

CONTENTS

CHAPTER ONE

THE PROBLEM - ITS SPECIFICATIONS

- 1.0 Educational Needs of India
 - 1.1 Mass Media
 - 1.2 Educational Television
 - 1.3 Some Landmarks in the Use of Television for Education
 - 1.4 Television in Higher Education
 - 1.5 Planning of the Countrywide Classroom Programmes
 - 1.6
 - A) The Configuration of the Programme
 - B) Philosophy and Approach
 - C) Organisation and Operation
 - 1.7 Video Festival
 - 1.8 Rationale of the Study
 - 1.9 Statement of the Problem
 - 1.10 Objectives of the Present Study
 - 1.11 Explanation of the Terms
 - 1.12 Delimitation of the Study
 - 1.13 Methodology of the Study
- References

THE PROBLEM - ITS SPECIFICATIONS

1.0 Educational Needs of India

In a nation like India which is vast, highly populated and developing, it is very essential that its citizenry is well informed about its rights and responsibilities and can actively participate in the developmental process. More so, as India is committed to a democratic form of society.

"Hundreds of millions of adults need education not only for the pleasure of perfecting their capacities or contributing to their own development but because the demands for overall social economic and cultural development of the twentieth century societies require the maximum potential of an educated citizenry" (Faure, 1972).¹

However, this cannot be done by a process of regimentation but it should be a gradual process of developing favourable attitudes, awareness, values which would go a long way in ensuring the participation of the citizens.

In India, where there are diversities with regard to language, caste, religion, it is essential, these

differences be kept in mind, but at the same time a feeling of national integration, fraternity and secularism be inculcated. Moreover, the society is sworn to the principles of equality and social justice, for this, the barriers of monopoly of information have to be overcome and the immense power of information has to be unleashed so that it becomes more accessible to the masses.

In a country like India where millions have not reached the level of literacy as yet, it becomes imperative that dissemination of information is through such channels which overcome the hindrances arising out of lack of literacy. So, the educational programmes should be geared towards the development of values, awareness, attitudes and appreciation and also provide information about the world and latest developments in science and technology.

1.1 Mass Media

In the present day it has become imperative to enhance the awareness of the individuals on various national and international issues. Many educational programmes are geared towards this and they make use of mass media to reach large audiences. Mass media is a means of communication to large number of people in mediated situation. Here no interpersonal communication takes place but it is through a medium over which the audience has no control. Newspapers, radio, television etc. are such media.

Mass media like television and radio provide a vital and accessible learning resource for very large number of people all over the world. They can be used to provide information to the people and advise them to adjust to the present day needs and situations. They are a reliable source of information and can be used effectively for modernization and economic development.

Both these media radio and television are such that they can transport millions of people to far away places. They are the creations of the technological revolution of the twentieth century and have a tremendous power of transforming the world and their impact on social and cultural life has been profound.

"Television is the most potent and powerful medium of communication which has immense capabilities of improving the quality of education. It is really a versatile and dynamic audio-visual device to broaden the intellectual horizon of the teachers and pupils from time to time" (Emery, et al., 1965).²

Television has assumed a lot of importance for various purposes due to its advantages of wide coverage, uniformity in presentation, exactness of information, etc. Moreover, through these mass media adults and children can avail of information wherever they may be staying.

1.2 Educational Television

Television is a very potent medium of communication for improving the quality of education. It is a very versatile and dynamic medium too, and thus, it can be used effectively for broadening the horizons of pupils and teachers from time to time.

Dunham (1952) has aptly said,

"As a communication medium television is unique in its ability to bring many aids into the classroom. Every audio and visual help we have known can be carried by television-motion pictures, film strips, slides, recordings, drawings, maps and countless other instructional devices. The special significance of educational television lies in the fact that it can use all other audio-visual medium".³

Educational television evolved from instructional television as there was a demand for mass, broadcast educational programming.

Educational television came as an answer to the problem of student population explosion, need for better teachers and the need to keep up with the times with regard to acquiring information. Despite ETV's potential of solving

these educational problems, its incorporation in the educational system has been very slow. The reason being the overselling of the medium. Due to this many schools undertook development of extensive educational television systems without adequate planning for integrating the medium into the ongoing educational process.

Although ETV has not been able to live upto the glorious role, purported by the enthusiasts, research has shown that it can be used effectively for educating the masses.

As the educational potential of the medium was realised, many attempts were made to set up television based educational programmes in the public schools.

Educational television evolved from instructional television as the demands for mass broadcast of educational programming arose. Educational television programme go beyond mere instruction as they have an element of entertainment and generally appeal to a wider audience. Educational programmes include both course related academic as well as non-academic programmes related to gardening or handicrafts. Television can be used to emphasize cultural heritage in art, music drama and literature. It can help in sharing the inspiration arising out of hearing reknowned statesmen, scientists and teachers.

It can enhance the students understanding of social, political and scientific developments which have an important bearing on our way of life.

"Television was first introduced in India in the year 1959 for imparting social education. Then in 1961 the programmes were produced for providing experiences and facilities that ordinary schools could not afford. These programmes were syllabus based and were integrated in the time table of the middle and higher secondary schools run by Delhi administration.⁴"

Television came to India ostensibly for education and development but subsequently it was relegated and education and development through T.V. had to take a back seat. Television mainly started spreading in the urban centres where the target audience was the urban middle class which possessed a T.V. set and viewing was primarily private. With the coming of INSAT, avenues opened up for transmitting programmes to every part of the country.⁵

1.3 Some Landmarks in the Use of Television for Education

"The Satellite Instructional Television Experiment (SITE) was introduced in six states for a period of 1 year and then continued as post SITE project as it was successful".⁶

The Kheda/Pij experiment was the first low power transmitter installed in the Pij village and covered the Kheda district of Gujarat. The ISRO* was primarily responsible for production of development oriented programmes. The project was launched in 1975. It evolved some innovative approaches to development of programming by involving the local people in the production. The Pij transmitter is no longer in operation.

"However, with the launching of INSAT-1B, communication to remote areas has been made possible. The main objective of the INSAT was to bring about socio-economic development of the remote backward areas of the country".⁷

Educational television programmes are telecast through the INSAT-1B in six states like Andhra Pradesh, Bihar, Gujarat, Maharashtra, Orissa and Uttar Pradesh. The CIET produces programmes for feeding the INSAT-1B to reach in and out of school, rural children.

Following the encouraging results of the SITE project the Government of India started telecasting educational programmes from 15th October 1983 through INSAT-1B.

* Indian Space Research Organisation.

The National Literacy Mission too has laid lot of emphasis on the use of this medium for adult education. These programmes being telecast presently are mainly for general enrichment and social awareness.

In May 1993, the CIET* launched the project Classroom 2000⁺. The project demonstrated the interface of live television lessons with computer-linked key pad response system and phone-in facility from six locations in the country for teaching selected topics in Physics and Mathematics at the secondary level.⁸

1.4 Television in Higher Education

Television has been used the world over, for the past few decades at primary, secondary level and for higher education.

Television in higher education can be used effectively if the television is adapted to the needs of education. The programmes on broadcast television cannot be used for higher education as the aims of higher education programmes could be quite different from the goals of broadcast programmes.

In many countries T.V. has been used successfully for educating students who are not regular students but are enrolled for the distance education programmes.

*Central Institute of Educational Technology.

The Open University in Great Britain started and still provides a model for programmes through television to a large population desiring advanced education. Television and radio supply, 10 to 20% of the instruction, along with texts, workbooks, kits etc., which form the core of the programme. These programmes were initiated in the seventies.⁹

In the University of Florida, television has been used successfully since 1964 to deliver graduate instruction in engineering. The University started delivering graduate electrical engineering course work to engineers at Cape Town.¹⁰

At the Stanford University, Illinois Institute of Technology, Purdue University successful live microwave delivery of instruction is being carried out, whereas videotape is being used at Colorado State University, University of Arizona, Georgia Institute of Technology and the University of Idaho.¹¹

By using television, many community colleges are now in the forefront of adult and community education. Four such programmes are those of Dallas County Texas Community Colleges, the San Francisco Bay Area (California) Consortium of Community College and Coast (California Community College

Consortiums and other co-operative working arrangements have implemented effective programme, planning and eliminated duplication of effort. Due to these consortiums, television instruction has been made accessible to students who cannot avail of formal education.¹²

At many places the production and distribution of instructional television programmes makes it possible to reach post secondary and higher education students.

The Free University of Iran established in late 1973, was to receive its first batch of students in 1977. The university was to expand higher education, upgrade it and provide life long education. The university would teach its students at a distance.¹³

The radio and television programmes were to be produced and transmitted by National Iranian Radio and Television. These programmes would be transmitted twice and for students reference copies of the programmes would be made available at the local centres. In addition to this media notes would be made available so that the students view the programmes in the context of the course.¹⁴

In 1956 the Television College of Chicago, began an experiment to find out the feasibility of televised credit

courses for home viewers. The city Junior College leased the offices of the educational television station WTTW.

In the first years of the experiment both experience and extensive research demonstrated that a junior college curriculum can be presented effectively on open circuit and in a metropolitan area, large audiences are eager to enroll for credit courses in the college. Television college brought a new group of students into the educational system who wished to continue their education, but whose family duties had kept them away from doing so.¹⁵

In the former Soviet Union, television programmes have been broadcast regularly in 23 cities since 1964/65 to support correspondence students enrolled in the all Union Correspondence Institutions.¹⁶

The Chinese CCTV produces and transmits over thirty hours of new programming each week to 30,000 students. These programmes are mainly pre-recorded lectures written out on a blackboard in the style of lectures at conventional university with little use being made of prepared matter.¹⁷

The National University Consortium, in the United States began in September 1980 to offer a television assisted degree programme leading to a bachelor's degree

operating as a non-profit project of the Maryland Center for Public Broadcasting.

Some of the other countries where distance teaching at the Universities using television as one of the modes are tabulated as follows:

Situation in 1980-81¹⁸

Country	Institution	Broadcast TV per week hrs.	Year
Canada	Athabasca University	12	1975
Canada	Teleuniversite Quebec	9	1972
China	Central Broadcasting and Television University	12 33	1975 1978
Costa Rica	UNED	4	1977
Holland	Open University	3 (planned)	1977
* Iran	*Free University of Iran	1.5 (planned)	1973
Israel	Everymans University	3	1974
Pakistan	Allan Iqbal Open University	1.5	1974
Poland	National University of Radio and Television	3	1974
United Kingdom	Open University	35	1969
Venezuela	UNA	<2	1977

*Dissolved in 1977 after the revolution.

The University of New South Wales in Australia was the first in using the Australian Radio station exclusively for education, later on television was also introduced.

In Poland television was used to teach Advanced Mathematics and Agricultural studies.

In Britain, the Ulster and Anglia television had collaborated with the Queen's University, Belfast and the Cambridge University, in using television to transmit university lectures.¹⁹

In India, the Indira Gandhi National Open University also uses television to reach the students who are enrolled in its various courses.²⁰

Besides these programmes the UGC has launched a project namely the Countrywide Classroom Programme. These programmes are a non-formal means of reaching the people. Although its primary target audience is the undergraduate students living in rural and semi-urban areas it has wide viewership among housewives and retired persons.

1.5 Planning of the Countrywide Classroom Programmes

The Countrywide Classroom programmes started in the year 1984 but deliberations on this were carried on at a

meeting in the Ministry of Education in February 1982. A representative of the Information and Broadcasting was also present and it was indicated that after the INSAT-1B became operational, one hour transmission time could be utilized for telecast of programmes for higher education.

The U.G.C. set up a working group. On the advice of the Working Group, Task Force²¹ was set up and final recommendations of the Working Group were accepted by the Commission.

The Task Force recommended three levels of educational media centres in the universities.

The framework consists of

- * Educational Media Research Centres (EMRC) to be set up at universities that have gained some experience or shown initiative in the use of audio-visual media (essentially for production and utilization) combined with innovation and research in educational technology.

- * National Centre for Educational Media in Universities (NCEMU) to be set up to coordinate and facilitate the functioning of EMRCs and AVRCs and to assist in procurement, duplication and distribution of audio-visual material.

The activities of an AVRC would be to

- * Set up and operate an Audio-Visual Library;
- * Organise basic orientation courses for the university, faculty in the use and production of Audio-Visual material on an innovative basis;
- * Develop capabilities for generating Audio-Visual material;
- * Undertake research in all aspects of educational technology, in relation to learning in diverse age groups, urban-rural population and disciplines.
- * The EMRC would carry out all the activities of the AVRC. Besides this, it would generate Audio-Visual education package which could be used by other universities and INSAT transmission.
- * The EMRC having editing and studio facilities would enable the university to produce finished educational material and educational package that could be used as a part of the formal syllabus.

The UGC as an agency would be concerned with all universities and colleges, particularly responsible for maintenance of quality and standards assigned to higher education in the INSAT-1B satellite programmes. The commission decided to set up training and production facilities with standard equipment in the selected six centres namely MCRC Delhi, EMRC Poona, CIEFL Hyderabad, AVRC Osmania and Roorkee. A Central Programme Committee has been set up to co-ordinate and channelise suitable material for daily telecast to Doordarshan.

It was decided to make enrichment programmes at undergraduate level. Topics in different disciplines were being chosen so that the maximum number of students and indeed any educated person may benefit. Some topics would relate to national development and national concerns such as agricultural or industrial visions on achievement, shortcomings, future perspectives or national integration, secularism and socialism which are a part of our constitution. These subjects would receive scholarly attention, and help give breadth of knowledge and awareness to the viewers. There will be special programmes for teachers in higher education to handle their class and examination work better to give them up-to-date knowledge and particularly to make them familiar with educational goals of their profession. Some selected programmes are also

being procured from foreign agencies so that the student community can benefit from these programmes.

Since the programmes to be produced by the University sector will only be small in number initially, it is desirable to select suitable material from that which is either commercially available or available on loan basis from universities or other institutions in India or abroad. For this purpose a cell/unit has been set up in Jamia Millia Islamia to examine the commercial/non-commercial available video tapes and films for the purpose of determining the suitability for being televised through INSAT-1B.

However, this may be only a short term plan and in the long term plan the U.G.C. would like to have a proper idea about the audience profile, their entry behaviour and skills, their understanding of the English language, their educational needs etc. The U.G.C. would also intend to pretest the programmes which are getting prepared. The commission had set up a Research Advisory Committee for INSAT Television Programmes for Higher Education.

As most of the imported programmes would be in sciences, a need was felt to have programmes in social sciences as well. In view of this a meeting of experts in social sciences was convened in connection with the

enrichment of undergraduate programmes of study in social sciences through the national T.V. network and to identify topics from the various subjects in social sciences with which programmes of 15-20 minutes may be produced. Topics are being selected from the view point of presenting a broader picture of what is usually taught at the college or university level.

The topics were also being selected from the view point of their significance particularly for nation building or for their sensitive nature.

The TV programmes would be supported by other learning materials and its impact would be felt throughout the country and in performance of all visits to new creative activities by the teachers in colleges and universities. Those who have been constrained in chalk and talk, can now learn to present their subjects with the new medium in a much broader frame to much larger audiences.

When the Countrywide Classroom Programme was launched, the U.G.C. did not have any facilities like organisational experience or culture to undertake a project of this kind for daily transmission, yet they embarked on this project.

The U.G.C. quickly augmented the facilities at Delhi and Pune and set up two new centres at Hyderabad and Ahmedabad. The Ahmedabad studio was built using the equipments from the Kheda/Pij project. ISRO's Space Application Centre did the hand-holding by providing technical assistance, consultancy guidance, training and even facilities for production of the programmes. Some programmes were made available by educational agencies in the U.K., The U.S.A., The U.S.S.R., France, West Germany etc.²²

When the Countrywide Classroom Project started in the year 1984, the broadcasts were expected to make a qualitative contribution to the higher education activity in India. The media centres were expected to develop programmes related to the areas in higher education studies, enrichment programmes and national integration. While these guidelines proved useful in the initial stages, there was a dissatisfaction about there being no proper structure. Hence the U.G.C. circulated a Credo document in June 1987²³ providing the programme production activity with the essential ideational scuff holding.

1.6 (A) The Configuration of the Programme

The Countrywide Classroom Project has been configured and operated as follows. It uses INSAT-1B satellite and

national television network. The transmission timings are from 6.00 to 7.00 a.m. and 1.00 to 2.00 p.m. The programmes are received just like any other Doordarshan programmes. The U.G.C. provided the college with the T.V. set. In 1988 there were about 1700 colleges throughout the country which had procured T.V. sets through grants provided by the U.G.C.

The U.G.C. had set up four A.V.R.C.'s at Roorkee, Calcutta, Jodhpur and Hyderabad. The programmes produced were 850 in number and were of 20 minutes duration. At present there are A.V.R.C.'s at Srinagar, Madras, Indore, Patiala Imphal and Sagar. The centres at Jodhpur, Madurai, Calcutta have now assumed the status of an EMRC. The steps towards decentralized production by setting up more media centres is consciously being taken. Each programme is sent to the INSAT project office in Delhi which has the responsibility for encapsulating these to make the cassette. They are then sent to Doordarshan for national telecast.

The U.G.C.'s Countrywide Classroom programme is probably the most open of the open learning systems. It has no entry requirements and does not award degrees. It is open to all and there is no compulsion regarding the viewing. It is left to the individual's interest and curiosity, his urge to learn more about the new trends and developments.

(B) Philosophy and Approach

"The aim of the broadcasts is to upgrade, update and enrich the quality of education while extending the reach. The programmes attempt to overcome the obsolescence of the syllabus and present the latest advances in all fields especially in the newly emerging fields. The programmes seek to arouse the interest, to whet appetite and broaden their horizons. The objective is to stimulate and not to satiate".²⁴

The programmes are not syllabus based but are of the enrichment type. They try to provide new insights and present new findings. The inter-relatedness of various disciplines, developmental problems is highlighted.

"While the programmes do convey information, greater stress is laid on the pleasure and process of converting information into knowledge and hopefully knowledge into wisdom".²⁵

"Thus, motivation, innovation, creativity and analysis are being stressed. The pleasure of exploration, discovery of inspiration and revelation of hitting on a solution are highlighted as well as the importance of searching probing and questioning".²⁶

The programmes attempt to exploit the potential of the medium, particularly,

Immediacy - for bringing to the viewers the latest and exciting findings, events like bomb-blasts;

Omnipresence - for taking viewers where the action is;

Animation and Special Effects - for clarifying concepts, highlight inherent structures or invisible processes;

Visual Power and Intimacy - to involve viewers and make them part of the voyage of discovery, of wonder and of inquiry.

Target Audience - The primary target audience would be undergraduate college students studying in colleges located in small towns and rural areas. Other students and teachers would be the secondary audience.

A large and interested non-student population would certainly view the programmes. The existence of this audience must also be noted.

The media centres are always on a lookout for renowned personalities visiting their centres. At the same time they also communicate advances made by Indian scientists.

To offset this bias towards science programmes renowned artists, painters, musicians, dancers etc. are also included in the programmes whereby appreciation for art is developed among the young people.

Although topics are selected on the basis of their relevance to the students courses, the CWCR programme provides a comprehensive and latest information.

(C) Organisation and Operation

The U.G.C. Countrywide Classroom is a classic example of decentralized production as there are centres dispersed all over the country which draw upon the talent and expertise available in the various institutions in the country.

Each EMRC/AVRC has a complement of staff, equipment and other infrastructure. The centre is headed by an academic personality who is of the rank of a professor in a university. He is assisted by an assistant co-ordinator.

The co-ordinators of the various centres meet regularly every six weeks for two days. The members of the U.G.C. project cell, the mass communication cell are also present at the meetings.

These meetings have helped in giving a direction to these programmes and has provided considerable momentum.

The major preoccupation of course, is with the immediate task of keeping the Countrywide Classroom running and improving through a series of measures like programme previews, planning and generation and review of action items on specific problems identified, reports on achievements, field trips, feedback analyses of transmission. The deliberations have made the members give a countrywide perspective often drawing them out of parochial perches. Out of their deliberations have thus emerged concerns and philosophy, a sense of achievement, collaborations which often involve hand holding guidance of new centres by the established ones. Although emphasis is on convergence some divergences are noticed and are consciously encouraged to foster new creativity and new directions.

1.7 Video Festival

With the establishment of new centres there were new avenues opened for increasing creativity in CWCR programmes. To encourage the quest for excellence among the producers the Video Festivals were organized based on the programmes telecast. The first such festival was held in December 1988.²⁷

The festival had two sections: 1) Information section and competitive section. The programmes in the competitive section were previewed by a jury consisting of a media person, an educational film maker, an academic and a student.

The video Festival helped to provide wider publicity to the CWCR programmes. The first Video Festival in 1988 encouraged the U.G.C. to hold such a Festival every year. The awards given in various aspects of production helped to motivate the producers for better production.

1.8 Rationale of the Study

The research concern for the study can be highlighted by the fact that the government has emphasized the improvement in the quality of education at various levels. There has been a major thrust on the use of audio-visual aids and the electronic media like television.

The U.G.C. too has made efforts for imparting education in a non-formal way to students pursuing their higher education. The main aim of these programmes is to motivate the students and arouse their interest in areas besides their own subject. Hence the U.G.C. telecasts the Countrywide Classroom programmes so as to reach students in different parts of the country. It is not only meant for students but for other interested people too.

It has been found that in India, educational television has not become an integral part of the educational system. The educational authorities and teachers need to realise the worth of these programmes and consider television to be an exclusive part of the educational system.

In such a situation it is only through a systematic evaluation of each of the aspects of the system that the efforts can be made to consolidate and integrate the missing links between the transmitting end and receiving end. This evaluation will provide a basic footing for scientific planning, organisation and implementation.

Any system in terms of its attainment of preset objectives should start with a research base. Educational television when looked at in relation to instructional situation, involves various components like teacher, students, instructional aids, instructional techniques. To enable the ETV to attain its desired objectives, study of the existing system in terms of the needs of the audience, finding the gaps if any, and organizing them systematically to function meaningfully, researches in this direction are very much essential.

If India is to meet the well defined objective then there is a need for a backing by a strong and comprehensive

programme of research suited to the Indian situation. There is also a feedback and evaluation system designed to ensure continuing effectiveness.

"Research and evaluation have a strong bondage between them. A fundamental purpose of evaluation is to produce information which can be used in educational decision making. Evaluation and research in the field of educational television are the demands of the present situation, which calls for attention of educational media planners and researchers".²⁸

In the light of the present situation there is a need to evaluate programmes of educational television particularly the Countrywide Classroom programmes as they have been telecast for nearly a decade.

There have been quite a few studies, on the effectiveness of STV programmes. But not much research has been carried out to evaluate the programmes like CWCR. hence it is imperative to understand the intricacies of the problems involved in the production, the manner in which it affects the utilization and the factors impeding the optimum utilization.

As the programmes were initiated about ten years back, the "Halloween Effect", that is the effect arising due to the novelty of the programme must have worn off. So it is the right time to assess the programmes and draw out its merits and demerits. Moreover, when more Indian programmes are being telecast and the dependence on foreign countries for software is decreasing, it is extremely vital to carryout an evaluation of the programmes to know how these programmes are being received by the students and the population at large. This will help to point out the defects and the merits of the programme and provide feedback to the producers and planners to make it more meaningful to the students.

The present study is based on the following research questions. The research questions form the premise of the present study.

The study aims to answer the following research questions:

- 1) What is the manner in which the programmes are produced?

- 2) What are the roles and responsibilities of the personnel involved in production?

- 3) What is the extent of utilisation of CWCR programmes in the colleges.

1.9 Statement of the Problem

A Study of the Production and Utilisation of Countrywide Classroom Programmes

1.10 Objectives of the Present Study

- I) To study the production of the CWCR programmes with regard to
- * planning
 - * selection of the topic
 - * consultation with experts
 - * consultation with others involved
 - * script writing
 - * consultation with the producer
 - * actual production
 - * facilities for production
 - * evaluation
- II) To study the utilisation of CWCR programmes in terms of the opinions of the principals, teachers, students with regard to
- * the timings
 - * language
 - * suitability of the content level of the programme
 - * maintenance of T.V. sets
 - * facilities for viewing

III) To examine whether the objective of the programmes i.e. enrichment as visualized by U.G.C. has been achieved.

1.11 Explanation of the Terms

EMRC - Educational Media Research Centres. These centres are at Ahmedabad, Pune, Hyderabad, Jodhpur, Calcutta, Madurai.

AVRC - Audio Visual Research Centre located at Madras, Manipur, Indore, Patiala, Srinagar, Roorkee, Hyderabad, Sagar

CWCR - Countrywide Classroom.

1.12 Delimitation of the Study

The study has been delimited to examining the production of the programmes by EMRC Ahmedabad and AVRC Madras.

The study of utilisation has been restricted to utilisation of these programmes in the colleges of Gujarat.

1.13 Methodology of the Study

The details of the methodology like the sample, tools used for collecting data and the method adopted for analysing the data have been presented in Chapter Three.

References

- 1 Faure, E., Herrera, F; Kaddoura, A.R.; Lopes, H.; Petrovksy, A.V.; Rahnema, M.; Ward, F.C., (1972), Learning to Be, Paris: UNESCO, London: Harrap.
- 2 Emery, E.; Philip. E.; Ault and Warren, K.; Ager, (1965), Introduction to Mass Communications, Bombay: Vakils, Febber and Simons Pvt. Ltd. IN Behera, S., Panda, R., (1988), "Educational Television Programmes for Children Under INSAT: An Evaluative Study", *Journal of Indian Education*, NCERT, New Delhi.
- 3 Dunham, F., "Television in Our Schools", Bulletin, 1952, No.16, IN Behera, S., Panda, R., (1988), "Educational Television Programmes for Children Under INSAT: An Evaluative Study", *Journal of Indian Education*, NCERT, New Delhi.
- 4 Goel, D.R., "Educational Television in India - Organisation and Utilisation", Post-Doctoral Thesis, C.A.S.E., M.S. University, Baroda.
- 5 Bhatia, B.S., (1980), (ed.), Television for Education and Development Space Applications Centre, Indian Space Research Organisation, Ahmedabad.

- 6 op. cit., Bhatia, B.S., (1980).
- 7 NCERT, Annual Report (1986-87).
- 8 Chandiram, J.; Singh, J.; Menon, S., (1993),
"Experiences in Use of New Information Technologies in
Education for Primary and Secondary Schools and Teacher
Training - A Country Report", NCERT, CIET, Delhi.
- 9 Brown, J.; Lewis, R.; Harclerod, F.; (1973), Audito
Visual Instruction Technology Media and Methods, McGraw
Hill Book Company, London.
- 10 Ludwig, B., (1984), "Report on Educational Technology",
Journal of Educational Technology Systems, Vol.12,
No.2.
- 11 op. cit., Ludwig, B., (1984).
- 12 op. cit., Brown, J., et al., (1984).
- 13 Bates, A., (1984), "Continuing and Distance Higher
Education Strategic Roles for Broadcasting", IN
Junstall, J., (ed.), Broadcasting in Education: An
Evaluation, London Censseble and Company Ltd., London.

- 14 op. cit., Bates, A., (1984).
- 15 Maxwell, M., (1967), Chicago's Television College in New Educational Media in Action: Case Studies for Planners II, UNESCO: International Institute for Educational Planning, Paris.
- 16 op. cit., Bates, A., (1984).
- 17 op. cit., Bates, A., (1984).
- 18 op. cit., Brown, J., et al., (1973).
- 19 Mehta, M., (1981), "The Use of Television in Higher Education in India", Unpublished Dissertation, University of Manchester, Manchester.
- 20 op. cit., Chandiram, J., et al., (1993).
- 21 University Grants Commission, (1983), "Report of the Task Force on Mass Communication and Education Technology", New Delhi.
- 22 Chitnis, E.V., (1988), "Countrywide Classroom: The Use of Space for Education", paper presented at 39th

Congress of the International Astronautical Federation,
Bangalore.

- 23 University Grants Commission, (1987), Credo,
"Countrywide Classroom".
- 24 op. cit., Chitnis, E., (1988).
- 25 op. cit., Chitnis, E., (1988).
- 26 op. cit., Chitnis, E., (1988).
- 27 Mishra, R., (1990), "U.G.C. Countrywide Classroom Video
Festival", Report by Mass Communication Research
Centre, Delhi.
- 28 Biswal, B., (1992), "Educational Telecasts: Research
Priorities", Indian Educational Review, (A Research
Journal), Vol.27, No.2.