured readers and include such linguistically suitable biographies, scientific, historical and other socially significant texts as can be obtained. A 'faster reading' course is built into this system but there has been no feedback to indicate how successful it has been. GCE students are given a list of eighty titles divided into three levels of difficulty and they can choose as they wish from these lists.

From the early days the Unit has been aware of the potential of radio broadcasts to bridge the communications gap between the student and the Unit and has co-operated with the Educational Broadcasting Service of the Ministry of Education in producing broadcast lessons that have wide general interest and also reinforce the course materials. In the past, weakness of transmissions and the physical distance separating the Unit from the EBS in Lusaka have been the main factors inhibiting the more purposeful integration of broadcast material into the correspondence courses. However, new, more powerful and efficient transmitters have been installed by the Zambian Broadcasting Service and, with the proposed move of the Unit back to Lusaka, the future prospects are sufficiently encouraging for a lecturer grade I to have been given sole responsibility for this aspect of the work and to receive special training in educational broadcasting techniques in the United Kingdom.

Project 2 (Aided Study Groups)

This project caters for primary school leavers as opposed to the predominantly adult body in the normal correspondence courses. Adult education officers in the nine administrative regions have established study group and act as local advisers and liaison officers, after first making a preliminary survey to determine the need and the availability of classroom facilities and other matters affecting such a scheme. Up to four groups in each of the nine regions with fifty students in each group and a regional maximum of two hundred students were established under the supervision of the adult education officers in the first year of the scheme. The groups meet in the late afternoon or early evening in churches, community halls, schools or any other suitable place. Students are enrolled in classes and pay an enrolment fee of 10 kwacha. Supervisors appointed are mature and each is provided with a guidance kit. This has been designed as an introduction to the scheme and to enable the better educated supervisors (these include qualified teachers, priests of rural area missions and sometimes married women with educational qualifications) to become involved in the programme and develop their own approach to it, and the less well prepared supervisors to follow, to the letter if need be, very detailed guidelines. The kits include registers, notes on speaking to the class and hints on aspects of classroom management and a timetable which outlines in detail the programme to be followed (divided into twelve weeks of five days, each with three or four sessions for a total daily involvement of three hours). Notes on various difficulties that might be encountered are also included.

The timetable allows for two hours of study in each of five subjects each week, with extra time for further work in English and mathematics and revision. The supervisors are asked to follow the timetable exactly, although in practice it has been observed that many introduce a degree of flexibility.

The students follow a three-year course of study leading to the Zambian Junior Secondary Certificate, which is a recognized qualification for entry into many forms of vocational training, including agricultural training schemes, primary school teacher training and most artisan training courses. In the first year a total of 1,430 students was enrolled, where possible in groups of about fifty, although in some of the rural areas the population would not support such large groups.

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Evaluation

Within the limits imposed by periodical shortages of staff, the Unit has attempted to monitor its progress in terms of enrolments, drop-outs and, as far as has been possible, examination results. At the same time, an attempt has been made to keep track of the categories of persons who enrol. (See User Profile.)

The Unit has now prepared students for the Zambian junior secondary examination for five years. It has no control over the examination entry and no certain knowledge of the total number of entrants. However, an attempt has been made to assess the examination success rate from known results, and it would appear that the pass rate, over the period 1966 to 1970 during which 4,344 students were enrolled, was 17.6%. If allowance is made for non-starters and early drop-outs (and these totalled about 30%) the pass rate was just over 30%. It is interesting to note that the national average pass rate over the past few years, for all students, has been approximately 10%.

At the GCE level the Unit is only aware of results when notified by the students themselves. These figures are inadequate to enable any kind of percentage pass rate to be established. However, they do indicate that the Unit has been reasonably successful in preparing students for this London examination.

With the aided correspondence study groups it is still too early to be able to assess progress in terms of examination results. However, the quality of the work has been studied carefully by the experienced tutors in the Unit and their comments indicate that the system has been reasonably successful in administrative terms. In the year a total of forty-six lessons had to be studied, and forty-six assignments submitted to the Unit for assessment. This programme was completed by fourteen centres and virtually completed by eleven more. Twenty-five of the twenty-nine groups completed more than 80% of the material and only four centres failed to submit a significant number of the assignments. Other comments indicate that students from the groups appear to have difficulties with both the language and the concepts in the lessons. Two factors appear to be of significance:

- (a) Group and parental pressure tend to encourage the less able juvenile attending the aided study group to continue his involvement; whereas the less able adult unaided correspondence student drops out;

- (b) The lessons themselves were designed for adults and frequently include examples that assume a maturity of outlook which primary school leavers may not possess.

Another aspect of evaluation has arisen through an active programme for the tuition of tutors. The growth in the work of the Unit has created a sudden demand for more tutors. The tutor tuition programme also involves a quality-control system of checking their work frequently during the apprenticeship period. The marked assignments are closely examined in the early stages and if the tutor is working satisfactorily, a system of occasional sample checks is used. The tutor is also expected to write (in duplicate) an advisory report to the group supervisor on each batch of assignments, containing comments on the group's performance, suggesting revision work and highlighting significant features of the group's work. It also draws attention to the work of individual students, both very good and very poor. The other copy of the report is reviewed by the Correspondence Course Unit staff both as part of the training process and as an aid to pinpoint priorities in course re-writing and material adaptation. Samples of groups' performances are examined at least once a month.

As a result of this intensive testing it has been found necessary to make significant amendments to fifteen of the forty-six lessons that were issued in the year and a further ten are considered to be in need of revision as soon as time allows. Apart from this, a systematic revision of courses has been undertaken from 1969 to 1972. The earlier courses (1966-69) were regarded as prototypes which had to be produced in a hurry to get the scheme off the ground. It was hoped that the revision would produce polished courses which could stay in the Unit for some years. However, a change has been detected in the target population with a greater use being made of the material by younger students. This has been supported by the findings of the quality control system.

It has also become clear that some of the supervisors have not been satisfactory. This is perhaps understandable since the job involves an extra fifteen hours of work a week, which, in the case of primary or secondary school teachers with full-time jobs, is too much. The Principal of the Unit reports that the critical issue has been the establishment of a good rapport, with the individual supervisor encouraging him to follow the Unit's advice. However it will be appreciated that in a land as sparsely populated as Zambia problems of

communication are immense and where a supervisor is not able and willing to overcome the handicaps of his remoteness, the system will break down.

Generally the Unit has shown itself anxious to fulfil a role in the Zambian educational system and has sensitively monitored its work to operate efficiently. However, it has had to compete with many other parts of the Zambian civil service and para-statal organizations for a share of the money and skills which are in short supply.

Costing

The same buildings, staff and equipment are used for both projects. Thus, 70,000 kwacha per year is spent on salaries for full-time staff, and a further 50,000 kwacha on part-time teachers who act as tutors. The printing bill comes to 60,000 kwacha and a further 15,000 kwacha is spent on books. The Unit enjoys free use of the postal services for despatching and returning materials. It has further recurrent charges of about 10,000 kwacha per year and a total capital investment has been made of 27,000 kwacha. Against this there is a revenue from fees. Junior secondary students pay 25 kwacha for a six-subject, three-year composite course. GCE students pay 6 kwacha for each subject course. Junior secondary fees are accepted in instalments, but 10 kwacha has to be paid before textbooks and lessons are issued. It is recognized that the fee is not economic, but an analysis of costs over the years shows that the recurrent cost per junior secondary student who completes the whole course will be about 70 kwacha and for GCE students it will be between 9 kwacha and 23 kwacha per subject.

Against this the cost of secondary education in Zambia averages out at something just over 2,000 kwacha per child per year. Indeed opportunities exist for transfer of students, where considered desirable, from the aided correspondence study groups course to other parallel educational institutions.

Clearly the Ministry of Education regards the resources deployed in the Correspondence Course Unit as beneficial and, indeed, plans to reinforce the early successes gained. Nevertheless the staff of the Unit are far from complacent, and realize that their work needs to be constantly scrutinized for ways of improving the overall efficiency. At the same time it must be recognized that valuable pioneering work has been done to open up further educational opportunities to a very wide range of Zambian citizens.

Future Plans

Already expansion is taking place in the work of the aided study correspondence groups. During the second year of operation a further thirty-eight new groups were formed with a total enrolment of about 2,000 students. Unsatisfactory lessons are being revised in the light of the experience of the first year's operation, although mathematics remains a subject of poor attainment. (The Principal speculates that many students may have failed to gain secondary school entry because of poor number concepts rather than linguistic inadequacy and states, for example, that in the Bemba culture there is a natural number base of four and that, in his experience, the concept of a base of ten has never been firmly established in the minds of most elementary school children). However, the aided correspondence study groups are still part of a limited scheme which is going through a trial period. It is certainly proving to be popular, and places in groups formed in urban and regional centres have been filled immediately with hundreds more wanting places. In the remoter rural communities, however, it has often proved difficult to get the desired enrolment of fifty and large areas of rural Zambia have still not been given the opportunity to form groups. It is the opinion of the Principal that a potential student enrolment exists to support a scheme at least four times the size of the present one. Indeed, reference to the statistics for primary and secondary education in Zambia shows that only approximately one child in five attending primary school is successful in gaining entry to the secondary school system. Whether financial provision will be forthcoming from the government to support this is not yet known, and indeed raises the question of whether the national economy requires this type of development and will offer the successful students suitable job opportunities. At the moment little is known about the potential of correspondence education for technical and skills training.

However another aim of the Unit is to establish links, where possible, between the study groups and other locally active organizations, particularly in agriculture. Thus it is hoped to stimulate interest in crop growing and animal husbandry. A further area in which the Correspondence Unit may play a useful part is with voluntary agencies, such as those mission centres where manual skills are taught, and volunteer nutrition group teachers.

Radio broadcasts are already being transmitted to support some of the course material. There are obvious opportunities

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for the development of radio as a means of communication especially in creating a sense of corporate being in remote groups, as is already being done in the case of rural broadcasts for farmers. Mention has already been made of the plans to develop this component of the correspondence courses.

The adult courses have already benefited thousands of Zambians who have felt a real need for improvement in their basic education. Consideration has been given to the possibility of training civil servants in conjunction with in-service training colleges. For example, the National Institute of Public Administration would cooperate in providing a course in financial regulations and public administration for civil servants. Again, the Department of Technical Education has agreed in principle to cooperate in providing courses in elementary accounts, and commercial and office practices. The possibility of more purposeful links with the Ministry of Rural Development, and with the Ministry of National Guidance have been considered and are to be explored.

Meanwhile further developments of the existing academic courses are being planned to include courses in accounting principles, biology, general science, science of particular value in the rural environment and world history. Non-examination subjects, of general and social significance such as home management and nutrition are also being planned.

Plans also exist to develop new techniques for face-to-face contact with students, through seminars.

Of outstanding importance is the planned development of an Educational Services Centre in Lusaka, in which will be housed five of the important services through which the Ministry of Education is currently supporting the development and improvement of the country's education system. These include the Curriculum Development Centre, the Audio Visual Services Library of the Educational Broadcasting and Television Service, the Zambian Library Service and various support services for the Department of Technical Education, together with the Correspondence Course Unit. Clearly the improved co-ordination, together with the closer professional contacts which such an amalgamation will bring about, is bound to increase the effectiveness of these services and increase their working efficiency.

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The reasons for establishing the correspondence institutions described in the case studies, varied widely - giving equal opportunities of education, raising the quality of teachers and providing 'second-chance' secondary education for adults. The responsibility for meeting these needs was accepted by the governments concerned. (Because there has not always been an official response to this desire for learning by people outside the conventional framework of education, commercial organizations have able to flourish.) Correspondence education has been shown to operate effectively within national educational systems. It would appear that the more closely integrated a correspondence institution is within the educational system in terms of courses, qualifications, salaries and conditions of service of the staff, the more likely is it to be successful. Where it is a 'back-up' service to remedy one or more deficiencies in the system, ease of transferability in and out of the correspondence courses is essential. Here the sharply centralized system of education in New Zealand allows this kind of rapid and efficient servicing of students' needs by the Correspondence School.

It is difficult to arrive at internationally valid conclusions about the degree of success of correspondence students since opportunities to compare their performance with that of students of precisely similar ability, aptitude and, more important, motivation, being taught the same material by the same teachers and by more conventional methods are extremely rare. The case studies, however, would seem to indicate that correspondence students do achieve a degree of success at least equal to that of others. The drop-out rate in correspondence courses seems much higher than would be expected in full-time face-to-face courses, particularly in the early stages of a course. However, there is a similar wastage pattern in part-time evening study courses - even when undertaken by adults with a high degree of motivation. It has not yet been ascertained what part of the wastage in correspondence methods is due to factors implicit in any form of part-time studies. Probably most who give up or fall behind do so for reasons which have more to do with environment or motivation than specifically with studying by correspondence. If correspondence education is to be used effectively there should be a careful study during the early phases of any project into the factors which affect the performance of students, particularly the wastage or drop-out rate.

Motivation is considered to be the key element in success in 'distance-learning'.

Motivation is generally related to maturity; adult students and especially those working for qualifications with associated salary benefits can be expected to have the highest pass-rates. This is borne out by the studies. New Zealand part-time adult students have a pass-rate of 71%, pupils of school age enrolled for medical or distance reasons have a pass-rate of 47%, while those enrolled for other reasons only 32%. The drop-out rate in Kenya is less than 25% and there is a pass-rate of about 57% - more than three times the rate for school candidates.

Although more and more attention is being given to the potential of other media, such as radio broadcasts and tapes, the three institutions still place very heavy reliance on the traditional correspondence 'assignments'. In Kenya research has shown that the correspondence courses have to be self-supporting and radio is used largely as an enriching element. In Zambia the presence of an adult education officer to supervise the aided correspondence study groups, appears to add significantly to the impact of the courses, while the radio programming in New Zealand has an important

administrative and attitudinal function rather than an instructional one. The printed word is fundamental to correspondence education, although the media may enhance, enrich and pace the learning which takes place.

The experience of the three institutions shows that it is essential to pay particular attention to the mechanics of organization and administration. It is dangerously easy to plan expansion and make projections without making the necessary provision for producing and processing the materials. The main contact the learner has is through the marking of his assignments. The importance of this contact cannot be minimized. In both Zambia and Kenya part-time tutors are used, whereas at the school level in New Zealand full-time teachers are employed. The ratios of number of learners to tutors is much higher in Zambia and Kenya than it is in New Zealand and it may be that adult students are less dependent on the careful, almost personal, marking that the children receive. People who already have some measure of formal education attainments are most likely to become successful correspondence students.

CENTRALLY CO-ORDINATED RESOURCES FOR TEACHING AND LEARNING

In one sense this chapter contains the case studies that do not fit neatly into the previous chapters. The number of examples and the fact that there is no simple generic title to describe them, is itself an indication of the current pace of development in this field, and its importance.

The other chapters contain examples of centrally produced resources; where radio, television and correspondence techniques have been incorporated into an educational system since they offer, in addition to their intrinsic appeal, the attraction of low unit cost.

However, recent developments in educational methodology encouraging transition from 'teaching' to 'learning' have made obvious the need for the teacher to be well supported with the 'things of learning' so that he may better assist his charges to organize their learning experiences. Whilst correspondence courses tend to produce self-instructional material; and radio and television, especially where programmes are used off-air, can only attempt to support a teaching situation, this chapter looks at cases where the main aim is to provide resources or techniques through some central organization, thus offering some significant contribution to the learning process. Some of the techniques of radio and television production and of correspondence courses have made important contributions.

Perhaps the fundamental elements of modern educational development and the current attitude towards the learning process may be summarized by the words 'self-pacing' and 'self-evaluating'. It is axiomatic that the student's motivation to learn must be high, and through processes of curriculum development every effort is made to see that the content of the materials he studies has direct relevance to his needs and his background of understanding. The student is told what he has to achieve, he is introduced to the materials that will help him get there, and he is given a means of measuring his progress.

There is perhaps nothing new in this. When the new jargon has settled, it may well be apparent that this is what good teachers have been doing through the ages. However, today's problems demand that the best teaching takes place on the widest

possible scale, and the importance of the case studies in this chapter lies in the systematic way in which each is contributing to the evolution of this.

Every situation is unique; in educational development terms the main problem is to determine what is appropriate - what resources of skills, materials and money are available and what type and level of system can be made to function effectively and economically. It is not suggested that these case studies offer immediately transferable blueprints. However, in selecting them particular attention has been paid to known needs in many developing countries of the Commonwealth, where the main problems are to provide assistance in devising more effective and economic ways of teacher training and to produce and supply teaching and learning materials.

Geographically, the examples are chosen from a wide range of situations. In New Zealand the Department of Education has long recognized that the provision of teaching materials is an essential element in the process of renewal and development, and created in 1939 a Publications Branch. In 1942, a National Film Library was formed, which subsequently started a Visual Production Unit. As the educational system has developed to meet changing needs and conditions, so has the nature of the services supporting the teachers.

The Teaching Aids Centre in Tasmania evaluates, selects, supplies and maintains all the audio-visual equipment used in Tasmanian schools and undertakes the systematic development of resource materials in collaboration with curriculum research officers on a state-wide basis.

In the University of Exeter in England a research project was established to determine the pattern of resource centres which would best meet the requirement of educators in a predominantly rural region. The first three-year phase of the project having been successfully completed, it was then decided to examine a further series of requirements in a second phase.

Jamaica has provided an interesting example of specific media development to meet a well-defined need. After careful consideration, the medium chosen as appropriate to

the local situation was audio cassettes supported by print. The results obtained are encouraging and it would appear that the system could be copied in many situations for a variety of objectives.

There is one example of a regional project, which is centred on the University of the West Indies in the Caribbean and assisted by UNESCO and other agencies. The project is concerned with curriculum development and teacher training for secondary school pupils of ten to fifteen years. At its mid-run stage considerable gains are obvious and the uses made of new media are important. Closed-circuit television is being used at twenty teacher training colleges through the region in a most interesting microteaching development. A central materials production unit is also part of the project.

In the province of Alberta in Canada, there is, in all probability, a higher ratio of learning resources per student than anywhere else in the Commonwealth. The particular technique of 'quick and dirty' videotapes for continuous in-service teacher re-training has been chosen to highlight a low-cost, but effective, media use that would seem to have high potential for applications in many parts of the Commonwealth where great distances and low population densities are characteristic.

On the other side of Canada, the University of St John's in Newfoundland has developed a highly effective system for offering full university credit courses to small, isolated communities. It is an open learning development which relies on print and videotapes, in a soundly constructed systematic learning package, supported by enthusiasm and talent.

* * * * *

THE TEACHING AIDS CENTRE:
TASMANIA, AUSTRALIA

Introduction

The Teaching Aids Centre is part of the Department of Education. The Centre evaluates, selects, supplies and maintains all audio-visual equipment used in all (nearly 400) Tasmanian schools. In close co-operation with curriculum research officers, it undertakes the systematic development of resource materials to implement new curriculum changes and developments on a State-wide basis. It is the major source of print and non-print materials designed specifically for use in Tasmanian schools. The staff of the Centre are responsible for

the development and organization of special courses in educational media both for in-service and pre-service training. The Teaching Aids Centre is staffed by a team of specialists in a variety of educational media - printed material, film, radio, television and recordings. At present the staff of the Centre number around fifty and they work in the following sections - printing, educational broadcasting, electronics, media library, photography, graphic arts and sales and despatch.

The Centre was originally created in 1937 as a very small film library employing two people and distributing black and white, silent 16mm films to a few schools throughout the State. In 1948 the film library was renamed the Visual Aids Branch and although the staff was still small - no more than seven or eight - the Branch took on additional responsibility for providing photographs and slides to the schools. Some four or five years later the emphasis of work moved on to the production of 16mm sound films. About thirty curriculum-related films were produced, but in 1954 this activity ceased. Concurrent with these tentative developments into educational resources, the Visual Aids Branch was involving itself in educational radio. In 1956 the Branch was renamed the Visual Aids Centre and then in 1962 it became the Teaching Aids Centre. Since then there has been a significant change in emphasis away from the provision of hardware and equipment to schools, and a move towards the production of materials and resources or 'software' for schools.

Educational Background

Tasmania - with the exception of Canberra Federal Territory - is the smallest state in Australia. The island has a population of almost 400,000 and covers an area of some 26,000 square miles. Tasmania has always maintained a pre-eminent position in the development of education in Australia. Indeed, in 1869 it was the first colony in the British Empire to make education compulsory. In 1946 Tasmania became the only Australian state to make attendance compulsory up to the age of 16. This position has been maintained by the government and at present it would be fair to state that developments in Tasmania are at least as advanced as those of the other States of the Commonwealth of Australia.

Education is compulsory between 6 and 16 years. Virtually all schools are co-educational and education is secular and free. Parents, however, must pay for the books, paints, materials and instruments used by their children at school. At present there are around 400 schools in Tasmania ranging

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from just over 100 infant and kindergartens to around 150 primary schools, 39 district schools and some 35 high schools. The balance is made up by a few special schools and independent non-governmental schools.

The educational system in Tasmania has developed and expanded over the past few years; school enrolments have increased, expenditure on all forms of education has increased by two-thirds in the last six years; there is a higher retention rate at secondary schools and there has been development of further education facilities.

It is recognized by the Department of Education that 'education from early childhood to adulthood is a continuous process with a continuously changing demand. It is the task of an education system to assess itself, and where necessary, adapt itself to meet this demand at every level of learning'.

Overlaying the significance of change and development at State level, there was recently commissioned by the Australian Federal Government a study on 'Schools in Australia', generally known as the Karmel Report from the name of its Chairman. This Report considered the development of education in Australia, produced general guidelines and recommended that a significant amount of funding be made available to implement the recommendations. In general terms the following educational principles were put forward:

1. the needs of schools and the allocation of funds to those areas in which needs have been identified should be followed through;
2. there should be 'grass roots' involvement in decision-making, i.e. the community should be brought into the education process;
3. there should be diversity in the organizational form of schools;
4. community involvement and planning control should be developed;
5. there should be compensation for social disadvantage;
6. there should be education for the 'quality of life';
7. the importance of personal relationships should be stressed;
8. the enjoyment of school experiences should be considered important.

Within this general philosophy a whole variety of individual programmes have been

devised, whereby specific sections such as disadvantaged schools, special education, library development, teacher development, can be bolstered where necessary. Perhaps the most significant proposal is that change and innovation at the individual school or system level can be fostered and promoted. It is this latter programme of 'fostering change' to promote diversity, quality and innovation within education that is of considerable interest. For this particular programme the Report has recommended that six million dollars be set aside on a national basis during the next two years to fund special projects in the organization and conduct of learning.

The method of operation and implementation of the Karmel Report is to invite teachers, parent-teacher associations, schools, professional associations - indeed, anyone interested in educational change - to submit proposals to the locally appointed Karmel Change Committee in their particular States.

Educational Broadcasting

The Teaching Aids Centre plays a very important role in liaison and co-operation with the Australian Broadcasting Commission. The Centre provides a liaison officer and studio teachers on full-time secondment. For its part the ABC employs a state supervisor of Educational Broadcasting, two radio producers, two television producers and associated technical staff. There is full representation from the Department of Education on the planning and appraisal committees for the programmes which are either produced in Tasmania or selected from other sources.

As has been stated above, the Teaching Aids Centre co-ordinates the design and production of curriculum materials to accompany the broadcasts and it organizes the printing and distribution of teachers' guides and student workbooks.

Much use is made of the radio programmes. Each classroom in both primary and secondary schools is equipped with classroom radio speakers which are fed on a reticulated system from a central source. The majority of primary schools and all secondary schools use a cassette tape service to receive the programmes. The Teaching Aids Centre records programme material on cassettes and distributes these on loan to schools.

There is a high density of television receivers in the schools in Tasmania with one receiver for every four classes at the primary and infant level, one receiver for every three classes in area schools and one receiver for every eight classes in the

high schools. Most schools, however, have been wired to provide twice as many outlets as there are receivers, so flexibility of television use is increased. As is predictable, the greatest use of television is made by the primary schools where timetables are flexible. The administrative problems caused by timetable difficulties inhibit the use of television in secondary schools. It is for this reason that the experiments with videotape recorders are being watched with considerable interest.

Since 1962 there has been an active interest in the use of closed-circuit television in Tasmanian high schools. This started on a modest scale with a simple system distributing programmes to five classrooms in one high school. After careful appraisal a further school was selected to experiment with a videotape recorder. An analysis of this work led to a larger project involving six high schools which were each equipped with $\frac{1}{2}$ " videotape recorders, some 20 - 30 outlet points and 10 hours of videotape. The problems of organizing recording and playbacks and every aspect of maintenance and storage of equipment and tapes were analysed. It is planned that once this evaluation has been satisfactorily completed, modified closed-circuit television systems will be installed in other high schools in the State.

Provision of Equipment

It is against this exciting background that the Teaching Aids Centre is significantly involved in promoting innovation and change. The electronics section is most involved in providing equipment and apparatus for use in schools. This section is concerned with the design, construction and installation of equipment - including radio and television equipment - in schools throughout the Tasmanian educational system. The section carries out or organizes the maintenance of all audio-visual equipment. There is no charge for this to schools under the Education Department. A further significant activity is the evaluation of all audio-visual equipment which appears on the market, prior to its consideration for adoption in schools. This section also tests and modifies all new items of audio-visual equipment purchased for schools and subsequently maintains a case history of each of these. Although staffed with only nine people, the main functions of the section are now considered to be development and advice and research, not just a basic supply, installation and maintenance operation. It is felt that these latter functions can be more effectively carried out by sub-contracting this work to commercial operators throughout the State. The budget for the service and maintenance op-

eration is in the region of 44,000 dollars per annum - not including the time and travel of the Teaching Aids Centre staff. The estimated total cost of equipment at present within the school system in Tasmania is in the region of 1 million dollars. On this basis the annual maintenance and service costs approximate to $4\frac{1}{2}$ % of total capital expenditure. This is in line with general theory that 5% of total capital expenditure should be allocated annually for basic maintenance.

Although the Teaching Aids Centre is responsible for identifying, selecting and approving equipment for schools (which is provided to schools with a 50% subsidy - a \$200 projector is made available at a cost of \$100), this does not mean that schools are forced to buy equipment recommended by the TAC. If, however, schools do go ahead on their own initiative and purchase equipment or items which have not been approved and recommended by the TAC then they are not eligible for the 50% subsidy, nor is the equipment which they purchase eligible for free maintenance. The maintenance service attends to most calls the same day that the complaint is made. However, if equipment has to be sent from outlying districts to the Teaching Aids Centre, this period is more normally three days, which includes two for transport and one for service.

A lesson shared by most other successful systems in this field is that provision must be made for maintenance of equipment. The more efficiently organized and supervised this maintenance activity is, the better. Whatever the maintenance system set up, it is the media distribution operation which attracts the first line of complaints sent in by the schools. What is required is an immediate and effective response. Without this obvious but essential service, even well-funded and sophisticated operations are liable to fall down.

A further example of the work of the electronic section is the design of a 'library tape-maker' which is just coming into production by a commercial manufacturer. This device which incorporates a record player, a reel-to-reel tape recorder, radio inputs and microphone inlets together with two cassette recorders enables copies of material from any of these audio sources to be duplicated on to a cassette by the press of a single button.

In common with all other users of television for educational purposes within formal educational systems, the TAC is giving thought to problems brought about by the availability of videotape recorders - in both reel-to-reel and cassette form and

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also by the advent of colour television. The pilot project with videotape recorders in high schools has already been mentioned.

The Centre believes that very careful research is required into the problems associated with the introduction of colour television, particularly those associated with reception and receivers. It is a belief of the Centre that the number or density of receivers in schools is important. Since the cost of receivers is high and the number of television receivers - particularly within the open-plan system of schools in Tasmania - is growing, the problems tend to be intensified. It has been found that most colour television receivers must be installed and set up in one particular place and are not easily moved from location to location, because this movement produces aberrations in the colour reception due to 'convergence'.

The staff of the electronics section have mostly been recruited from other government departments. A noticeable feature of this section is the low turnover rate of staff. This has been ascribed to the varied and challenging nature of their responsibilities. Training of the staff has been essentially on an in-service basis since the equipment with which they deal is specialized and varied. This technique assumes, however, a basic level of competence in electronics prior to recruitment.

The Media Mobile

The Media Mobile is essentially an old school bus which has been converted to provide a simple, workable system to help teachers throughout the State to become fully acquainted with all the implications and applications of audio-visual media. The marked increase in the quantity of resources and equipment which have become available in the schools of Tasmania has produced a reaction in the teachers, both in-service and in training. Requests have come from the teachers not only to enable them to become familiar with the range of new resources and equipment, but also to develop their own skills, and to share information about new procedures.

It was felt that the Teaching Aids Centre needed to provide the following facilities:

1. self-instructional areas where teachers could learn to operate instructional equipment and review materials;
2. workshop space where they could make their own slides and transparencies;
3. facilities to view projected materials - films, filmstrips and slides;
4. videotape equipment to replay tapes of innovative classroom techniques which have been recorded in other Tasmanian schools;
5. a display space for both written information and printed materials.

All of these had to be provided in the bus leaving the maximum floor space clear while providing storage for the safe transport of materials when the vehicle is on the move. No such vehicle had been developed in Australia before, so the resources of the technical experts in the electronic section, artists, librarians and photographers were all pooled to produce the plans for the Media Mobile.

The aim was to make contact with those teachers who in their day-to-day activities were expected to make use of equipment and resources produced or supplied by the Teaching Aids Centre - and to give them an opportunity of developing skills, competence and most important, confidence in using both the equipment and the materials. The usual arrangement is that the Media Mobile makes a visit on a pre-arranged basis to one particular school. During this visit groups of seven to eight teachers are involved in sessions or workshops in the Media Mobile. They are given training and facilities to produce their own material and to work with equipment and apparatus. The response to this project from schools both in terms of written comments submitted to the Teaching Aids Centre and verbal comments made during this study indicated that this service of bringing 'the mountain to Mohammed' is making the expenditure and cost more than worth while.

The Media Library

The Media Library of the Teaching Aids Centre is responsible for the acquisition of pre-prepared or pre-recorded materials in film, tape and videotape form - together with a limited number of overhead projector transparencies, slides and charts. The material is selected essentially to support school courses. Material to provide enrichment and stimulation is also acquired. All levels are catered for from kindergarten to Grade 12 of secondary school. The primary sector is favoured with some 60% of the expenditure, but this is essentially a reflection of the larger numbers and consequently greater use in primary schools. The Centre despatches on loan

around 900 films and over 8,000 tapes each week, with smaller quantities of filmstrips, kits, records and associated materials.

Resource Materials and Kits

A recent workshop for senior primary school teachers held at the Teaching Aids Centre was asked what the main requirement was for resource materials. This particular group of teachers who were all sympathetic towards the use of new media - and indeed who were making extensive use of films, records, cassettes, slides and so forth in their schools - after careful consideration and deliberation came up with their basic requirement. They said that they could not effectively carry out their work without considerable supplies of cardboard cut to three particular sizes. This simple requirement reflects how wide a range of resources is required in one of the most sophisticated of educational systems.

One of the main concerns of the Centre is the provision of integrated teaching materials. All developments for extending the use of resource materials form part of a systematic operation in which those educational experiences which are most relevant and valuable in the school curriculum have been identified. The most effective tools and materials to help achieve learning objectives are developed or located for replication and distribution.

Among the resource packages produced is a very interesting kit on community studies, designed as part of the primary social science teaching. This kit, to be used with a special series of television programmes produced by the Australian Broadcasting Commission in conjunction with the Education Department, contained teachers' notes, student workcards, games, records, individual research project guides for students, and was altogether a rich amalgam of materials. Other kits have included records, coloured slides, teachers' guides, student study cards and work cards for group use. Provision has been mainly in the fields of social science and social studies. Some kits are completely self-contained and rely almost entirely on print. For instance, there is a series of stimulus research cards designed on the theme of 'Australia and its People' - which is concerned with various aspects of the sociology of Australia. This has additional teachers' guides and study envelopes.

Administration

The Teaching Aids Centre has a Planning and Policy Committee chaired by the Deputy Director-General of the Department of Education which meets each month. This Comm-

ittee, which consists of superintendents of subject areas, the supervisor of curriculum, the supervisor of building, the Liaison Officer with the Broadcasting Commission and representatives of primary and secondary education, is responsible for receiving proposals from teachers and subject supervisors to provide materials in their respective areas. The Committee then decides how to allocate funds to meet the requests. On the advice of the Committee, the Centre plans the production of resource materials. Very often these resource materials are designed for supplementary use with programmes produced by the Australian Broadcasting Corporation.

Having received its brief from the Policy Committee, the Centre prepares specifications for materials, based on detailed objectives and performance requirements. Prototypes of the materials are then prepared. The testing of these is carried out by research officers from the Curriculum Centre in selected classrooms. Following the feedback from the schools, modifications and developments are made. Once the material has been validated, the Centre itself handles the replication and production of enough copies to be made available free of charge to appropriate classes. This is a one-off operation. A flow sheet shows the process.

Workshops

The Centre runs workshops, seminars and in-service training facilities for teachers. The usual system, in addition to the Media Mobile operation, is to bring a small number of selected teachers in a particular subject area to the Teaching Aids Centre where they are given short intensive courses in the preparation and production of resource materials, of direct and relevant value to their work. A significant feature of these courses is the degree of pre-briefing to participants to enable them to bring with them useful materials which they can use to produce resources likely to be of lasting value on their return. An extension of this work has been the development of an intra-state telephone conference facility designed for use in in-service education. This enables link-ups of groups of teachers at three widely separated centres. Individual participants at any centre can take part in open discussion. The equipment is simple to operate and available for use by any officers of the Education Department. The advantages of using this for in-service training are considerable. The cost of the telephone link-ups is extremely economical when compared with conventional travel costs; leading authorities can address widely separated groups; teachers can share their

experiences with each other and reaction and comment can be received or suggestions put forward.

Future Developments

In keeping with its philosophy of being 'where the action is' and being able to continue and expand its full range of developmental activities, the Teaching Aids Centre will be moving into large, new, custom-built premises in 1975.

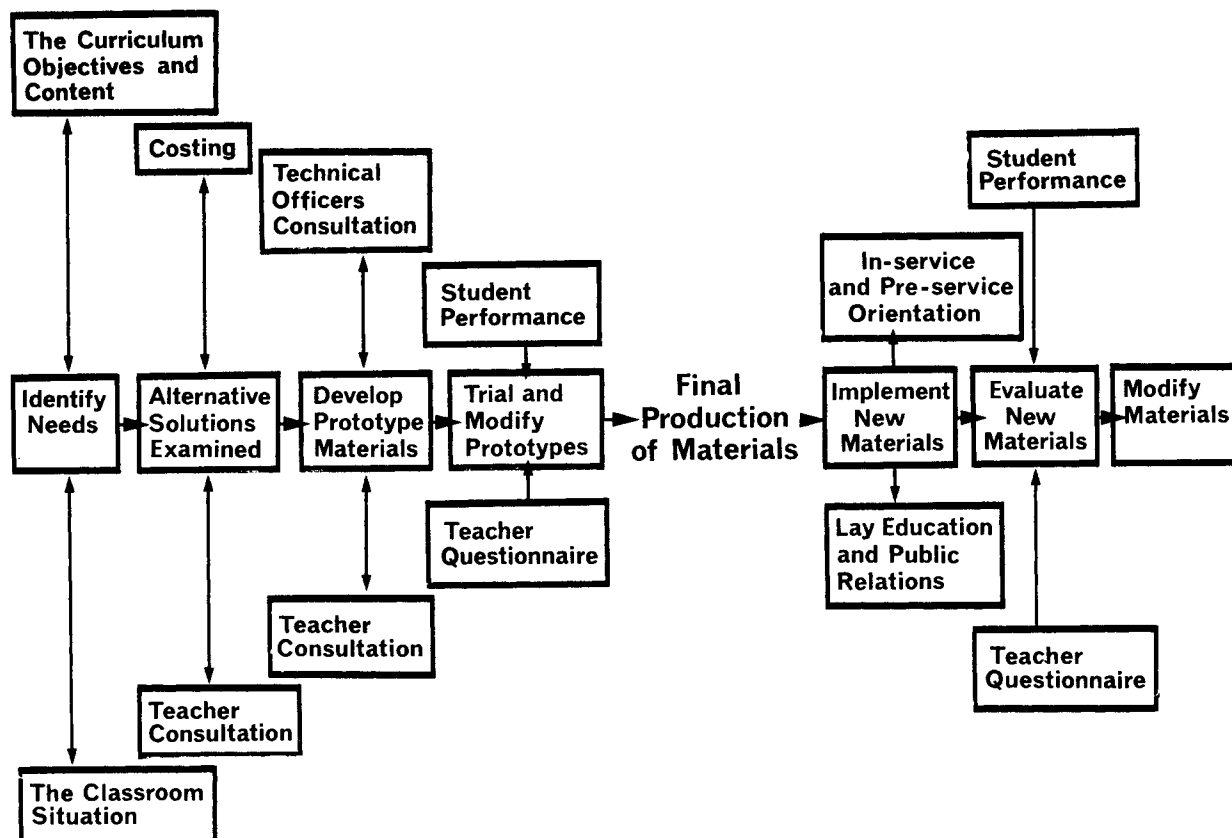
It is likely that the emphasis of its work will move towards an involvement in the innovative programmes created by the Karmel Programme. Support for the improvement of learning will be provided. Individual teachers and groups of teachers who wish to experiment with teaching methods and new equipment will be encouraged. Advice, guidance and supervision will be available as required. The narrow definition of 'teaching aids' as physical objects which a teacher can pick up or switch on will be superseded. Techniques and approaches to teaching and learning will be emphasized. It may well be time for the Centre to change its name once again.

REGIONAL RESOURCES CENTRE
PROJECT - EXETER UNIVERSITY,
INSTITUTE OF EDUCATION: BRITAIN

Introduction

The development of new curricula and the move towards individual discovery learning processes, which have been among the main features of British educational innovation during the past decade, have confronted teachers with a number of problems; particularly the need for more learning resources.

Teachers generally did not have the time to research, plan and produce learning aids in the quantity and of the quality required, in addition to their other tasks. Nor did schools have the funds to purchase commercially produced aids in the quantities required. To meet this need a number of teachers' centres and resource centres developed. Whilst there is no set country-wide pattern, teachers' centres tend to be located in a convenient and suitable local building where teachers with a common subject interest from a number of local schools



can meet, discuss professional matters and receive a degree of assistance which often includes help in making or borrowing learning resources. Resource centres may indeed often be located within teachers' centres or even schools, but the term generally implies a more central unit, capable of supplying a number of schools and teachers with a wide variety of relevant learning resources, and which probably also has a significant materials production capacity.

It was in this situation that the Institute of Education of the University of Exeter, as part of its 'in-service' support activities, undertook the development of a Regional Resources Centre as part of a controlled experiment to determine how best these needs of the teaching profession could be met in the mainly rural area with many isolated schools, covered by the Institute.

The project in its initial phase was supported by a generous grant from the Calouste Gulbenkian Foundation, and in its second phase the financial support to enable the project to continue has been donated by Philips Electrical Ltd. The first phase of the project is drawing to an end at the time of writing.

Project Objectives

It was considered that the Centre would need a studio, workshop and offices, and because of the isolated nature of many of the schools it was to serve, a van equipped as a workshop so that visits could be made to country schools and teachers' centres. The Centre was to provide:

1. a library of up-to-date books and other learning materials;
2. information about resources available elsewhere;
3. assistance to teachers wishing to produce their own materials;
4. assessment of materials supplied by the Centre and obtained from commercial and other sources, based on teachers' opinions;
5. training for teachers in making and using resources.

However, since a fundamental objective of the overall project was to develop an effective and relevant support service for the teaching profession, it was obviously essential that it should develop to meet expressed needs and thus, at the end of the first phase of operation which has taken three years, the main activities have been in the following areas:

1. information storage and retrieval;
2. production of materials designed to meet teachers' requirements;
3. consultancy services;
4. in-service training in the production and utilization of learning resources;
5. research. Although this item is important it has only amounted to a small part of the total work of the project, the greater emphasis having been placed on development.

Historical Development

It was clear from the beginning that the project could not serve all the schools in the South West of England and, since it was primarily a research and development project, it was decided to locate a number of pilot schools, representative of all the local education authorities within the Area Training Organization and also representative of different types of schools from infant to sixth form colleges. During the first year of operation, twenty-four schools were attached to the project. These were divided into two categories:

- Category 1 Schools were visited regularly by an adviser who worked on specific curriculum development problems with interested teachers within the school. There were seven schools in this category.
- Category 2 Schools could make the same demands upon the services and time of the Resource Centre but did not have the day-to-day contact and interest provided by the visiting tutor. There were seventeen schools in this category.

During the second year of operation the Category 1 schools continued as before, but the number of schools in Category 2 was increased and two teachers' centres were also associated with the project. In the final year the distinction between the schools in Categories 1 and 2 was considered to be no longer necessary. Any school might avail itself of help from an outside adviser, experience having shown that such assistance was an important factor in contributing to success.

By the beginning of the third year the number of schools with direct access to resources had grown to approximately sixty from six local education authority areas and covered the age range of 5 to 18 years. By the end of the third year it had become

obvious that there was a dual need within a regional resources centre for the provision of software resources and for a hardware consultancy service. It had also become increasingly apparent over the years that it was highly desirable to develop an experimental unit which could work on prototypes of hardware which could serve observed demands in classroom situations.

Now that further financial backing is available to promote and extend the work of the original project over a further three years, the Regional Resources Centre aims to extend and improve the services previously offered, with the following important differences:

1. the area to be covered will be limited to that of four local education authorities (this comes about through a reorganization of local education authorities' areas of jurisdiction);
2. the Regional Resources Centre will normally work through teachers' centres and not directly with schools (one exception will be within the city area);
3. efforts will be made to arrange for the secondment of teachers to work in an advisory capacity at the Centre, in order to ensure that materials relate satisfactorily to curriculum requirements. Experience has shown that a teacher does not have time to do this in addition to his normal school work;
4. the Centre will have increased staff and a greater variety of reprographic and photographic equipment.

A fundamental principle underlying all work undertaken by the Regional Resources Centre is that the background research into curriculum materials should be undertaken by practising teachers involved in the development.

Project Guidance

In its second phase, the project is controlled by two Co-Directors; one a Senior Lecturer in education, the other the Librarian in charge of the School of Education library. Their roles are complementary in this experimental pilot project which seeks to determine how best resource centres can be developed to serve the requirements of schools covering the 5 - 18 age range. These directors are guided by an advisory committee, chaired by the Professor of the School of Education, joined by twenty-three other committee members who include senior teachers, educational administrators, librarians, visual aids

advisers and wardens of teachers' centres from the local authorities involved. The advisory committee is also assisted by representatives of the (national) Council for Educational Technology, specialist advisers from the University and representatives of Philips Electrical Ltd. Thus problems are discussed, priorities established and advice passed on to the executive staff.

Executive Staff

The two Co-Directors are full-time members of the University staff with many other professional responsibilities. Thus, the day-to-day running of the Centre tends to fall upon the Administrative Officer and his secretary. They also act as the first point of contact for enquiries from outside the Centre. It is perhaps convenient to think of the main operations of the Centre being carried out by two sections, one responsible for design and photography, and the other for technical and printing services. There is a senior designer, assisted by a designer and a chief technician helped by three part-timers.

The unit works in close collaboration with the library of the Institute of Education which is responsible for storage and retrieval of the materials held.

By arrangement with local education authorities, the University is able to offer a limited number of fellowships which enable selected senior teachers to be attached to the project to deal with 'editorial' problems in the selection and design of resource materials, and also with 'research' problems in the overall evaluation of important facets of the project development.

Close collaboration between the Regional Resources Centre, the wardens of teachers' centres and audio-visual advisers on the staff of local education authorities enables the limited staff of the Centre to extend its influence throughout very many schools in the area.

Range of Services Offered

1. Information: it seems that one of the most important requirements of teachers is a source of information on a variety of topics; if this is not available through a local teachers' centre a telephone call may be made to the Regional Resources Centre.

2. Reprographic: it appears that most teachers consider printed material as the most important resource. The Centre operates off-set litho, collating and binding machines. Subject to copyright law, print,

photographs and diagrams can be reproduced, enlarged or reduced according to teachers' needs. Both black and white and colour reproductions can be undertaken.

3. Graphic: the Centre has a well-equipped design studio and can offer a wide range of design services to teachers.

4. Photographic: professional photographers are backed with about £2,000 worth of photographic equipment and a large darkroom.

5. Technical: a technical consultancy service advises teachers on the purchase and use of hardware. Plans exist to develop new and cheap items of equipment, in collaboration with teachers.

6. Library: the School of Education library is associated with the Centre and can lend a large and growing range of teaching materials as well as books relating to various aspects of education.

7. Supply: the Centre collaborates with local education authorities in purchasing and supplying equipment.

8. Professional: the Centre arranges courses on resources, both at the Centre and at schools and teachers' centres.

Work Load

The work of the Centre has expanded as the project has progressed. It now aims to respond to requests from all schools within its catchment area. Requests are filtered through teachers' centres. However, in the early days of operation when enquiries came directly to the Centre, 661 separate requests were received in the first two years of operation, of which 479 were met. Others were fulfilled later, or proved operationally impracticable.

In the early days of the project it was assumed that the Resources Centre would be able to produce everything required by teachers regardless of what was available from commercial sources. It was also assumed that the Centre would be able to respond totally to all requests from teachers. Experience has shown that the demands placed on the production department are considerable and it has often been necessary and economically viable to buy materials produced commercially or by other centres. Thus economy of operation comes from making a small quantity of purchased material available to a large number of schools and by using the specialist creative abilities of the resources centre to produce materials which are not otherwise available. Generally the rationale for resource provision is provided by the teacher who is

also encouraged to undertake the initial research. Often a teachers' centre will be able to help the teacher in meeting his immediate needs. However, the Regional Resources Centre is seen as a back-up to the teachers' centre in that it is able to offer a wider range of equipment and skills to produce more materials than can be done locally. Thus the Regional Resources Centre is more likely to become involved in complicated curriculum projects requiring a lot of materials and in such cases it has been found desirable to arrange for a teacher to be offered a 'fellowship' enabling him to join the staff of the Centre and act as overall editor.

Problems of storage and quick retrieval of materials have grown with the project. Cataloguing is of vital importance. Not only is it necessary to know at a glance what is in stock and what is relevant to requests, but also to know which schools were associated with the production of the materials in the first case. It is also necessary to find some simple method of letting teachers know what materials are held in the Centre. All of these problems are under active consideration, but in common with his colleagues in resource centres in many countries, the Librarian admits that he has yet to find the ideal solution.

Materials provided for schools include the following:

- large original wall illustrations;
- smaller original illustrations useful for small groups and individual work;
- multiple copies of pictures, drawings and photographs produced by off-set litho;
- slides taken from local illustrations and photographs;
- slide sequences for programmed learning;
- audio-tapes of various kinds including recordings of schools broadcasts;
- photoplay units;
- three-dimensional models and maps;
- children's booklets.

Consultancy services have, in the main, been provided through the University, using in-service funds to provide this kind of help for schools. The same University responsibility has enabled the project

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directors to run in-service education courses related to the work of the project for teachers in the area. A recent development has been the provision of similar training for technicians. Many schools in the area have a technician on the staff and they, in recent years, have found themselves increasingly involved in the audio-visual fields although often their particular expertise has been in other areas. The Regional Resources Centre has been able to organize a special one-week training course for schools technicians in resource provision and the use of various types of hardware.

Financial Considerations

Much of the cost is concealed within the University budget which meets the salaries of the two Co-Directors and provides accommodation. Field consultancy assistance is provided 'in-service' by the University and through the local education authorities. However, the project has received grants to support additional expenditure:

Calouste Gulbenkian Foundation
1970/73 - £25,000

Philips Electrical Ltd.
1973/76 - £60,000

The increase in costs is partially explained by inflation and also by changing requirements. Although money from the first grant was spent on equipment, further equipment is now necessary. More staff are needed than originally envisaged. The Director sums up the experience gained during the first three years of operation by recommending the following staff structure:

Director
and Secretary

Senior Designer Senior Technician
Two designers
one general technical
assistant.

and the following equipment: (UK prices January 1974)

1. Audio

1 semi-professional tape recorder	£120.00
1 complete combination unit	£200.00
3 cassette players	£ 30.00
3 cassette recorders	£100.00
off-air equipment	£ 80.00
copying equipment	£200.00
3 slide synchronizers	£120.00
	<hr/>
	£850.00

2. Video

video equipment	£1,000.00
Video-cassette recorder	£ 300.00
	<hr/>
	£1,300.00

3. Photographic

2 x 35 mm cameras	£ 240.00
1 larger format camera	£ 375.00
studio lighting and flash unit	£ 65.00
darkroom equipment	£ 440.00
	<hr/>
	£1,120.00

4. Reprographic

electro-static master maker/copier	£ 595.00
covertor model 167	£ 300.00
off-set litho printing machine with blanket attachment	£1,880.00
plate-makers (vacuum head)	£ 260.00
collator	£ 425.00
jogger	£ 60.00
Colylyn process camera	£ 400.00
	<hr/>
	£3,920.00

5. Miscellaneous hardware

1 x 60 mm projector	£ 350.00
3 automatic slide projectors	£ 240.00
1 ethiscope	£ 90.00
1 filmstrip projector	£ 75.00
1 film loop projector	£ 95.00
2 overhead projectors	£ 160.00
	<hr/>
	£1,010.00

6. Other expenditure that may be necessary relates to the provision of:

Workshop tools
Graphics materials
Other materials
Travel and subsistence (perhaps including the provision of a van)
Consultancy fees.

A capital expenditure of the order of £9,000 might be anticipated in setting up such a unit, excluding the cost of buildings.

Experience Gained

A sociological survey is to be published towards the end of 1974, which, in particular examines teachers' perceptions of the need for resources.

At this stage, the Co-Directors feel able to offer the following comments:

1. teachers will not automatically use a resource-providing agency until they are aware of the variety of materials which it can produce;
2. even after familiarization with the possibilities of a resource centre, using resources, particularly mixed media, not only requires greater planning and organization, but involves the teacher in more work than do more traditional methods. This the teacher can either learn from experience or by in-service training;
3. teachers should provide the rationale for all materials;
4. resource provision is directly linked to in-service education and curriculum development;
5. there is a case for the production of packages to serve a number of schools in some areas of the curriculum. One of the tasks of a regional resources centre should be the production of catalogues so that schools, through their own small resources centres, know what is available locally, regionally and nationally;
6. just as the Regional Resources Centre co-ordinates resources within its own area, so should it act as a link between its own area and other centres throughout the country. Here an interchange of materials could be arranged.

The Co-Directors are considering producing booklets, listing existing resources and resource services which could be used by teachers; the production of a termly newspaper whose aim would be to keep teachers in touch with developments in the field of resources; and a list of recommended audio-visual equipment for use in schools.

SMALL FORMAT VIDEO TAPES FOR
CURRICULUM DEVELOPMENT: ALBERTA CANADA

Background Information

In this present survey, which is being conducted specifically to review new media activities which might have relevance to educational problems in low income (developing) countries, it might, on first consideration, seem anomalous to include

a report from the Province of Alberta which spends more per capita on the education of its children than any other part of the Commonwealth.

The Province is wealthy in terms of money, skilled personnel and pioneering initiative. These same resources applied to the educational field are attempting to solve problems which exist in many countries, particularly where there is a widely dispersed rural population. Hence Alberta offers an important opportunity for study. Indeed it is apparent from the contribution which Canada has been able to offer in terms of advice and help to the developing world, that there is much of relevance to be learned from all parts of the Federation.

Albertans, like most people, are concerned with the relevance of their educational process. A recently published report of a Commission on Educational Planning, led by Dr. Walter Worth (then a Vice-President of the University of Alberta, and now Deputy Minister for Alberta's newly formed Department of Advanced Education), is called 'A Choice of Futures'. This 325-page report examines the present and future educational alternatives facing Albertans in a democratic society. The ultimate choice, of course, rests with the people. The facts are clearly and graphically presented and members of the public are asked to assist in completing the work of the Commission by sending in their comments on a prepared questionnaire. To get this attractive and readable report to the public, copies were placed on sale at check-out points in supermarkets. To consolidate this imaginative strategy an equally attractive fifteen-page booklet, spelling out the main problem areas examined in the report, was mailed to every home in the Province.

Albertans are also concerned with the effectiveness of their educational process. Professionalism within the Department of Education is at an extremely high level. All newly recruited teachers are graduates and the B.Ed. degree now requires a four-year course of study. Considerable encouragement is given to serving teachers to study for higher degrees and this, in turn, results in a fluid research/implementation dialogue between the universities and the educational practitioners. To give practical encouragement and opportunity to teachers who wish to develop innovative ideas, the Department of Education has established an Educational Opportunities Fund of \$5,000,000 to produce materials, or methodologies, which would have wider applicability through the Province.

In this situation it was long ago realized that the value of broadcast educational programmes was largely negated by their ephemeral nature and problems of time-tabling; quite apart from the teacher's requirement to be able to use the materials instead of being used by the programme. The alternative lay in persuading School Boards to purchase an approved pattern of videotape recorder ($\frac{1}{2}$ " compatible EIAJ format) and in making copyright clearance arrangements in schools to record the programme off-air.

Since better quality was to be obtained by a central videotape dubbing service and a physical distribution system, this capability was also offered. From this it was a logical step to negotiate with distributors of educational films to obtain the right to copy a specified number of their films on to videotape so that these could also be made available to schools.

Thus a Central Learning Resources Service has been established by the Department of Education which is available to all schools within the Province. Inter-provincial exchange agreements widen the catchment area of educational materials to include broadcast productions from the four Eastern Provinces as well as many of the CBC programmes.

In this way something of the order of an extra hundred videotaped items, in addition to audio cassette programmes and other media items, are made available centrally each year. Schools purchase their own videotapes on which these programmes and films are dubbed at no additional expense. The Learning Resources Service publishes a catalogue containing over 7,000 items.

Teachers in schools throughout the Province of Alberta can be kept up to date with relevant aspects of educational development through a low-cost videotape service centre in two adjacent converted offices in the headquarters buildings of the Department of Education. Relatively inexpensive small format television is used. Educationalists are in complete control of all aspects of the operation and are proud to refer to this service as 'quick and dirty' videotape productions. 'Quick' refers to the speed with which the system can respond to an educational need. 'Dirty' refers to the technical quality of the videotapes which, judged by professional broadcasting standards, is unacceptably low. However, the content of each programme is the important consideration and the quality of reproduction is more than adequate; indeed it is almost invariably superior to that of off-air reception of broadcast programmes.

The master tapes are replicated to $\frac{1}{2}$ " EIAJ specifications and distributed, as appropriate, to individuals within schools. Most schools possess compatible $\frac{1}{2}$ " EIAJ videotape recorders.

Specific Objectives

Reference is frequently made to the 'information explosion'. At a time when much is changing across the entire educational field, educational management is faced with a major problem in disseminating relevant information. Teachers, by and large, lack the time and facilities to keep up to date through conventional means. This problem is accentuated by geographical distances which reduce opportunities for personal contacts.

Professional journals meet an important part of this need. However, there is also a requirement to circulate news of specific local (i.e. provincial) developments, including ideas and materials prepared by colleagues working in the same subject areas, and in a way which leads to ready understanding and use.

'Quick and dirty' videotapes provide the Curriculum Resources Section of the Department of Education with an economical vehicle which offers significant help in the solution of this problem and also adds a new dimension to interprofessional communication. It so happens that the equipment, particularly that of the schools, serves a number of additional functions which lowers unit operation costs.

The Department of Education in collaboration with the CBC and two local educational television services (CARET at Calgary and MEETA in Edmonton) encourages and sponsors the production of educational programmes for broadcasting. However, programmes are broadcast over the television network in schools for only half-an-hour on each school day. Similarly school radio programmes are broadcast for only a quarter-of-an-hour each day. In this connexion it is also relevant to mention that the Provincial Government has recently established an Alberta Educational Communications Authority which, acting as a semi-autonomous body, can own its own transmission facilities to draw together and coordinate all aspects of this work. This new Corporation, named ACCESS, has already extended the coverage by broadcasts and will be expanding the number of Alberta productions.

In this situation, with an infrastructure of videotape recorders in schools (which incidentally are also used with portable television cameras in the creative arts

programmes where teachers and pupils come more easily to accept low-cost production techniques and black-and-white quality in a community where entertainment television is almost entirely in colour), and with a distribution network existing, it seems logical for the Department of Education to make a relatively small extra investment to create its own videotape production facility for in-service productions. In this way the 'quick and dirty' service came into being.

User Profile

In Alberta Province there are approximately 1,200 schools, 20,000 teachers and 400,000 pupils in a total population approaching 1,600,000. Education is compulsory up to sixteen years of age.

These schools enjoy a high degree of autonomy under elected Boards. A separate school system operates on the basis of religious affiliation in larger centres and some rural areas. Boards administer funds derived from general revenue and supplementary local requisitions, and make all major policy decisions.

Videotapes are distributed to local school boards requesting specific programmes from a professional resources catalogue. The service produces, on average, one specialized programme per week.

Administrative Structure

The small format videotape production centre in the Department of Education is headed by a Coordinator and an Assistant Coordinator. Both are professional educators with ETV production training and experience at a professional broadcasting level. They are responsible for the administration of the unit as well as coordinating the production of programmes (the Coordinator also has an itinerant Province-wide responsibility as a media consultant). Programme content requirements are specified by curriculum development personnel within the Department of Education and school board personnel, and programme format emerges from a collaborative effort by these two sets of people.

A technician looks after the equipment which, being small format, generally works reliably. Any major technical problems are handled by the manufacturer's organization. A secretary completes the team.

The master videotapes which this team produces are then replicated. A small dubbing capacity exists within the Department of Education headquarters but if many copies are required, this work is

done at another centre which the Department has helped to create. This second section employs another technician whose main work lies in dubbing tapes of broadcast programmes, films, etc. for educational support materials in schools.

Working Method

Ideas for programme content arise in the course of discussions within the Department of Education and particularly in the Curriculum Development Section. Priorities for work are decided in the light of the overall policy of the Department and the Coordinator's knowledge of the requirements in schools. Production is a speedy process. The unit aims to convert an idea into an acceptable videotape within one week. The following week will see the replicated tapes distributed to schools. Programme outlines are developed by curriculum consultants who also often present the programmes. Scripts are then developed by the Coordinator of his Assistant who produces and directs the programmes.

Caption making is cut to a minimum by using a typewriter with a large typeface (IBM with manifold 72/006 element) typing on to 6" x 4" cards (pastel blue or orange) and using a close-up lens on the television camera.

Studio movements are reduced to a minimum so that acceptable standards of lighting and sound quality are more easily achieved.

Utilization and feed-back are attended to by the Coordinator as he travels round. Formal evaluation cards are also distributed with each programme.

Costing

In terms of capital investment and apart from buildings, the small format studio contains:

- 3 x 1" VTRs on which master tapes are made;
- 4 x ½" EIAJ VTRs on which limited copies can be made for distribution;
- 3 small format television cameras;
- mixing (switching) panels;
- lights, microphones, etc.

The total cost of this capital investment amounts to approximately £4,500.

In terms of recurrent expenditure and ignoring the salaries of the staff, the following items are significant: production materials cost approximately £3,500 annually; travel costs associated with the production, £1,000 annually; utilization and feedback, £1,000 annually.

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It will be appreciated that schools have purchased their own small format VTRs and, often, cameras, representing a cash investment of under £500 for a recorder and monitor to £1,000 for recorder, monitor, camera and accessories.

NEWFOUNDLAND CANADA 'OFF CAMPUS' COURSES

Introduction

The Memorial University has introduced part-time university education at a distance through a learning system incorporating educational television videotapes. The small communities in the Province of Newfoundland are remote from the main centres of population in Canada and the population is sparsely distributed, mainly in small fishing ports around the coast of Newfoundland and Labrador. Communication between these small communities is difficult. The capital of St. John's with the Memorial University is at the eastern end of the 600 mile Newfoundland section of the Trans Canada Highway, and is approximately 800 air miles from the most distant of the communities needing university level education for its adult population.

Whilst the University was created to serve the needs of all the people of Newfoundland (its population 522,104 in 1971) its geographical location combined with transportation/communication difficulties has tended to restrict its part-time (Extra Mural or 'Off Campus') activities to people living in its proximity. In 1969 it was decided to offer the opportunity of full university courses to remote students through a special programme of activities.

The main need for this type of assistance has been in the teaching profession where a very large number of teachers in the remote schools were underqualified by Canadian standards. The Memorial University through its Department of Summer Sessions and Extra Mural Studies has evolved a system to meet this need, based on the concept of a multi-media package. The printed word, personal interaction and educational television all play mutually supporting roles. Techniques and methods are being constantly refined.

Practising teachers and many other individuals can now, through part-time study, acquire university credits, equivalent to those obtained by the full-time students attending the University.

Essentially the administrative design and responsibility rests with the Division of Summer Sessions and Extra Mural Studies

within the University; the academic content comes from faculty members in the various specialized departments of the University and the supporting educational television component is produced by the ETV Centre of the University. Each of these can only treat the 'Off Campus' involvement as a part, although a significant one, of his total responsibility within the University.

Background

During 1969-70, the first year of the operation of the new service, university courses were offered at twelve centres with a total enrolment of approximately 600 students for 963 courses. Of these some 200 took the psychology course offered through educational television, with the remainder registered in thirty-one other courses, which were taught by locally recruited instructors.

In the next academic year (1970/71) the number of 'Off Campus' centres was increased to nineteen and 3,180 student-courses registered between twenty-seven courses, four of which were offered via educational television with the rest being taught by local instructors.

In 1971 the number of centres was increased to twenty with three courses offered by educational television and fourteen by local instructors.

In the 1971/72 academic year an additional seven centres were added bringing the total to twenty-seven with eight courses offered by educational television and thirty-nine by local instructors. By this time the total student-course enrolment was 4,651.

In the 1972/73 academic year the location of some of the centres was changed, as it was felt that this would be beneficial to the users and one extra centre was added. This, it is felt, gives an adequate network to cover the requirements of the Province at present and it is not envisaged that this will be increased significantly in the foreseeable future. Fifty-six live courses and six educational television courses satisfied a student-course enrolment of 4,829.

Looking back over this period of development (four years) it is interesting to note that whilst the number of 'live' courses offered (139) is greater than the number of educational television courses (19), the number of students benefiting from educational television (total 6,581) is comparable with, and indeed has in some years exceeded, the number benefiting from live courses (total 7,042). This, of

course, arises from the fact that each 'live' course can be given only in one centre whilst the educational television courses have been offered in roughly half the centres in operation at any particular time.

User Profile

The types of people taking 'Off Campus' courses have changed as the scheme has developed. At first almost all the students were teachers seeking to up-grade their qualifications. The salary scale applicable to the teaching profession encourages teachers to acquire better academic qualifications, by generous salary increments. Also more qualified graduates were applying for teaching posts and the security and promotion prospects of unqualified teachers were diminishing. However, in a recent and typical enrolment about 86% listed their occupation as teaching, 3% housewives, 4% school administrators and others listed their occupations as welfare officers, businessmen, Royal Canadian Mounted Police officers, tradesmen, sales clerks, bank tellers and clergymen. Some of the students register for courses after they have completed their high school education, and whilst they are trying to decide whether they are suited for university.

The Evolution of the Educational Television Component

There is a deep-rooted feeling in the faculty of Memorial University that personal contact is necessary between students and staff. During the planning of the new 'Off Campus' courses it was realized that Memorial University had a great potential asset in the largest and most sophisticated university educational television centre east of Montreal. Fully equipped to broadcast standards, the ETV Centre had been producing programmes for broadcast and closed-circuit use since 1967.

However, to broadcast educational television lectures to distant students imposed immediate unacceptable limitations as the broadcasting services did not cover the entire population, particularly in the more remote areas. Added to this the signals were often of only fringe quality. These considerations, coupled with the obvious advantages of group viewing, particularly with a tutor present, led to the decision to use videotapes. Six centres were chosen for the experiment, all in remote areas and separated by enormous geographic distances, but where there were suitable physical facilities and personnel able to operate a 1" videotape recorder. Each of the chosen centres served a population large enough to make the experiment valid and economic.

The first course chosen for educational television treatment was educational psychology. Within the University, a faculty member designed a course which included a series of lectures which he gave in a television studio, and which were recorded on videotape. There were thirty-three separate presentations each lasting approximately half an hour and followed by a number of questions which the viewers had to answer. Separate copies of each videotape were produced and distributed to each of the six centres. Print material was also produced and this will be described later.

Each centre was equipped with a conference telephone and on alternate weeks the remote groups would be connected to the faculty member in the University in St. John's. The telephone portion of the experiment was a failure, principally because of the technical unreliability of the system. It is reported that this caused tensions beyond normal shyness which inhibited the students from using the equipment.

The aim of this technique was to generate discussion between the instructors and students in different centres. In practice it proved impossible and the telephone calls degenerated to questions for the instructor to clarify as 'authority' and this, it was felt, could be more effectively and economically handled by other techniques.

The following year the telephone conference technique was discontinued. In its place audio cassette recorders were issued to each centre. After each educational television lecture, question tapes were prepared by the students and sent by post back to the University. The course instructors then tape recorded answers and mailed them back to the centres. However, a careful evaluation of this technique showed that it was not producing the desired result, particularly since the time lapse between the questions being asked and the answers being received was regarded as unacceptable by the vast majority of students.

The latest development is to recruit a 'tutor' who watches each educational television programme with the class. He leads the discussion afterwards and has the responsibility of noting any points of difficulty and obtaining an explanation from the course instructor in the Memorial University in time for the students' next meeting. This he may do by a normal telephone call.

The growth of the number of centres to twenty-eight and the increase in the number

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of educational television courses to six has necessitated the development of a video replication facility in the University, and the investment of approximately \$240,000 in videotape.

This growth has added to the videotape recorder maintenance problem. However, a satisfactory solution has been found by placing stand-by recorders at strategic centres so that the courses can continue uninterrupted whilst repairs are effected.

Administrative Structure

In the Department of Summer Sessions and Extra Mural Studies the following staff are involved in the 'Off Campus' courses as well as their other duties: the Director, who is responsible to the Vice-President of the University for the overall success of the operation; an assistant director; a secretary; a stenographer and two clerks.

The assistant director is also a producer and has carried out a major research survey concerning attitudes towards the 'Off Campus' courses.

Three other producers assist in turning out a total of about 200 hours of educational television programmes per year for all faculties of the University including the 'Off Campus' courses. There are also seven technicians, four photographers and three graphic artists. A dozen students work on studio crew duties on a part-time basis. The educational television unit organizes workshop sessions for interested faculty members and trains each local co-ordinator in the operation and maintenance of his videotape recorder.

There are four University Liaison Officers - each responsible for a number of 'Off Campus' centres in a particular geographical area. Apart from this he also performs certain tasks for other Divisions of the University.

In each centre there is a part-time co-ordinator responsible for direct administration. Where centres have a hundred or more students there is also an assistant co-ordinator. The co-ordinator needs a forceful, dynamic personality with a strong interest in educational matters and above all the respect of the local people. One of the important elements in the success of the system is the selection of a local tutor, who assumes a responsibility with a group of students in a particular centre for a particular course. Indeed, before a particular course is offered in any centre it is essential that such a tutor can be identified. The availability of tutors of this calibre has often dictated the type of course which a centre is able to offer. In

the identification of such a suitable local personality the centre co-ordinator plays a leading role.

Working Method

The initiative for the production of educational television courses originates with the Division of Extra Mural Studies and may follow one of several procedures. There may, for example, be a demand for a particular course from educationalists in the field (district superintendents, supervisors, principals, as well as teachers, may often focus the need for a course).

A Provincial Department of Education sometimes has a need to help teachers with particular difficulties (for example, the education of exceptional children) and the Extra Mural Division has responded to this approach. The changing pattern of educational practice requires teachers to be brought up-to-date with certain conceptual skills and a specific course is being developed to meet the need.

Finally, there is the broad band of elective courses that students can take at all levels to satisfy their own interests and to contribute towards the credits they require for a degree.

Once it has been decided to produce a particular course, the appropriate faculty member, the Director of the Educational Television Unit and the Director of the Extra Mural Studies Department discuss responsibilities and working relationships. It is particularly important that the faculty member should understand the immense amount of work involved in his undertaking this project - not just in writing scripts and preparing the course manual but in preparing and recording the lectures on videotape and in the administration and support of the course once it is going out. The remuneration for this type of work is generous as a matter of policy, since it is felt that this is more likely to attract the most able people to come forward and offer their services. When agreement has been reached all round, the Educational Television Unit allocates a producer director to work with the instructor and their work begins on the development of course scripts and production of videotapes. Other specialists are employed as required.

Materials

The course manual generally outlines the course structure and then gives a synopsis of each of the videotapes and the main teaching points contained in each tape. For each videotaped lecture a selected reading list is given and diagrams relating to the visual presentations in the educational

television lectures. Series of practical exercises are included for the student to work on at home. In courses requiring laboratory work the manual includes an additional laboratory section.

In addition to the manual, there may be a book of readings including articles from well-known journals in the subject area. This may involve additional expenses in hiring a research graduate and in obtaining permission to use copyright articles. The book of readings is then published by the University with a foreword by the instructor and offered on sale to students as an extra textbook. It is interesting to note that there is a brisk sale of these books among the students taking 'On Campus' lecture courses as well. The instructor may prefer to prescribe a textbook as background material for his course of lectures. These are purchased in bulk and shipped together with the other materials out to each centre and sold by the coordinator to the students at the same price as would be paid in the University.

The course designers are concerned by the scarcity of reference material available at the centres. It is clearly impossible to duplicate the University Library's holdings in each of the centres, but a compromise has been effected by the production of a library box of relevant reference material which can be shipped out to the coordinator at each centre. At the same time the 'Off Campus' students have the same rights as their 'On Campus' counterparts to borrow materials from the main University libraries, although they must, of course, plan well ahead.

About a year is required to produce, assemble and prepare all the elements of an 'Off Campus' course. Whilst no budgetary restrictions are imposed upon any particular programme series, the unit has developed a series of effective audio and visual communications at low cost.

Utilization

In the early days a student from each class of the 'Off Campus' credit courses was paid a nominal fee to operate the television equipment. However, it was felt necessary to have someone in charge of the class to organize discussion groups and able to answer questions arising from the television lectures. Where possible an attempt is made to obtain an individual with a master's degree in the subject area although there have been occasions when an individual with a bachelor's degree has been successful. It is assumed that students will attend the centres two nights a week for a period of seventy-five minutes, dur-

ing which the educational television tape will be played for about thirty minutes and the remainder of the time will be devoted to answering questions, conducting classroom discussions, conducting laboratory sessions if required and noting any particular points of difficulty which the students have experienced. The tutor is able to phone the educational television instructor on the main University Campus with problems or questions which must have an immediate answer. Thus the tutor not only provides an invaluable service for the students, but is also a means of feeding back information from the study groups to the University.

Administrative machinery ensures that supplies of all necessary materials are delivered to the centres in time and that an adequate staff exists to see that all logistical requirements are met. The Educational Television Unit technicians visit each centre during the summer period and service all the educational television equipment. This preventive maintenance has paid off well and in four years of operation very few problems have arisen which can be attributed to technical breakdowns. Nevertheless standby equipment is located at strategic points and should a fault occur, replacement equipment can be installed with very little interruption to the learning process whilst the defective equipment is taken away for repair.

Evaluation

Apart from the routine feedback obtained from the tutors working with each study group and the usual type of 'evaluation' found through the examination system, two separate evaluatory exercises have been conducted on aspects of two of the educational television courses. The first looked in particular at the academic results and attitude ratings of the 'Off Campus' television course in psychology offered in 1969/70 to 177 students in six separate locations 'Off Campus', to 124 students in day-time courses 'On Campus' and seventy-eight students at night-time courses 'On Campus'. It became clear from this that the degree of motivation was higher in the part-time students than in the full-time students, and that the former were, by and large, a far older and more mature body. In all cases the drop-out rate was extremely low (5% or less) and in the final marks there appeared to be no significant difference between the performance of the various groups. Attitudes to various components of the course are examined carefully. The report finished with the following conclusion: 'it is felt that on grounds of both academic results and attitude ratings the 'Off Campus' television course was

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amply justified and there is every reason for supporting and predicting an increasing offering of 'Off Campus' ETV courses in subsequent years'.

The second survey, conducted in 1973, surveyed attitudes towards a geography course taken by 'Off Campus' students. This is a careful and detailed piece of research which examines various components of the course in depth. Interesting hypotheses may be drawn from the results.

This system is effective, economical and provides an important social service to people who could so easily feel isolated and neglected.

Adaptability

This is a delivery system for academic courses which is particularly well suited to the requirements of tertiary education. The production techniques can meet a wide range of educational and instructional situations. These two aspects are, clearly, capable of adaptation to meet the needs of other parts of the Commonwealth where problems arising through isolated distant communities and educational need have to be met with limited resources. However, the strength of the Memorial University system appears to lie in the way in which each course package has been specifically designed to meet identified local needs, particularly in terms of the relevance of the academic content. Growing support from extra mural students shows the value of this careful preparation.

Economic Considerations

An outline has been given of the manpower requirements. It is impossible to quantify these meaningfully in cash terms but it is important to emphasize the high degree of professionalism manifest in all aspects of this operation. Again to attempt to quantify capital costs is unlikely to be useful. The electronic system was installed many years ago and anyone designing such a system nowadays would undoubtedly use newer and possibly smaller and cheaper format equipment.

The immediate benefit is enjoyed at twenty-eight remote centres where about 2,000 adults (out of a total population of just over half a million) are, each year, able to enjoy the opportunities that further university study offers. Again, how can this be quantified in cash terms? But few would doubt that Newfoundland and her people will derive great benefit from this activity.

Costs will need to be examined carefully in any attempt to reproduce elements of

this system elsewhere, particularly if there is a possibility of distributing the signals satisfactorily by means other than the physical distribution of videotapes. Newfoundland, with twenty-eight centres, has, possibly, reached the optimum level of development of the present system. In a larger operation economies might be effected by micro-wave or even satellite distribution; even then the small videotape recorder at the classroom end will remain critically important.

Future Plans

There will be a growing requirement for the in-service training of teachers on a continuing basis, perhaps to introduce a new approach to the teaching of a particular subject, perhaps to produce specialized materials for groups of teachers in workshop sessions and short seminars in remote parts of the Province, perhaps to offer second degree courses. The pioneering work of the Memorial University in Newfoundland has shown that educational television has a tremendous potential to assist in solving these problems effectively and efficiently.

NEW MEDIA IN CURRICULUM DEVELOPMENT AND TEACHER TRAINING : CARIBBEAN

Introduction

This is a regional project (UWI/UNESCO/ UNICEF/UNDP RLA 142) designed to achieve full implementation over a period of five years. At the mid-run stage (January 1974) significant educational benefits have already been achieved.

The broad objective of the scheme is to expand and assist in improving the facilities for teacher education and curriculum development at the 10-15 year level. Activities are mainly based on three University campuses, and channelled through twenty teachers' colleges.

Integrated use of modern technology has been made. Low-cost closed-circuit television equipment has been issued to the teachers' colleges, for microteaching amongst other purposes. Other forms of media support made available to teachers' colleges include overhead projectors, slide-cube projectors, tape recorders, battery-operated slide projectors, Zufra biocopyers and spirit duplicators. In addition a central materials production capability is being developed to support the curriculum development work.

The fifteen countries participating are: Bahamas; Barbados; Belize; British Virgin Islands; Cayman Islands; Jamaica; Leeward

Islands (Antigua, Montserrat, St. Kitts-Nevis & Anguilla); Trinidad and Tobago; Turks and Caicos Islands; Windward Islands (Dominica, Grenada, St. Lucia, St. Vincent). Overall co-ordination is provided by the School of Education of the UWI, with a UNESCO team based on the Mona campus (Jamaica) and supported at the St. Augustine campus (Trinidad) and the Cave Hill campus (Barbados). Additional UNESCO staff are based in Antigua, Bahamas and St. Lucia.

Objectives

Within the fifteen countries in this project, there are twenty teachers' training colleges. It was considered necessary to establish firm links between them and to initiate a common approach to training activities; increase the output of specialized teachers for the 10-15 year age group; contribute to the upgrading of serving teachers in the junior secondary levels, as well as school principals, education officers, administrators and teacher trainers, particularly in terms of developing teaching skills and professional attitudes; increase the cadre of supporting personnel - teacher librarians, audio-visual and laboratory technicians, graphic artists, etc.; develop and renew school curricula, geared to the economic and social needs of the region, through the increasing involvement of teacher educators and teachers in these processes; make appropriate application of modern technology to teaching and learning and to increase the capability of teachers' colleges and the region as a whole for the production of relevant educational materials, and ensure, through a system of counterpart training, that the region would maintain on sound lines the activities generated by the project after UNESCO staff had departed.

In planning this project a fundamental consideration was that techniques involving 'New Media' should be seen as a means to the solution of educational problems within the overall strategies of curriculum development. The Caribbean situation imposed its own particular constraints of finance and skilled personnel. Hence, it was decided to concentrate on proved low-cost techniques, including in particular portable videotape recorders and cameras (rover packs); overhead projectors with machines for copying and making transparencies; slide projectors and audio-tape recorders. Strategies for the use of these pieces of equipment were and are being worked out through a series of regional workshops based on the principle that 'teachers are capable of finding solutions to all problems which exist in their educational systems'.

Historical Development

This project originated in a Caribbean Regional UNESCO/UWI seminar held at St. Augustine, Trinidad in 1966. The following year the UWI submitted a formal request to UNESCO on behalf of the governments concerned. In October 1970 a team of five was appointed by UNESCO to work from a Project Office in the Institute of Education (Mona). This team consisted of specialists in language arts, science, mathematics and educational materials, led by the Chief Technical Adviser. The team consulted with Ministries of Education and teachers' colleges as part of a survey of regional developments in teacher education and curriculum development. Working with the Institute of Education (now the School of Education), they drafted a plan of operations which was submitted to UNDP.

On the basis of this plan, UNDP then submitted specific proposals to governments which led to final agreement in June of 1971 by the UNDP (Special Fund) Governing Council. Additionally UNICEF approved additional funds for the production of educational material and equipment.

The project thus became ready for full operation from September 1971. During the pre-project phase experts were recruited, the identification of counterparts began and equipment and materials were ordered. Further recruitment and appointment of specialists took place between September 1971 and June 1972 to cover specialized fields of language arts, educational technology, science, mathematics, curriculum development, administration, graphic art and librarianship.

In-service training of teacher-educators in the development of specialized curricula and teacher training programmes has been undertaken. Microteaching techniques have been developed on a wide base in the twenty teachers' colleges spread through the region. There has been a comprehensive examination of microteaching techniques developed elsewhere, accompanied by an extensive regional research programme to determine which applications are most appropriate in the Caribbean context.

Progress has been made in the development of materials in mathematics, science and language arts, and in co-ordinating this activity with those of the teacher trainers and materials production units. A Materials Production Centre has been established in the St. Augustine Campus and has already been able to offer valuable support to the general development of the project. However, early problems with the delivery of

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equipment delayed development of this important Unit. Supplementary material production capabilities are being built up on the Mona and Cave Hill Campuses.

Administration

The project is a joint venture of UNDP and the fifteen participating governments. The UWI acts as the co-ordinating agency of these governments; UNESCO is the executing agency; UNICEF is a co-operating agency. The successful outcomes of the project reflect the steps taken by the Ministries of Education of the individual governments to assess their potential for supplementing development plans and to facilitate the project's operations in accordance with obligations specified in the Project Agreement.

The project is directed by the Dean of the School of Education of the University of the West Indies from headquarters on the Mona campus in Jamaica. He is assisted by the UNESCO Chief Technical Adviser with a staff of fifteen internationally recruited experts and eight locally recruited staff. The international staff are deployed in Project Headquarters in Jamaica (4), the Materials Production Centre in Trinidad (6) in Barbados (2), in St. Lucia (1), in Antigua (1) and in the Bahamas (1).

Communication between these posts is vitally important yet difficult owing to the unreliability of postal services between the islands. Telephones and cables are expensive but necessary. Travel is an important element. It has been suggested that a teletype link between the three main centres - Jamaica, Trinidad and Barbados - to which the UWI would have access, would be a sound investment for regional co-operation.

Thirty-two local counterparts have been identified and 'released' on full pay from their positions in Ministries of Education, in the School of Education, in teachers' colleges and in secondary schools to work with the UNESCO experts. In addition, about 150 co-tutors selected from the ranks of teacher educators and teachers, have been associated with the UNESCO personnel in field work exercises concerned with developing classroom and college curriculum materials and the practical forms of training. It is a fundamental concept of the project that training for all counterparts and co-tutors takes place within the region through in-service involvement and specialized workshops.

Consistent with long range objectives, the School of Education has already created permanent posts in educational technology at two of its Centres.

Implementation

Early benefits derived from the introduction of new materials and techniques can soon lose effectiveness in traditional systems. There appear to be three inter-related requirements for a successful teacher education programme: expertise in academic disciplines, inter-disciplinary relationships and professional skills needed in an increasingly technological school environment.

The planners had to note the social aspirations of each contributing country and its economic situation. Indeed, universally, there is a demand for greater economy in all activities. In teacher education this requires an approach giving good results in a short time. Thus strategies were evolved which:

1. Examined the content of training programmes to determine what was necessary. Course objectives were specified and 'core themes' identified.
2. Reinforced the understanding of concepts and learning of skills by inter-relating a number of themes.
3. Introduced teaching staff to the benefits of an integrated approach through the concept of systematic team teaching based on matrix techniques.
4. Utilized the microlessons, with a portable television camera and videotape recorder.
5. Harnessed the creative and technical abilities of the students.
6. Recognised that teacher education is a life-long process.

The tools developed to implement these strategies are:

1. Workshops - Groups of about 30 to 40 teachers, organized in sections, are given carefully designed stimuli, appropriate cues and questions, and so come to more effective conclusions than could be achieved in any formal lecture session. It follows that the subject of, and reason for, holding the workshops must be relevant to the immediate requirements of the educational situation and that the climate of official opinion, at all levels, must be favourable to the implementation phase which will inevitably follow a successful workshop. (In principle, this is assured

by the initial agreement on the plan of operation.)

In its first full year of operation the project conducted workshops, offered specialist materials, contacts and training for on-the-job upgrading of personnel serving in Ministries (14), teachers' colleges and schools (10), UWI School of Education (8), and in the fields of language arts (5), mathematics (3), science (5), teacher education (1), administration (5), educational technology (3), graphics (3), audio-visual techniques (3) and curriculum development (3). Valuable documentation supported these activities.

2. Educational media are matched to the instructional task.
3. 'Job card' format has been devised as a framework for self instruction and evaluation which is an essential basis of a systems approach to organized learning/teaching experiences. The job card specifies and relates performance objectives, the activities selected to achieve them, and the evaluation measures by which progress towards them is to be assessed.
4. A recognition that all processes and skills in the educational system have to be co-ordinated. Thus training, curriculum development, media production, media usage, administration are regarded as different facets of a total, integrated system.
5. A cadre of local counterparts and co-tutors participating with the experts in the project's development and training exercises to ensure that, given adequate support in other directions, the momentum of development can continue after the withdrawal of the UNESCO personnel.

Videotape recording systems and other equipment were issued to the twenty teachers' colleges following training in the operation and educational use of multi-media. It was then appreciated that existing training systems would have to be reorganized and reorientated to integrate the new media into the programmes.

The pattern of training encouraged centres in an open-ended approach to the solution of problems. Whilst all teachers' colleges introduced the use of VTR equipment in proven microteaching methods, indepen-

dent variations are developing which suit the particular requirements and conditions of different local situations.

The usual microteaching objectives of the systematic development of component teaching skills are the core of the operation. After only one year many useful examples have been recorded and are being evaluated. The production of tapes which can be issued to all teachers' colleges as stimulus material is being considered.

This project has carried out possibly the most comprehensive survey of microteaching yet undertaken in relation to teacher training in low income countries. This work and the problems of developing appropriate microteaching models, in the Caribbean area, are being carefully documented and evaluated.

The Multi-media Production Centre has been established by the project as a regional facility at the St. Augustine Campus. Here a disused school building has been converted into a mini-studio at moderate cost. This can produce and reproduce educational materials ranging from simple illustrated cards to master audio and videotapes. Silk screening and photographic production are currently being developed, including 16mm and 8mm cine film production.

Early in the project design, it was appreciated that it was immensely important for low-cost illustrated print material to be put into the hands of every Caribbean pupil at the 10-15 age level.

The Centre is also able to undertake all media production training requirements for the area served by the project - an essential element in the strategy of the project.

A multilith duplicator has also been installed at the Mona campus in Jamaica and another ordered for the Cave Hill campus in Barbados. At present existing facilities can just cope with demands and a recent order for 45,000 mathematics booklets and a set of 900,000 illustrated language arts cards was successfully fulfilled.

Linked with an electronic platemaker, modern typewriters and compositors which offer a selection of typefaces, and with graphic support, the Centre will offer a production potential of 60,000 sheets of good cheap copies a day.

Another function of the MPC is to deal with maintenance and servicing problems of media equipment used in the project. To date the exact extent to which this will

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be required is unknown, since the equipment is new and has, in the main, performed satisfactorily. Thought is being given to routine preventative maintenance schedules.

Finance

The videotape recording system made available to each of the twenty teachers' colleges is the 'Video Rover' costing approximately sterling £800. This equipment, which is simple and reliable to operate under conditions of heavy use, appears to have a good service record. Servicing and back-up facilities are provided by the Materials Production Centre in Trinidad and at the Jamaica campus.

The other multi-media equipment issued to the teachers' colleges costs approximately sterling £500 per college.

The Workshops are mounted with UNICEF fundings of approximately £15,000 per year. Necessarily much of this has been consumed in travel, but it is clear that this is an essential element in helping educators in isolated positions feel that they are abreast of current thinking and practice.

The cost of materials used in the biocopiers can be high (transparencies can cost £1 equivalent for four sheets). Central bulk buying can reduce this but the cooperation of teachers in discriminating usage is imperative.

Future Plans

Whether the project is continued totally or in part as an international scheme, or whether the work will be carried on on a local basis after the formal closure of the international phase remains to be seen. Recommendation on these questions must await the report of the formal evaluation process in February 1974. Extension costs to all parties - the international agencies, the governments and the School of Education - will be projected in these recommendations.

JAMAICA: CASSETTE PROGRAMME IN MATHEMATICS

Nature of Service and Objectives

The cassette programme has become an important element in an inexpensive project which seeks to improve the quality of mathematics teaching in grades 1-9 throughout the island of Jamaica. A structured series of messages recorded on audio cassettes and accompanied by printed reference notes has been produced to help familiarize teachers

with new techniques and materials, and increase their professional self-confidence.

Initially a pilot project, the cassette programme has been developed by the collaboration of the School of Education at the University of the West Indies, the Ministry of Education, an outside consultant from Central Connecticut State College, USA, and with financial support from a local industrial concern (Alumina Partners of Jamaica).

The introduction of a modern mathematics curriculum in Jamaica began in 1967 and has proceeded according to plan through seminars, workshops and other forms of personal interaction. However, various problems were identified as this work proceeded. In particular, there were not enough qualified staff to service the needs of all schools needing help. Supplementary support to the textbooks offering teachers self-instructional materials was required. A cassette programme was designed to meet this need and to offer:

1. a flexible resource for teacher in-service training programmes;
2. a mechanism for the in-service training of teachers in geographically remote schools unable to participate in the ordinary training programme;
3. a core of reference material in schools which would help to overcome problems caused by the turnover of staff, and which would accelerate and consolidate the introduction of the new curriculum in primary schools;
4. support for the mathematics programme in teachers' colleges;
5. a reduction in the per capita cost of in-service education;
6. a model for the introduction of new programmes in different subjects at other levels in the system.

User Profile

In Jamaica there are approximately 800 primary schools. Through normal in-service training methods some 600 of these schools have been guided in the introduction of the new mathematics curriculum between 1967 and 1973. The cassette programme to supplement this activity was introduced into twenty schools in 1971 and offered to two teacher training colleges. This was a pilot project in which the materials and the system were carefully evaluated. This phase of the

operation has now ended and Ministry approval has been given to making the material available to any school on the island.

Historical Development

The development of this project must first be considered in the context of a collaborative venture involving principally the Senior Research Fellow of the UWI (Mona) School of Education concerned with the teaching of mathematics in schools and the Senior Education Officers in the Ministry of Education responsible for the teaching of mathematics. All were professionally concerned with the introduction of relevant new mathematics material in Jamaican schools. Each, through his overlapping set of responsibilities and the wider circle of professional colleagues, was able to involve the assistance of others. The marshalling of human resources has been one of the outstanding features of this development.

The team having first resolved the difficulties of developing an appropriate course of material, faced the major problem of familiarizing teachers with the new materials and giving them confidence to use them effectively.

This was achieved from modest beginnings by a series of weekly, sometimes fortnightly, workshops and seminars held in schools over a two-year period. The objective during the first year was simply to give the teachers an increased competence in mathematics. During the second year emphasis was placed on using the new materials with children. Teachers were released from their duties, with Ministry approval, for one hour a week to attend the seminars, each of which lasted for two hours.

Peace Corps Volunteers (PCVs) from the United States came to assist with the project, having first been trained in the precise requirements that they were to meet, by the Jamaican officers responsible for the programme implementation.

Gradually, more and more schools asked to be included, and a steady supply of PCVs arrived each year to help with the work and to replace those who had returned home. At the same time, outstanding Jamaican teachers were selected for special training. Those who measured up to the required standard were designated 'Resource Teachers' and given the responsibility of helping other teachers in their schools to use the new materials. Resource Teachers were then released to go to other schools to conduct seminars where no PCVs were available and have now, gradually, assumed the functions which the PCVs were originally asked to undertake.

With this activity, good progress was made in introducing the new mathematics curriculum and by about the beginning of 1973, 600 of Jamaica's 800 primary schools had received considerable training.

However, at this stage there were special problems to be solved. Approximately 150 schools were so isolated that the standard training programme was uneconomical. Added to this, staff turnover in these schools was particularly high, and because of their isolated position, recruitment of satisfactory replacements was difficult. Thus, teachers awaiting training tended to be posted to these schools and mathematics education suffered accordingly. In seeking a solution to these problems the concept of a cassette programme was examined and appeared to fill many of the requirements. The advantages of the cassette programme are:

1. Availability - the package of material and the player are available to all teachers in a school for use by a group or by an individual at any time.
2. Flexibility - once the materials have been prepared, the teachers may choose from the set what they need to study or review. They may use the audio-tape and the visual materials together or separately. Some teachers may use the material in a lesson on a topic which is unfamiliar to them. Some may use the material to assist other teachers who are new to the programme. In some cases the material may be suitable for use with children. The material is within the control of the teachers.
3. Low cost - the main expenditure for this programme is on the production of the master tape and the visual material and in the purchase of cassette players. The use of television instead was considered and it was seen that the expenditure in the same two categories - production and machines - would be very much greater.

The proposal for the pilot project was submitted to the Minister of Education in June 1970 and received his approval. At this stage two important pieces of assistance arrived. The first was from ALPART, a large industrial concern which had long been interested in problems of educational development in the island. They offered to meet the cost of the pilot project excluding salaries of the government officers and the University personnel already employed.

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Secondly, a member of the staff of Central Connecticut State College, USA, with exceptional experience in new mathematics, programmed learning and materials preparation, offered his services as a consultant during periods of the University vacations. Thus, not only was Jamaica spared the expense of a full-time appointment, but was able to obtain uniquely valuable advice at a pace which enabled the programme to progress satisfactorily. (While the introduction of the new curriculum materials was, and is, a continuing operation, its administrators decided not to force the pace beyond the natural speed which was acceptable to the teachers concerned.)

Thus, over a period of three years, fourteen units of materials with a total of seventy-five audio-tapes, each lasting for fifteen minutes, together with fourteen books of accompanying reference notes (averaging fifty pages each) have been produced, distributed and evaluated in the pilot project.

The stage has now been reached where the materials are to be remade, incorporating the lessons learnt from the evaluation process, and offered to all Jamaican schools. Ministry of Education approval has been given for this and budgetary provision made.

Staff Involved

Prime responsibility rests with two Senior Education Officers in the Ministry of Education responsible for mathematics education; the Senior Research Fellow in the University of the West Indies, School of Education.

This is a team operation, particularly in so far as the planning of the overall strategies has been concerned. The Education Officers have taken the main responsibility for the production of the material in close co-operation with the consultant, and the Senior Research Fellow has been particularly concerned with all aspects of the improvement of teaching standards in schools and with the design of the evaluatory system.

Additional assistance has been given in production matters and in equipment selection by a Canadian International Development Agency technical expert, working at the University. A PCV, who happened to have some publishing experience, also helped in organizing the production of the reference notes.

Any such venture could not possibly succeed without the enthusiastic co-operation of the teachers concerned and their head teachers.

Working Method

The partners in the project design have regarded a sound agreement more important than a speedy decision. When differences of opinion have arisen they report that they have patiently waited for a solution to emerge. The original initiatives arose in consultation and were jointly submitted to the Permanent Secretary of the Ministry of Education for approval. In day-to-day activities, the partners' long period of professional collaboration has built up an atmosphere of mutual respect, which in turn makes discussion, decision making and implementation an easier task.

Writing scripts and accompanying reference notes has been primarily the responsibility of the Senior Education Officers.

The consultant has visited the project during his college vacations and these periods have therefore been used for intensive programme outline design, script writing and revision, apart from general observations on the overall progress of the work. The polishing of draft scripts has then continued by correspondence until agreement on an acceptable form has been reached.

Programmes are recorded from the scripts in a studio hired from the University, with technicians' services included. The CIDA technical expert, however, has also helped with quality control and the subsequent duplication of copies from the master tape to supply all schools and both training colleges taking part.

Printing, including typing, graphic work and lay-out collating and binding has been undertaken in the University. A PCV has helped with this work but it has on occasions, been necessary to pay for extra work.

Utilization

Twenty schools and two teacher training colleges were chosen to take part in the pilot project. The schools received cassette players, tapes, sets of the reference notes and a complete set of the manuals, entitled Teaching Mathematics We Need, supporting the new curriculum. At the same time a control group of four schools was issued with the manuals only.

Schools reasonably close to one another were chosen in consultation with the Education Officers for the area. Preliminary discussions were held with principals of these schools inviting their participation in the project and they, in agreeing, designated a member of their staff who could 'facilitate' the work of the project by

promoting the idea amongst other members of staff. Meetings were held with 'facilitators' to demonstrate the use of the cassette recorder and to discuss administrative details.

Facilitators have remained the main channel of information feedback about the progress of the pilot project in each school, and it is clear that several ways of using the materials have been developed. Indeed, some reports indicate that frequently the players are taken home by the teachers for individual study. (Microphones were not issued with the players and they cannot be used to make recordings.) Many of the facilitators attended a special course for resource teachers and it is reported that this has added additional impetus to their work.

Evaluation

Within the School of Education a plan was prepared for evaluating the cassette programme in two sections: the first through a series of pre-tests and post-tests aimed to measure the amount of learning attributable to the taped lessons; the second through a series of attitudinal scales aimed to assess the effectiveness of the programme as a medium of instruction and to record the opinions of the participants about education in general and mathematics in particular. The collection of this data and the analysis of the results is still being undertaken.

Nevertheless, results so far returned have been sufficiently encouraging to persuade the Ministry of Education to extend the availability of the materials to all schools in the island.

Financial Considerations

Capital investment in this project is minimal. The total expenditure incurred over a three-year period in excess of the salaries of University and Ministry staff has been covered by the ALPART grant of Ja.\$12,000. In this the major items of expenditure have been in connexion with the visits of the mathematics consultant.

Other expenses have been incurred in: local travelling; additional secretarial help; hire of University recording studio; overtime paid to technicians; expenses connected with evaluation and analysis; purchase of audio-tapes (reel-to-reel masters and cassettes); purchase of tape replication machine (for the pilot project replication on a limited scale was required and a four bank machine was adequate. Should a large number of tapes be required, as will happen with the expansion of the

scheme to cover all schools on the island, the purchase of an adequate replication machine could be a relatively large item of expenditure); purchase of paper and other materials; purchase of cassette players for schools and teacher training colleges; provision for repair of recorders.

Here it must be stated that the cassette player has proved exceptionally reliable and there have only been two cases of malfunction among the twenty-two recorders in this project over a period of three years.

Future Plans

Immediate plans have been devised to extend the coverage of the project to all primary schools in the island. A proposal has also been submitted and agreed for the extension of the cassette programme in mathematics to the post-primary level (junior secondary schools). In this it is intended to prepare and produce for testing, audio-visual materials for the instruction of teachers in pre-service and in-service mathematics programmes at grades 7-9 as an extension of the pilot project which concentrated on grades 1-6.

Considerable interest has already been shown in this project outside Jamaica. At the request of the Education Department of the Cayman Islands, the cassette programme is being tested by their teachers to assess the extent to which the programme can stand with a minimum of support from resource personnel.

The consultant has been invited to advise on the introduction of a similar system in Peru in an educational situation which differs fundamentally from that in Jamaica. A modification of the Jamaican reference notes with a locally recorded version of the audio-tapes is being tested at this time. It is likely that Jamaican staff will be invited to visit and advise.

From this, it is clear that others who are familiar with the project's effective simplicity consider the concept to be capable of transfer. Materials, of course, may have to be revised considerably to meet local requirements. But in considering the transfer of a hardware system it is vital not to overlook the personal element. A major factor which has led, perhaps, to the Jamaican success could lie in the quiet, but efficient, sympathetic, professional attitude of the project leaders. They have deliberately made haste slowly and have carried teachers' opinions with them. They have seeded an idea and waited for a demand to grow; and at that point they were ready to begin to lead

the teachers to develop a new attitude to their responsibilities through involvement with the mathematics cassette programme.

PROVISION OF EDUCATIONAL
RESOURCE MATERIAL: NEW ZEALAND
DEPARTMENT OF EDUCATION.

Introduction

The Department of Education in New Zealand has evolved, over a considerable period of time, a range of services to provide educational materials of various forms to all schools in the country. From about 1935 onwards, in the words of Clarence E. Beeby 'there had been a resurgence of educational thinking and practice throughout the country and the school system that had been relatively static for a decade or two was enthused with a new, if often vague, sense of purpose'. In the ten years or so following 1935, the curricula of both primary and secondary schools were completely overhauled - 'the new prescriptions were based on very different educational assumptions from the old'.

It was during this time with the realization that the provision of teaching materials was essential to the process of renewal and development, that two very significant but related developments took place. In 1942, on the personal decision of the then Minister of Education, a National Film Library was created. Prior to that time there had been in New Zealand a collection of 16mm films in possession of the British Council. This had begun to evolve into some form of film library, but initially it contained films of general appeal rather than of instructional value. The first Supervisor of Teaching Aids was appointed - a man who was to remain in the position for twenty-one years and under whose personal guidance the National Film Library developed into the significant resource which it provides today for the New Zealand educational system. It was only comparatively recently that the National Film Library was split to form the Visual Production Unit and the Library as separate entities.

The other development which arose out of the vigorous move for educational reform in the thirties was the creation of the School Publications Branch of the Department of Education in 1939. Very soon after its inception Clarence Beeby was appointed its Director and under his guidance it soon assumed considerable value and importance within the New Zealand educational system.

Within the Department of Education there are a number of agencies offering materials and resources for teachers and schools. The National Film Library provides films, largely 16mm, tapes and recordings; the Visual Production Unit is responsible for the provision of filmstrips, slides, charts, pictures and overhead projector transparencies; the School Publication Branch provides bulletins, handbooks, journals and pictures; the Curriculum Development Unit is responsible for planning and selection of material and for in-service training; the Inspectorate also provides in-service training.

Provision of Equipment

Primary and secondary schools have somewhat different arrangements for acquiring audio-visual and other teaching equipment. For State primary and intermediate schools there is the provision of a standard quantity of basic equipment; schools receive filmstrip projectors, daylight screens, overhead projectors, tape recorders, a radio with extension speakers and microphones. Schools are given a \$200 subsidy to purchase 16mm film projectors. Cash grants are available for new schools to buy records, filmstrips and additional visual aids and equipment.

Secondary schools are initially set up with a radio with several speakers, a record player, a filmstrip projector and a micro-projector head. In addition, they receive a grant of \$800 for additional equipment selected by the school itself.

Educational Radio & Television

Although almost 95% of schools in New Zealand are equipped to receive educational broadcasts transmitted on the national network (but only during the limited period from 9.45 a.m. to 10.00 a.m. for four days of the week and from 1.20 p.m. to 2.00 p.m. for five days of the week) it is not generally felt that the radio service is making a serious impact on the educational system. It has been suggested that one of the major reasons for this is that the programmes are prepared and supervised by the Schools Broadcast Section of the New Zealand Broadcasting Corporation, and although this is done in consultation with a Schools Broadcast Advisory Committee, the lack of control and involvement by the Department of Education has not made for the establishment of a successful service.

The Correspondence School which also uses radio, has a rather different system of operation. (See the separate case

study.) The programmes put out as part of the Correspondence School are produced and presented by the staff of the Correspondence School in the studios of the NZBC. Here only the facilities are provided by the broadcasting organization - the human resources are those of the Correspondence School.

There is at present no educational television service in New Zealand, although for the past few years consideration has been given to the possibility, and a Committee of Enquiry was set up to report into television in education. This Committee reported in February 1972 and at present the initial planning for the establishment of an educational television service is just getting under way.

National Film Library

The National Film Library should be considered against this background. One of the most important features of the NFL is that it is a branch of the Department of Education. It lends 16mm films free of charge to schools and any other organization, which has some educational purpose. The main Library is in the capital city, Wellington. There are also two branches, one in Auckland and the other in the South Island at Christchurch. There are some 6,504 regular borrowers from the 16mm film library; about half are schools and colleges. The other borrowers include other Government departments, churches, YMCAs, the armed services, adult education groups, young farmers' clubs, political clubs, film societies and so on. Films are not lent to private persons nor for entertainment purposes. In 1972, some 338,662 reels of film were issued and of these approximately 80% went to schools, teachers' colleges and universities. The 16mm Library contains some 9,277 titles with an overall total of 35,547 prints. As well as providing 16mm films, the NFL has a gramophone record library which provides records free of charge to almost 1,521 schools, colleges and universities. It has some 3,649 titles in circulation with a total of 7,586 records. During 1971 nearly 13,300 records were borrowed.

The NFL also provides a tape duplicating service for educational institutions. A library of master tapes is being built up in the NFL, and schools, colleges and universities are invited to send in blank tapes for dubbing from the particular programmes they require. During 1972, some 6,829 dubbings of tapes were made for schools. Most of these were for foreign language teaching but there is an increasing range of tapes now available for other subjects. The catalogue of master tape recordings now in preparation contains some 683 titles.

The loan output of the NFL has been increasing quite significantly with a 5% increase between 1969 and 1970, an 8% increase between 1970 and 1971 and an 11% increase between 1971 and 1972. The NFL tends to increase the number of copies or prints rather than the number of titles. The number of prints ranges from a maximum of around eighty for a New Zealand history film - used in social studies - to a minimum of three prints (one for each Branch) for specialized films, depending on the target audience. The average print number is around thirty five to fifty. Films are now more related to syllabuses.

The selection of films for the Library is generally at the discretion of the Manager of the Library who acts on the advice of specialist Curriculum Development Officers. Some films are acquired on the recommendation of the Film Library staff themselves. Films are selected from catalogues (generally from overseas); prints are then previewed by the Curriculum Development Unit's specialists, with or without outside help. It has been found that about 70% of all previewed prints are accepted for the Library. The number of prints of each film is generally decided by the Film Library Manager and purchases are made on an annual basis.

A further peripheral activity is the collection and preservation of New Zealand films of historical interest as part of a film archive collection. This work is undertaken in conjunction with the National Archives, and, it must be noted, consumes a considerable proportion of the time of the Manager.

Initially the accommodation for the NFL was ad hoc and unplanned in nature, but it is significant to note that at every stage of its subsequent development and change there has been growth. The final design of the existing buildings was to the specification of the present Manager of the Film Library and was based upon long experience.

There are fifty-one members of staff, with twenty-five in the head office, fifteen in the Auckland office and eleven in the Christchurch branch. Staff are normally recruited from young married women teachers who have left the teaching service, and who are then most often employed as 'booking clerks'. The turnover of staff is no more than average and since the career prospects within the Library are comparatively slow and very much dependent on internal promotion, this reflects a considerable degree of satisfaction with the job. There is of course the danger of 'getting out on a limb' in terms of career development by working in such a specialist service.

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For the year 1972/73 the NFL had a budget in the region of \$300,000 which was for above-the-line expenditure only and did not include salaries, rent and similar overheads. The money was essentially used for the purchase of films, records, tapes, and related specialist equipment. The printing of catalogues is also paid for from the budget. There has been a very significant increase in expenditure on audio-visual materials by the Department of Education, ranging from \$180,000 in 1968/69 to \$460,000 in 1972/73 with an estimated \$713,000 for 1973/74.

There is no charge for membership of the NFL, nor for the despatch of films. The NFL does reserve the right to charge for films which have been damaged, although in practice this has only happened two or three times in the last twenty-five years. It is interesting to note that where regional libraries were established, damage to films decreased. Automatic threading projectors are not encouraged by the NFL since they are felt to contribute significantly to film damage.

A significant part of the work of the NFL is in training projectionists. This training is carried out by some 758 volunteers at present, although it used to be part of the work of the NFL staff themselves. This system of training now extends throughout the country and last year thirty-one new volunteers came forward and were able to meet the NFL standards for training and examining. Over the fourteen years of the scheme's existence 11,086 certificates of proficiency have been issued. Most of the examiners are teachers.

There are some 3,000 16mm projectors in about 3,300 educational institutions in the country. Servicing these projectors is the responsibility of the school or the institution. The NFL does not now operate a projector loan service, although it did so on an ad hoc basis in the past.

The Visual Production Unit

The Visual Production Unit of the Department of Education undertakes a major proportion of the production of audio-visual materials for education. This Unit originally formed part of the National Film Library and only became a separate organization some five years ago. It still shares the funds allocated for audio-visual materials with the National Film Library. Its annual share is approximately one-third of the total vote. The Unit has an established and recognized function of filmstrip production, filmstrip purchase and filmstrip distribution. Since 1971

the VPU's scope has expanded to include the production of overhead projector transparencies, wall charts and posters. All these items, together with the filmstrips are likely to be accompanied by teaching notes; in addition the filmstrips may have a commentary on record or tape (both reel-to-reel and cassette). However, a major proportion of the finance available to the Visual Production Unit is devoted to the purchase of filmstrips from overseas and their subsequent distribution.

The staff of the Visual Production Unit numbers only six. In such a small Unit the career prospects are not particularly good nor are the grades of salary related to the teaching profession - there is only one single salary scale in operation ranging from a modest \$1,500 to some \$6,400. In spite of these difficulties - often staff members receive less than they would if they were in a teaching situation - the situation is generally stable and the average length of service considerable. There is no major problem in recruiting replacement staff; the high degree of job satisfaction may be significant.

There is a tendency for the VPU to make use of more and more colour materials in production - both in filmstrips and in wall pictures. This change from black and white to colour is probably the most significant recent development. Another noticeable evolutionary pattern is that records (which accompanied filmstrips) and their distribution, which a few years ago formed a significant element in the work of the VPU are now being phased out completely by the introduction of sound tapes and more particularly, cassette tapes. These developments are also reflected in the purchasing activities. Further diversification into the production and purchase of overhead projector transparencies, charts and the increase in the quantity of teaching kits and packages reflects changing requirements and desires of the educational system.

Of the \$713,000 available for audio-visual materials in 1973/74 (the highest ever allocation) about a third is devoted to the Visual Production Unit budget and the remainder to the National Film Library. The VPU's expenditure of about \$228,000 represents only the cost of materials. It does not take into account salaries, rents or other overheads. 60% - 70% of the budget is spent on overseas filmstrip material. This material is either resold or used for stocking the ten filmstrip libraries throughout the country. Any material which is resold has a heavy government subsidy, for example, the cost of

a colour filmstrip which is on sale to schools through the catalogue at NZ\$80 may have been bought at NZ\$125 representing a government subsidy of around 30%.

The rest of the budget is spent on the production of filmstrips and slides, apart from a small proportion, which is used for the purchase of specialized equipment for use by the Unit - cameras, enlargers and so forth. The purchasing policy of the VPU reflects the major changes in the educational policy as and when they occur, and is carried out on a somewhat ad hoc basis with no established or overall agreed policies. This is perhaps a measure of weakness. The commissioning of production materials is also on an ad hoc basis.

The School Publications Branch

Although a service unit within the Department of Education, the School Publications Branch is not directly comparable to either the National Film Library or the Visual Production Unit. Its position and organizational structure is such that it does not have the same close relationship to the Curriculum Development Unit. It is classified as one of the Department's Special Services. The Branch has a budget of some NZ\$500,000 which does not include salaries or overheads. Although most of the editorial staff have been teachers, the salaries which are paid within the Branch - like those of the VPU - are on Government service and not teaching scales. No off-the-job training is given to staff members joining the Branch, although applicants for posts have to take tests devised by the head of the Branch. These are aptitude tests concerned with the correction of manuscripts, the editing of stories and the selection of material. This care in selection and recruitment is considered to be essential for an effective publishing unit. As part of in-service training all the editors spend at least three weeks during each year in the field and on in-service teacher training courses.

One of the main activities of the School Publications Branch is the production of The School Journal, for primary schools. This journal is something of an institution within the educational system. Recent research conducted in one region of the country showed that some two-thirds of all teachers in primary schools make substantial use of it. In addition to providing a valuable teaching resource, the journal acts as a vehicle for curricular change and dissemination of information.

Although the School Publications Branch produces work of a very high standard indeed, there may be some doubts about its

structural position within the framework of the Department of Education as a whole. The present relationship between the Branch and the Curriculum Development Unit is rather tenuous for approximately two-thirds of the work. However, the other third is developed in close consultation with curriculum officers.

One of the reasons for the undoubted success of the Branch is that it has always had strong and active support from senior officials. This began in the early years of the century with a Director of the Education Department and was strongly reinforced by the internationally-known New Zealand educationalist, Clarence Beeby, from the late 1930s onwards.

The local production of filmstrips and other materials can be initiated in a variety of ways. The Visual Production Unit officers may themselves initiate action or any individual teacher or group of teachers or subject specialists may offer the VPU a set of slides on a specific topic or even an idea for the production of slides on a topic. Curriculum officers also may initiate the production of a filmstrip in any subject area which they know to be lacking in supporting materials or resources.

In 1972 - the last year for which full statistics are available - the VPU provided some 31,000 filmstrips in colour and 8,000 in black and white. These were accompanied by 15,000 sets of notes, 2,000 sound filmstrips and 750 sets of materials. Overhead projector transparencies, 73,000 charts, 2,500 records, 400 tapes and 85,000 wall pictures were produced by the Unit as well as ten separate filmstrips with a total of around 8,500 prints in all. The Unit is already involved and will become more so in the production of the social studies kits which the Department of Education is currently producing for distribution to schools. These kits, which contain a wide range of visual material of various types, will have an estimated distribution of 24,000.

One of the strengths of the VPU is its flexibility to modify and change to meet needs. Although acting as a support service to the Department of Education, the Unit can, and does, co-operate with other Departments such as Health, and with the police. The statistics show a significant annual increase in demand.

The Visual Production Unit has never attempted any serious evaluation nor organized any research into the effectiveness of its operation nor the effectiveness of the materials which it provides for the educational system. However, the flow of

materials through and from the Unit can well be considered to be a good guide to the 'success' of its activities. More significantly, there is no research or development unit responsible for testing and evaluating equipment and hardware. In theory the Audio-Visual Curriculum Officer is responsible for this but the pressure of other commitments means that he cannot devote any significant time to it.

A gap in the total coverage of materials and resources provided by the Visual Production Unit and the National Film Library is the lack of provision for 8mm films.

There are two basic ways of considering the central production of educational support materials. The commercial view is that to make quality products available on a wide scale, mass production techniques are required and research and development costs are spread over a long production run. Unit costs are accordingly reduced. In going for the wider target audience it is inevitable that the user becomes isolated from the creative processes and this tends to prevent his understanding the purpose of the materials.

The other view recognizes that teachers teach themselves best by the simple process of teaching others and particularly by being called upon to create something that is significant and useful in their work. It follows that as large a number of teachers as possible should be encouraged to join the creative processes of curriculum development and resource production. This is happening on a significant scale in many countries. However, consideration of a teacher's work pattern shows that the time available for an individual to research, design and create support materials is strictly limited. Team teaching recognizes this difficulty and offers groups of teachers an opportunity to prepare and deliver key presentations to larger groups of students. In Teachers' Centres something of the same pattern often happens, with teachers cooperating in the production of resource material. In both cases it is sometimes argued that for so much work a relatively small gain is derived, and that it would be more rational to make the materials available on a wider scale; and so the argument continues in circular fashion.

The pattern of activity developed in New Zealand and evolving in Exeter attempts to draw the best from the two approaches. In New Zealand the imaginative concepts of local teachers are developed into education-

al resource material by a team of professionals employed by the Ministry of Education. In Exeter a satisfactory result has been achieved by this same method, and also by arranging for outstanding teachers to be seconded for periods of up to a term to the Resources Centre. Here they team with professional designers and producers to make high quality material. These materials are then made available to a wide circle of teachers, and yet have a local flavour and direct relevance to the locally originated curriculum developments. In both centres most of the material on offer is bought from commercial companies; this is economical because a small amount of material can serve the needs of a large number of schools. The production capacity of the centre is reserved for those items which are not commercially available and for which there is an educational need.

In Tasmania, in the Teaching Aids Centre, experienced educators develop and test prototype materials which can then be replicated and distributed on a large scale through commercial channels. The work of the Media Mobile contributes to the involvement of teachers in the schools.

The two Caribbean case studies exemplify different strategies. The Jamaica cassette programme meets a specific educational objective in a limited geographical area. The decision to use print and audio cassettes was made after a careful study of available alternative approaches. What resources were available, and what combinations were appropriate in this particular circumstance, were the two basic criteria. The result is a deliberately limited, yet extremely effective operation. The Regional Project, on the other hand, is far more ambitious; both in terms of the range of objectives and the range of locations. It demonstrates the importance of a carefully designed and systematic approach to the solution of a range of interlocking problems. It attempts to make substantial progress on a broad front and in doing so has to ensure that there is synchronization and integration in a complex matrix of activities. Again it illustrates the supreme importance of conversion by willing consent. Change involves people and their attitudes and is brought about by leadership. The media then offer a most valuable supporting role. However, if the media are to preserve their credibility, constant, sensitive monitoring is required. Research, evaluation, feedback, are various names used to describe this process, which is of very great importance.

The Regional Project re-emphasizes the importance of print as a medium of instruction, especially the off-set litho facility which can respond to local demands quickly, economically and exactly. There is an abundance of evidence to indicate that in many low income countries this is the item of expenditure most likely to yield the highest education benefit, for the cash and skills invested.

The Newfoundland example illustrates a system in which a package of resource materials is designed and produced by a team. The material is specifically tailored, in form and content, to meet the requirements of a unique local situation as exactly as possible. However, the mechanics of the system for the production and delivery of materials would seem to be adaptable to the requirements of many situations where educational services have to be brought to isolated communities in an economical way.

The Alberta case study exemplifies the use of a relatively inexpensive, portable small format, television system. Materials are produced which may be distributed by post, or by other physical means to individuals or groups at a distance. The educational requirement was to find a method by which the continuing, in-service professional updating of teachers could be carried out. The system, however, would be equally relevant to the needs of small groups of, for example, farmers, agriculturalists, literacy workers, or family planners. In these situations it is possible to envisage the videotapes being used, perhaps, by an itinerant specialist. The necessary equipment, together with a small electric generator will fit into the boot of most cars. It is a system that would seem capable of development in many situations.

An important point which emerges from these case studies, as a common factor, is a relatively high level of feedback from the user to the central coordinating body. New Zealand does not, it is true, use terms such as 'research' or 'evaluation', and claims that its productions are 'pragmatic'. Nevertheless it is clear that a sensitive attitude has been developed by the staff who have, over the years, modified their policy and output to respond to the requirements of practising teachers. In Jamaica an independent evaluation of the cassette programme is being conducted concurrently. The Caribbean Regional Project has associated with it an on-going research project which is monitoring the developments in microteaching techniques. In Tasmania particular attention is paid to

the testing and validation of the prototype materials, before they are passed across to commercial publishers. The Exeter case study describes a research and development project, within which a number of themes are being examined by individuals as separate research topics. Alberta tends to use concepts such as 'accountability' to describe a process whereby any educational operation is expected to produce an effectiveness commensurate with the level of investment. In Newfoundland, the degree of success results largely from the high degree of sensitivity which the planners have developed to the needs and reactions of users, and to the methods used to obtain this information. From the combined experience of these projects we must surely conclude that a high level of built-in evaluation, combined with a sensitivity that reacts appropriately to this evaluation, are essential ingredients of their success.

Other conclusions of a general nature which can perhaps be drawn from these studies are:

1. It is important for teachers to be given the opportunity of involvement in creative processes related to the production of materials which support their work.
2. It is necessary to devise a system in which a teacher's expertise may be drawn on, without disrupting his work pattern. An answer lies in seconding teachers for limited periods, or more permanently, to production centres where their professional advice is used in the course of editing and guiding craftsmen. It is very difficult for teachers, particularly at the higher educational levels, to carry a normal teaching load efficiently and to be responsible for all aspects of support material production.
3. It takes time for teachers to become aware of resources available and the mechanism whereby they can be obtained. It is also necessary for teachers to familiarize themselves with these new materials, and this again takes time. Efficient use of materials increases with familiarity. Patience, and sound organizational ability are needed by those responsible for media support services.
4. Whilst mediated teaching and learning processes can be more efficient, and frequently are more entertaining than conventional methods of instruction, the organizational demands on a teacher who takes the trouble to integrate resources into his lesson plans are considerable.

5. There is a danger that teachers will become remote from innovatory activities, in both the psychological and the physical sense, unless particular attention is paid to the problems of continuing professional up-dating. This is part of an enormous problem of information dissemination. The lack of awareness, not only by teachers but often by those with an innovatory responsibility, of related and important developments elsewhere, often results in considerable wastage. Information is not, generally, readily available in an assimilable form and existing channels for the dissemination of relevant information need to be examined critically.

6. The identification of the basic educational problem should be followed by an examination of the means available to help solve that problem and the determination of what is appropriate in the situation.

7. Broadcasting, as such, offers little of value to the educationists in many countries unless facilities exist to capture and store the message for use at an appropriate moment unless there is a strongly centralized educational system. Thus recognition is growing that in most situ-

ations the production facilities of broadcasting studios are of much greater value to educational planners than the broadcast distribution facility. As small format equipment becomes capable of higher quality production and offers greater compatibility the move is away from broadcast standard studios. Less capital intensive facilities are being assembled and increasingly controlled by a new professional genre - people disciplined to the requirements of education and communication. These new specialists tend to choose media appropriate to the task and increasingly advocate a variety of materials presented in different ways.

8. The importance of new media in teacher training and other situations, whether self evaluation of behaviour or personal interaction, is an element of significance. Audio and videotape recordings seem to have a longer, relatively untapped potential.

9. It is perhaps salutary to remember that even in the relatively different and well equipped educational environment of Tasmania, the main resource requirement of primary teachers was for sheets of cardboard.

CONCLUSIONS TO CASE STUDIES

One of the basic questions which must be asked about the new media is how these new educational techniques, instruments and approaches as components can make an educational system as a whole more efficient and productive. The media are only as good as the results they achieve. The measurement of these results is extremely difficult. The results are not purely the examinable achievements of the learners - attitudes and behaviour patterns of those using the media are also important, as are changes in the system caused by the existence of the media. It is only within the context of the whole system that they can be judged. Here, operational efficiency is not enough. There are media projects in themselves smooth-running and apparently efficient, but which contribute very little to the overall effectiveness of the system.

From the range of projects which have been studied in some detail it has been possible to isolate factors which have consistently contributed to their effectiveness. Rather than present these in a random order, it may be appropriate to discuss them as groupings of the main processes of what, by now, has come to be known as the 'systems approach' - definition of objectives, review of alternatives selection and implementation of a possible solution and finally evaluation and appraisal of results.

Definition of Objectives

Past research evidence in the field of educational innovation would seem to indicate that failure is inevitable if a decision is taken to employ a particular piece of equipment or technology or strategy without first having ascertained that a real need exists. A problem is a necessary starting point - a potential solution is not. The need to provide education for isolated children in New Zealand, the need to improve the quality of education in Hong Kong, the need to produce more qualified teachers in Kenya the need to provide in-service training in new mathematics in Jamaica and the need to release university lecturers from repetitive lecturing in Scotland are all examples of needs which caused the new media to be involved in providing a solution.

In the determination of objectives it is of paramount importance that they are consistent with the overall objectives of the

educational system. No project is ever likely to be successful unless it is in broad harmony with official or national policy. Efforts to impose centralized material on a decentralized educational system are doomed to failure - yet many attempts have been, and are being, made to do this. The multi-faceted work of the Teaching Aids Centre in Tasmania contributes significantly to the rapidly decentralizing system of education whereas the ETV services in Hong Kong and Singapore both effectively improve their much more centralized systems. These examples illustrate clearly that the most effective solutions to problems are those that are controlled by the education system itself. The control of the media is central to their effectiveness. It appears from the studies undertaken that where the media are controlled and directed by the organization which is to use their service, this use is likely to be effective. Ministries or Departments of Education or other institutions which wish to use television for educational purposes would do well to study the examples of Hong Kong, Singapore, the University of Glasgow, as well as the Caribbean regional project and the Alberta and Newfoundland experience. In these projects - as well as most of the others from the case studies - responsibility for media use has been with the educational authorities. Problems of split control and division of responsibilities have not arisen.

It would appear that there is a positive relationship between the growth and success of media projects and a process of change occurring in the educational system or even society as a whole. Change and innovation take place most effectively in a dynamic situation rather than in a climate of conservatism. This is clear from the case studies. Almost without exception, the educational systems concerned have themselves been undergoing change - whether quantitative expansion, as in Zambia, qualitative improvement, as in the Caribbean, or change in emphasis and content, as in England. From the wide range of changes affecting all the educational systems considered during the course of the investigations, there are three situations which are worthy of special mention. In Australia - and in Tasmania specifically - in Alberta and in the British Solomon Islands Protectorate, far-reaching and exciting developments are in progress. In each of these areas

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reports have recently been produced on the educational systems. A very significant feature of each is the high degree of involvement by the population and by the teachers whose participation has been sought. There is strong evidence of a climate of change. Dynamism breeds innovation.

Where successful projects have been created, there has been a detailed prior knowledge of needs and requirements. Vague political statements like 'television would be useful in schools' have led to many failures. As happened, for example, in Glasgow University and in Hong Kong, detailed analyses of users' requirements were produced before decisions were taken. Attitudes of teachers are of vital importance as was appreciated in the Caribbean Regional Project. The greater degree of pre-planning based on realistic data and information, the greater the chance of success. Although this may appear to be a statement of the obvious, nevertheless, more than one media project has got under way without any real knowledge of the extent or nature of its target audience.

Objectives do change and become modified with time. This is in the nature of successful projects. It is important that the projects themselves can change and adapt to meet these new objectives. The case studies show many examples of this. The role of the Correspondence School in New Zealand is now to cater much more for the socially and emotionally isolated rather than the physically isolated. The Singapore ETV Service now provides a service for primary schools as well as secondary. The Zambia Correspondence School now provides courses for primary school leavers for whom no secondary school places are available, as well as catering for the needs of adults who find that professional advancement is denied them through lack of academic qualifications.

Review of Alternatives

Although it is mainly on the basis of expressed needs and stated objectives that the most appropriate medium should be selected, nevertheless there are other constraints which can affect this choice. To create a national educational television service in a very large country with a widespread population and little electrification would be counter productive. Available resources (or their lack) must also be taken into account. Resources are not purely materials and equipment - or even just finance. Human resources are of vital importance. People who can lead and inspire others, people who can benefit from specialized training, people who are recep-

tive to new ideas and respond to innovation are just three types who are essential to the effectiveness of any project using the media. Almost without exception each of the case studies revealed the influence - either past or present - of dynamic leadership.

Leadership without professional support of the users is worthless. By and large, the users of media projects are classroom teachers in formal educational systems or extension workers in informal education. The teaching profession has often been accused of being one of the most conservative of occupations and one which is resistant to change. This conservatism is not necessarily a permanent feature of all groups of teachers. Receptivity to change can be created and cultivated. From the studies undertaken, particularly where television and radio have been used, it can be seen that considerable energy and effort have been expended to involve the users. Involvement in the system by the users seems to be essential. A one-way flow of information does not appear to offer any noticeable teaching benefit. Through committees through pre-service and in-service training through personal and face to face contacts, two-way communication can be developed. It was only after consultation and discussion with the users that the Hong Kong ETV Service formulated its plans for expansion. It is on the basis of its contact with teachers that the Teaching Aids Centre in Tasmania plans its activities. Television in the University of Glasgow is very much a service facility which is available to the lecturers. The growth of the Television Service is a measure of the degree to which the lecturers did and do accept change and innovation.

A further feature of the human resources is the requirement for trained manpower necessary for effective use of the media. Media work invariably requires specialist training. As can be seen from Appendix I, the range of training centres is much less extensive than the range of media projects. Training facilities should be developed to include electronic engineering, graphic arts and other support services. Training is time-consuming and expensive.

In realization of this, there is now a growing tendency for much more care to be given to the problems of recruitment. Effective recruitment is a sine qua non for effective training. It is difficult to generalize about recruitment procedures for media work. The aptitudes and abilities required of an educational producer are not those required by an administrator or a headmaster nor of a journalist or gen-

eral broadcaster. Teaching experience is almost a universal requirement - especially for production work. Subject specialization appears to be less important. More and more the tendency is towards the 'educational communicator'. Whether as a specialist working in the fields of correspondence course writing, radio or television production or as someone with more embracing responsibilities covering more than one medium or element, a new breed of professional is emerging. Educational technologist may not be his exact description but educational technology describes his field of activity.

The creation of cadres of specialists within Ministries and Departments of Education does however, create problems. Media activities tend to attract to themselves enthusiastic and creative individuals with bright career prospects. Very often they are people with the potential to rise to very high positions within the system. Media projects normally have few employees in comparison with the whole system. Moreover, the projects are often regarded as being a limb of the system. Promotion prospects within them can be restricted. Because of their size and increased specialization of their staff, projects can threaten to take their staff away from the mainstream of career advancement. Where these worries and fears can be allayed by enabling movement into and out of the media service, then its long-term effectiveness is enhanced. The New Zealand Correspondence School provides a very good example of complete integration of its staff within the framework of the teaching service. However, a corollary to this is that the development of projects can be inhibited by the transference of key personnel to other areas where their promotion aspirations can be met.

Most initial training for any media project has to be obtained from an outside source. It is a measure of the success of a project if it can establish and develop its own in-service training. In spite of achieving this satisfactory position many of the projects studied expressed a desire to participate in higher level or more senior training. Isolation, in the professional sense, was an oft-quoted complaint. Producers complained that their creative batteries needed recharging. If media projects can release personnel to attend international conferences, exhibitions and competitions, this factor can increase the quality of its output as well as maintain a high level of morale and interest in the staff.

It is impossible to be dogmatic on the choice of the most appropriate medium to meet any particular problem. Each pro-

blem must be studied in the context of the educational and social environment in which it is set. Each medium has its basic strengths and weaknesses. Each medium has over the years been well tried and tested. Lack of success is seldom due to the medium itself, but to the way in which it is applied, or not, as the case may be. It is not the function of this Report to assess the theoretic aspects of the various media. This is covered in numerous textbooks. Arid and often acrimonious debate has taken place in the past over relative merits and demerits of the various media. In this context it is worth recording an entry which appeared in the Tasmanian Educational Record of November 1937.

In comparing the film with other forms of visual illustration, lantern slides, epidiascopes and the educational visit, it is clearly shown that each has its own special function and that the film does not replace these older forms - it supplements them.

The interrelationship and interdependence of the media is still vitally important today.

It is the practical use of the media which this Report has studied. Although the media have been categorized into radio television, correspondence education, and central resources, one of the most obvious factors which has emerged is that nowhere is one medium used in isolation. Print in one form or another is used in each project. In addition, the interdependence of the other media is also being recognized and developed. The multimedia approach is now accepted as being the most effective method of using the media. Here again the same proviso exists which requires the application of the technique to be the means to an end and not an end in itself. There is no merit in employing a vastly expensive and sophisticated range of media to achieve a result which could equally well be achieved by using textbooks, for example.

In any consideration of alternative strategies, financial implications must be paramount. Although the media are, or can be, expensive, the studies show that effectiveness can be achieved with modest resources. The use of cassettes in Jamaica and the BBC Local Radio educational activities are both examples of low-cost projects. Financial problems feature prominently in those projects which have been less than successful. Note worthy factors recur in the successful projects. Initial capital funding is important, but even more important is pro-

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vision for adequate recurrent expenditure. Media activities require flexibility, rapidity and ease of spending funds. Overly bureaucratic controls can frustrate and delay production activities. Ease of financial administration is a consistent feature of successful projects.

Any breakdown of the expenditure on any project of any scale (with the exception of correspondence education) will normally reveal that the costs of receivers (or cassette recorders or video-cassette recorders or film projectors) are greater than the costs of the central projection facility. If a media project is to be effective, then provision for receivers has to be built into the original planning. Any media system which concentrates only on its production centre is highly likely to encounter problems. Receivers form part of the total system and, as such, are the responsibility of those managing the system.

Problems of compatibility and standardization of equipment are reduced and maintenance is facilitated if the receivers are 'built into' the system. The experiences of the Alberta Department of Education, of the Teaching Aids Centre, Tasmania, of the Hong Kong ETV Service, are just some of the more obvious instances where the importance of this is realized.

Selection and Implementation of Solutions

A study of the processes by which decisions were reached to select and implement a solution to an educational problem by the use of media is of interest. The importance of leadership in projects has already been stressed. The importance of high-level backing and authoritative support is also important. Media projects do not just happen. They are the result of decisions taken at senior levels of management. Luke-warm support at this level can be inhibiting at best. Continuing participation in overall policy-making by senior officials is important. The University of Glasgow Television Service is guided by a very senior and influential Television Committee, the Singapore ETV Service has a wide-ranging and senior level committee to provide guidance.

From the wide range of successful projects which have been investigated and also taking into account some less fortunate examples, it would seem that there is a critical level of size for projects to be or become effective. Although projects may start with a small-scale pilot phase it appears that to command attention and respect they must be of a size both to

make an impact on the system and to be self-supporting. Economies of scale are important, particularly in systems where finances are scarce. Whenever possible the media used should reach the whole of the target population - whether this be comparatively few children living in isolated settlements in New Zealand or mathematics teachers in remote schools in Jamaica or the entire primary school population at certain levels in Hong Kong. Since the media are essentially concerned with communication, they must be seen to communicate with their entire audience. Educational television services which can only be received in schools in urban areas, resource centres only serving adjacent schools, educational radio services only broadcasting for an hour or so each week, all fail to exploit their full potential. Underdeveloped states of media use attract unfavourable comment and reaction. Unless a project can achieve full coverage of its intended target audience, its future success would appear to be in jeopardy. Small experimental programmes often remain small because they were not seen from the outset as the first stage in a major attack on a major educational problem.

Time is an important factor in the development of projects involving the media. The main feature which recurs throughout these case studies is that many of the projects have taken longer - often much longer - than the original time planned and scheduled for their development. Several projects made a virtue out of this situation by modifying and refining their planning and by establishing contact and creating a favourable climate of opinion in their users.

The converse of this occurred in a number of situations outside the scope of this study. Here the media were introduced before adequate planning and preparation had been undertaken. A decision, often taken at political level, or as a result of external influences, was taken to introduce some form of educational technology. Very often a starting date was included in the original decision. Inevitably this date precluded the full process of preparation. A poor start to a media project causes damage which is very difficult to rectify later. The importance of an effective and efficient start is apparent from a number of the case studies.

Evaluation of results

The only real purpose of evaluating a project is to enable modifications and improvements to take place. Evaluation for its own sake is a profitless exercise. Most of the projects studied have a built-

in system for continuous evaluation which enable the project to be modified. Again the need for projects to have flexibility is highlighted.

The studies have shown the wide range of educational and instructional purposes in which the media have been used effectively. Primary school, secondary school, university level, teacher education, non-formal education, are areas of use. The range of subjects is equally extensive. It would be tempting to conclude that wherever an educational problem existed, the media could be used to overcome it. This is both over-simplistic and dangerous. The most important conclusion from this range of studies is that where specific problems or situations have occurred, then specific remedies have been applied. These remedies have been applied within the context of the system. The degree of effectiveness has varied. Increase in passes in examinations, change of attitude in teachers, improvement in quality of instruction, reduction of feelings of isolation, provision of education to those who for social, economic, physical or emotional reasons cannot otherwise obtain it, the introduction of new cur-

ricula are among the goals which have been achieved. Some are quantifiable; others are observable. To compare the results achieved by the use of television in Singapore with those of using videotapes in Newfoundland or those of using correspondence education in Kenya, is meaningless. Even to compare the results of the use of one medium in different countries is likely to be counter-productive. Results can best be appraised within the context of the system in which they are achieved. This is the real test of effectiveness.

Success is a variable quantity. As has been mentioned earlier, it proved an elusive term to define at the beginning of the study. After the study had been completed, it was possible to reaffirm that the pragmatic definition which was accepted was useful and effective. This definition is worthy of repetition: a project can be deemed to be successful if after a number of years of operation it fulfils two conditions - that its financial backing and support is maintained or increased and that the number of people using the service is maintained or increased.

Summary

In summary, the following factors are those which on the basis of the studies undertaken appear to be of major importance in determining the success of a project which uses the new media for educational purposes.

1. The existence of an educational problem - properly defined - is a necessary starting point.
2. The production and use of the media should be controlled by the agency or institution in which the problem exists.
3. Media projects are most likely to be successful when introduced into systems which are themselves undergoing change.
4. Projects should have the capacity and capability of changing and adapting to meet new objectives as they arise.
5. Human resources are important; particularly important is strong and positive leadership and a high energy level in the staff employed.
6. The users of the media service must be involved in the process to the greatest possible extent.
7. Recruitment is an important part of the training process for media work. Teaching experience appears to be important for 'educational communicators'.
8. Media projects should offer prospects for career development for their staff.
9. Successful projects are able to provide their own basic in-service training.
10. The multi-media approach, used where appropriate, seems to be more effective than the use of a simple medium. In this context it should be noted that nowhere was one medium used without the accompanying use of printed materials.
11. The provision of adequate recurrent expenditure is essential for effective projects.
12. Flexibility and ease of this expenditure, coupled with non-restrictive administrative procedures, contribute to effectiveness of media projects.
13. Media projects should be planned to include the receiving equipment which is used; provision for this must be made.

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14. Provision for maintenance of receivers or equipment must be built into the operation of the project - either directly, or through contractors.

15. High level support from other departments is important and the project must be in harmony with national objectives.

16. Projects must reach a 'critical size' before they become effective; provision for growth and expansion must be built in.

17. Media projects often take longer to develop than the original planning anticipated.

18. It is important that the launchings and beginnings of media projects are well planned and executed.

19. Projects should be able to respond to the recommendations of the evaluation processes which must be built into the system.

20. The media have been used effectively in a wide range of situations of differing level, subject and area. Each use is a specific application in a specific situation.



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